

# RIBA



Royal Institute  
of British Architects

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# Sustainable Communities

**RIBA Response to the Egan Review of Skills in the  
Built Environment Professions**

October 2003

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## **The RIBA**

The Royal Institute of British Architects (RIBA) is a 30,000 member professional institute with UK and international membership. The RIBA has a regional structure, with offices across the UK. As a chartered body, the Institute is committed to the advancement of architecture.

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## INTRODUCTION

The Government has identified the need to create flourishing communities that are successful economically, socially and environmentally to address the imbalance in the supply and demand of good places to live, especially in the South East of England. The focus is now concentrated on the means required to deliver these Sustainable Communities. The Government's Plan follows on from Model Communities, New Towns and Garden Cities projects, amongst others, in attempting to create popular new places to live and work.

There are many lessons to be learnt from these previous examples and we have sought to respond creatively by identifying a set of exemplar projects, both historical and new, which can be assessed against a range of indicators, including sustainability, density and commercial viability.

The challenges faced by our cities remain today, with London in particular continuing to grow. At the same time as making new communities in the opportunity areas, the cities must also provide far more homes, at higher densities, together with all the other facilities for work, education, leisure and health necessary for a good life. Our cities are full of opportunities for providing more accommodation. Only small adjustments to the planning regime in our thriving cities would release large amounts of housing capacity, such is its current value.

Whether on new sites, extending existing settlements or within already busy cities it is essential to create new landscape provision in the form of parks, green routes, urban squares and more intimate spaces. We have a magnificent tradition of integrating landscape in our urban areas; one we must maintain.

The RIBA energetically supports the Sustainable Communities Plan, which we believe is needed to secure the provision of places for people to live and work with reasonable self-sufficiency. Architects and our fellow built environment professionals have the creative skills to design and create such communities, but still need to develop further skills in urbanism, collaboration and management if they are to be delivered effectively and within the short time scale envisaged.

I fully endorse this report, which is the product of a dedicated group of RIBA members and others. It examines the essential qualities of sustainable communities, suggests the processes and consideration required to make them successful and makes proposals to deal with the skills and capacity shortage. Above all it puts forward exemplar projects that show how many of the problems of creating sustainable communities have already been tackled successfully and valuable lessons have already been learnt.

**George Ferguson**  
**President, Royal Institute of British Architects**  
**October 2003**

## **KEY RECOMMENDATIONS**

In order to deliver communities where people actively want to live and that are socially, economically and environmentally sustainable, the RIBA recommends the following:

### ***Planning***

- A reformed planning system to deliver an ambitious, high quality, holistic vision, that aspires to deliver the best architecture and urban design, not simply prevent the worst.
- Masterplans that present a holistic vision for the proposed community, embracing the physical development and mix of uses together with social and economic factors.
- Infrastructure (transport, utilities and public services) that is planned and implemented in advance with adequate flexibility and capacity.
- New sustainable communities combined with intensification of the existing urban areas, increasing building densities and locating developments around transport and shopping nodes.

### ***Design***

- The appointment of architects and other trained professionals as Design Champions on Regional Development Agencies and regional planning bodies – people who are well trained and supported to ensure that design quality is given the highest priority throughout the design and delivery process.
- The design of communities that allows for flexibility and adaptability for the future and change of use for the benefit of all members of society, including the providers and recipients of key public services.

### ***Skills***

- A new mentoring and training system built into the Sustainable Communities Plan for the client, design and implementation teams in urban design and delivery skills.
- Training in partnership and communication skills for all construction professionals working together on sustainability projects.

### ***Partnership***

- A closer partnership between the built environment professions and the Government to enable better planning, allocation of resources and coordinated delivery.
- Structured public participation, particularly through engagement with local schools and community groups, to ensure the development and implementation of the Plan is people-focused and socially sustainable.

### ***Measurement***

- The use of exemplar models to assess the characteristics of existing successful sustainable communities and learn lessons from the past.

### ***Environment***

- A new minimum standard of teaching and training on environmental issues for all members of the built environment professions.
- The delivery of a step change in environmental performance of buildings through the enforcement of rigorous new standards and the development of 'pathfinder' projects to showcase the highest standards of building design, making use of the latest environmental technologies.

**The architectural profession is ready and willing to meet this challenge.**

## 1. QUALITIES OF A SUSTAINABLE COMMUNITY

A sustainable community is one that is able to provide and continue to provide the greater part of the diverse needs and desires of its population without compromising the needs of other communities and future generations.

A sustainable community should provide a mixture of uses, homes (rather than just housing), workplaces, commercial, leisure and social facilities. It should make places, good public spaces, spaces that work for people and encourage a vibrant and successful society. Creating sustainable communities is not impossible or difficult; but it requires strong leadership, effective engagement and participation by local people, a common sense approach to sustainability (environmental, social and economic), and a willingness to cast aside barriers to innovation.

The RIBA agrees with and supports the list of some of the most important requirements of sustainable communities as set out in the ODPM report 'Sustainable communities: building for the future' [page 4]

### **What makes a sustainable community?**

1. A flourishing local economy to provide jobs and wealth;
2. Strong leadership to respond positively to change;
3. Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long term stewardship of their community, and an active voluntary and community sector;
4. A safe and healthy local environment with well-designed public and green space;
5. Sufficient size, scale and density, and the right layout to support basic amenities in the neighbourhood and minimise use of resources (including land);
6. Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres;
7. Buildings - both individually and collectively - that can meet different needs over time, and that minimise the use of resources;
8. A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes;
9. Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure;
10. A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it;
11. A "sense of place";
12. The right links with the wider regional, national and international community.

To this list we would also wish to stress the need for:

- Well designed, high quality and robust buildings and facilities that respond to local requirements;
- The need to use local resources and skills both in the delivery and during the life of the community, including food production and distribution
- Integrated and balanced vehicle management
- Further environmental targets including, extensive use of de-centralised and renewable energy generation and an increase in bio-diversity;
- Good and on-going management and maintenance;
- Support for innovation and experiment

The added value of all these factors will make the sustainable community a place where people will want to settle and live.

## 2. DELIVERING A SUSTAINABLE COMMUNITY

### *Government action*

Through its Sustainable Communities Plan the government has shown its intention to get to grips with the serious imbalance of supply of and demand for housing and good quality places to live, particularly in the South-East. The vision of successful, self-sustaining communities built in locations with good transport connections is one that the RIBA shares and strongly supports.

### *Pre-planning*

The key to success of a sustainable community lies in the pre-planning, which should enable:

- protection and enhancement of valued existing features: landscapes, heritage and special scientific interest sites, waterways etc.
- the design of new developments to benefit from the pattern of the terrain and any existing developments and features
- good transport accessibility to sub-regional and regional centres and facilities
- a strategic regional mix of broad uses, including; agriculture, industry, parks, towns and villages along with other facilities
- communities to be defined, identifiable entities of sufficient scale and size to support appropriate amenities
- communities to be as self-sufficient as possible and reasonable

### *Masterplan*

The masterplan should present a holistic vision of the proposed community - one that embraces social and economic issues as well as physical development. The demands are far greater than those traditionally associated with residential development.

The masterplan needs to integrate many patterns and usages to create a development that will become a socially successful community. The plan should establish a three-dimensional framework of spaces, buildings and connections taking into account:

- the siting of the development and its relationship and integration with existing features and environments
- patterns of use and connections both within and without the community, including movements on foot, cycle, car or public transport
- the provision of infrastructure
- the minimising of resource use and encouraging local supply of goods
- distribution and mixture of uses, including homes, schools, shops, health care, leisure and employment.
- ease of accessibility for all within the community
- the physical shape and massing of the buildings and spaces (but not the style or detailed design)
- sunlight and air movement
- urban and extra-urban views and vistas
- social interaction and community activity
- issues of privacy, safety, health, security and nuisance
- evolution and change
- the participation of residents, employers, users, local representatives and other stakeholders in the development of the design

### Consultation

To address the needs of all sections of the community, all stakeholders need to be consulted; the young skate-boarder is as important as the businessman or retired person if 'ownership' of the scheme by all sections of the community is to be achieved. Ownership helps to avoid exclusion which in turn can bring down levels of crime.

- The general public, community leaders, politicians, the local authority, housing associations, design teams, and future managers should all be included in consultation as well as the housebuilders and developers.
- The community needs to be aware of exemplar schemes, illustrating what is possible and achievable in terms of design and technology, and the long-term benefits of sustainability.
- Consultation should also be carried out in schools, involving schoolchildren in describing their visions for the future through hands-on projects. They have a greater stake in the success of more sustainable environments than any one else.

The community's involvement with the long-term maintenance and running of their buildings and open spaces will be vital to their success. A strategy for future upgrading is essential: 'design, manage and adapt'.

### Infrastructure

The physical infrastructures of a community need to work together with the social, economic and environmental infrastructures in order to achieve the goal of sustainability. The basic infrastructure of roads, transportation, utilities, the telecommunications and IT networks can form a useful framework for patterns of activities in communities.

- Infrastructure needs to be in place in advance of development in order to enable its success.
- Transport nodes should be the focus of higher density developments and workplaces and local facilities, e.g. leisure centres, hospitals and colleges, should be within easy walking distance of transport nodes.
- Local transport nodes can become subsidiary centres that can support a whole range of further small scale activities including shops and services as well small landscaped areas.
- Walking and cycling routes should be strategically planned and provide enjoyable experiences. A maximum of 5 minutes walk to public transport, local shops, and childcare facilities should be planned for.
- Roads should be designed for the benefit of the communities they serve, rather than for the driver and vehicle. Unsupervised children over seven should be able to play in the street, and doorstep discussions should be easily audible over traffic noise.
- Digital infrastructure, in our electronic age, is an essential part of the provision to new communities. Activities such as: home-working, home-healthcare, security and the monitoring of elderly and frail people in their homes are now only possible with IT in place.

Sustainable infrastructures are decentralised, distributed, robust and incorporate local sources of energy and materials. They are "two-way" systems rather than simply "one-way". They are likely to be more stable and less prone to unpredictable systems failures. A good infrastructure gives confidence to the market.

### Integration & mixed-use

A community is about integration and ‘exchange’. Planning policies should allow for flexibility of use and for a variety of usages on different levels of buildings.

- Flexible tenures and relaxation of mortgage rules concerning mixed-use buildings will assist in achieving more balanced and inclusive communities.
- Mixed-use areas are more likely to be occupied and active throughout the day leading to more vibrant and secure places
- Mixed use, and flexible use, of buildings and open spaces provide more opportunities for all sections of the community to participate.
- Buildings should be able and expected to adapt over time, with uses changing to suit new social and commercial needs.
- Maximising the use of buildings should be encouraged. It is more energy efficient, reduces travel and minimises resources. Schools, for example, can be used for local social events and evening classes.

### Density

Sustainability calls for a higher density of housing, preferably on brownfield sites.

- PPG 3 encourages densities in the range of 30-50 dwellings per hectare. Traditional Victorian terraced housing was built at the upper end of this range and highly desirable residential environments such as the Royal Crescent in Bath were often higher.
- Medium to high density housing can be achieved without sacrificing quality or amenity.
- There are many benefits to higher density living; the pleasure of walking to school or work, chance encounters with neighbours in the street, ease of access to community and cultural facilities and local support for elderly or vulnerable people. Most importantly all the evidence suggests that increased pedestrian activity at street level reduces fear of crime.
- However, higher densities, without necessarily requiring more than 3-4 storeys, do need more ingenious design. Issues of access and circulation, privacy and overlooking, transition from public to private space and access to amenity space are paramount. Flats and apartments above ground level need access to balconies or roof terraces and circulation spaces need to be designed to encourage social interaction.

### Environmental impact

Long term limiting of resource use involves early strategic thinking about infrastructure issues at the pre-planning and masterplanning stages. Decisions at this stage are critical to enabling reductions in carbon emissions and the size of a community’s environmental ‘footprint’.

- Renewable energy generation needs to be incorporated into a development early. This was the case at Parkmount in Belfast where an early commitment by planners, design team, client and developer to solar energy, including photovoltaics, influenced the development of the entire site.
- If public transport access is good, car parking provision should be minimised. Cycling should be encouraged as an alternative means of transport.
- The use of renewable energies for public and private transport is becoming available and needs to be facilitated and encouraged.
- Minimising waste starts at the planning stage by working with the site and environment and preventing sprawl.

- Buildings should be orientated to benefit from solar energy, arranged to allow through-ventilation but be clustered together to minimise external envelopes.
- Waste separation for recycling needs to be considered during infrastructure planning, ultimately enabling the individual to make his or her own contribution.
- Sustainable Urban Drainage Systems (SUDS) should be incorporated into developments.
- Some infrastructures, for example, water and tramways, should be harnessed to enhance the biodiversity of the area and to provide wildlife areas e.g. linear parks along their routes.
- Natural habitats and biodiversity should be enhanced using the evidence of local ecological surveys.
- Locally produced food and local shops can reduce the amount of embodied energy used in 'food miles'.
- Planning can work to minimise noise pollution and nuisance through design of layouts and landscape.

### Future-proofing

The infrastructure must be able to accommodate change and this needs to be planned in advance.

- Service routes for heating, ventilation, electrics and IT should be easily accessible in order to upgrade services, or to change to different systems, when required. As IT plays an ever increasing role in our lives, the role of the M&E engineer should now evolve to that of M&E&I.
- Services tunnels of adequate size for both present and future demand should run along the main arteries of developments, providing easy access and so reducing the disruption due to the installation and adaptation of individual services.

### ***Standards***

Firm standards of attainment need to be set for the whole of the sustainable communities programme. These standards should cover areas such as numbers and density but also availability of public transport, proportion of local employment, energy efficiency of buildings, etc. A proposed schedule of standards is given in Appendix A.

Similarly government or local regulation may be required to make certain standards obligatory across a wider area to ensure one location is not advantaged against another. These may need to go hand in hand with other incentives and possible tax concessions.

### ***Design***

#### Townscape and landscape

The need to create a high quality townscape with an accompanying approach to landscape in the planning of new or extended communities cannot be understated. It is vital to establish a broader sense of community and create other opportunities for civic, commercial and cultural activities that engender collective pride.

- Townscape design needs to encompass small places that encourage communication between passing neighbours at one scale to urban squares that can contain markets or hold concerts at another.
- The design needs to use materials that are robust and are readily maintainable. Natural materials have frequently shown themselves to offer better long term benefits than the cheaper synthetic substitutes.
- A management regime needs to be considered/in place at the time of the design.

- Street furniture and fittings need to be of appropriate quality to reflect the character and aspirations of the community and to contribute to its identity.
- Townscape design must allow for growth and change.
- The availability of outdoor space is an essential component in areas of higher residential densities especially for those living in small dwellings.
- The natural habitat within towns can be enhanced by careful and considered design and become home to a rich variety of wildlife.
- To rise to the challenge of designing successful townscapes we must look to the past as well as the future. There are many towns and cities across Europe that offer solutions which have survived the test of time and from which lessons can be drawn.

### Buildings and facilities

The Sustainable communities programme should deliver healthy, comfortable, low environmental impact buildings.

- Healthy ecological homes and workplaces, achieved through informed design and utilising bio-climatic and passive techniques, along with best technology, are possible now.
- The use of fossil-based energy supplies during the life of the building should be minimised along with the embodied energy content at construction stage. Design strategies for good daylighting and natural ventilation are required to avoid the need for air conditioning along with passive design strategies using thermal mass and night cooling. Buildings should be orientated and designed to enable the use of renewable energy sources in the future. Lessons should be learnt from past building techniques and from methods used in more extreme climates to alleviate the need for so much energy in our buildings. The problem of ‘fuel poverty’ can be eradicated.
- Life cycle costs of the building should be factored into cost assessments and materials sourced locally wherever possible. Re-cycled and renewable materials should be used as well as those that can be recycled in the future. Timber must be sourced from an FSC accredited supplier. Ozone depleting materials and VOCs are to be avoided. Off site manufacturing and ‘lean’ construction methods should be utilised to maximise the use of materials and reduce waste.
- Landscape should be integrated with buildings and native species specified. Green roofs can be used as a means of water retention and to support wildlife.
- Secure cycle storage should be provided at home, the workplace and at major transport nodes.

The principles behind highly energy efficient buildings are now well known and they have been routinely delivered elsewhere in Europe, notably in Scandinavia. We must achieve the same standards in the UK. Similarly we must also become able to reduce the demand of developments for resources, whether in materials for construction, commuter journeys or food miles embodied in our grocery shopping. The sustainable communities programme needs to lead the way to achieve high quality ways of life that do not impoverish our planet for others.

This report suggests appropriate and robust ‘means of measuring sustainability’ (see Appendix A).

### Future-proofing

Buildings that are designed to be flexible, by means of their structure, layout and ease of access to services, will enjoy a longer life by evolving over time to meet the changing

needs of the community. A longer building life, in turn, will mean less demolition and wastage and will reduce its environmental impact.

- Framed structures, constructed off-site in panels or modules, are ideal for providing accessible service routes around buildings.
- Buildings should be sufficiently robust to allow for future change of use and tenure, for example apartment blocks with higher ceilings at ground floor will allow for future conversion to shops or studios.
- Buildings should now be designed to accommodate future climate change. Targets for thermal performance and ventilation can be set higher than the Building Regulations (which currently lag behind European standards), and through Breeam and 'Eco-Homes' ratings.
- Climate change will necessitate the need for comfort cooling, using passive rather than active means (shading, orientation, stack effect ventilation etc.). Heavier rainfall will result in re-thinking roof design, guttering, ways of draining the run-off from roofs and ground surfaces, and also how this rain might be collected for consumption in drier times.
- Products should be specified to last the life of the building, or at least 60 years if access for replacement is possible. Structural components should meet British Standard 'long life'.
- Buildings should be designed to allow for different types of fuel in the future, including the possibility of renewable energies (solar, wind, geo-thermal, etc.) or hydrogen fuel cells.

### ***Community involvement***

#### Participation and involvement

A community needs to involve its residents and users in its governance or it will fail as a true community.

- Involvement starts at the planning stage, consulting potential residents and ensuring that the design embodies their aspirations and is appropriate to their way of life. Community development should start from the outset of a project.
- Participation must continue throughout the development and implementation stages, including discussions on layout, policies on vehicles, materials and development guidelines.
- Both formal and informal means of communication and discussion need to be facilitated. This might include community IT networks and social and leisure facilities.
- Local residents and businesses should be involved in the governance of the community, able to make decisions over management, communal provision of services, etc.
- Environmental sustainability targets should be subject to local debate and community decision making.

#### Social inclusion

Communities must not become exclusive or excluding. They should plan for containing diversity and difference and providing the necessary accommodation, facilities and services for a wide range of social and economic groups. All groups should have the opportunity and ability to participate in the life of the community.

- Gated developments should be strongly discouraged or prevented.
- Private developments, including retail and leisure activities, that form part of the public realm, should encourage access for all.

- Areas should be mixed and multi-use both in spatial terms and over a 24 hour cycle. Areas must remain safe, accessible and attractive to all at all times.
- Facilities should be easily accessible to all, without priority given to cars, and clustered appropriately.

#### Management & maintenance

Long term management of open space and the public realm needs to be considered from the outset. High quality environments can only be sustained if they are well managed and maintained. Likewise essential change and development has to be planned for and managed if it is not to result in deterioration to the environment.

#### Quality of life and a sense of place

Well-planned and executed sustainable communities should be delightful places with a real sense of identity. They will provide the opportunity to live in affordable low energy, well landscaped, mixed use and socially rich neighbourhoods. The opportunity to live in such communities should appeal to many people in preference to more traditional housing estates.

- They will be healthy places with cleaner air as a result of a reduction in harmful emissions and the integration of landscaping.
- Sports and leisure facilities will be part of a community 'hub' that may also provide welfare, social, medical, library and café facilities.
- There will be opportunities for jobs in either the existing employment market or through the creation of new opportunities and localised services.
- Technology will provide greater access to services and improve the quality of life; for example, home-working will reduce travel, assist in childcare, and provide additional daytime security. Elderly and frail members of the community will enjoy living in their own homes for longer by having suitable provision and infrastructure planned in or installed.
- Energy for the community will be provided economically and sustainably. Much of this energy will be renewable, part of which will be generated at the actual buildings.
- Reliance on the private car for transport will be minimised by having the choice of a better public transport system to the nearest towns, and by the creation of pleasant pedestrian and cycle ways for more local needs.

Currently many house-builders and developers argue that everyone wants to live in a mock-Victorian traditional home, with little regard to the real issues of the twenty-first century. These technically inadequate and poorly performing houses sell in all parts of the country as a result of a lack of choice. The few developments featuring sustainable housing and infrastructure have proved to be highly popular, and people not only enjoy the architectural and technological benefits but are buying into a 'lifestyle' which they believe is important for the future.

### 3. PROVIDING THE SKILLS

Great Britain has provided the world with some of its greatest urban designers and designs. Its provision of housing has been at the forefront of global practice. While we still have many of the world's most admired architects and designers we appear to have forgotten how to design and deliver good urban planning. There are no lack of historical exemplars, from our market towns to Georgian layouts and developments and, more recently, the best of the New Town movement. All have valued lessons to teach us both in their ability to 'place-make' but also in their capacity to create dense well-connected developments.

We must relearn those skills and establish new ones in order to deliver the new communities of the 21<sup>st</sup> century. With the complexities of modern life this is no longer possible if the clients, consultants, contractors and managers remain isolated in their separate disciplines. We all need to work collaboratively and across disciplines to fulfill the requirements of the sustainable communities programme. However, what is in no doubt is that these skills are necessary and are required as soon as possible.

#### *Client/s*

With all successful projects the client role is critical. The client must outline the vision for a development and set the context in which it can flourish. The client must establish the processes to be followed and have the predominant role in selecting those who will deliver both the design and the built results. Finally the client will be responsible for the way the community is to be managed and maintained.

#### Training

To ensure that government, local authority, and public sector clients are able to show the vision and offer the leadership required, training, advice and inspiration needs to be provided at all levels. CABE is already fully engaged through many programmes, including its enabling and publications work. Local Architecture Centres should also be used to provide input wherever possible and more should be created as necessary. Voluntary groups and bodies, including membership organisations such as the RIBA, are also able and keen to assist both at local and national level.

Following from such training design champions need to be appointed at all levels in the public sector, from ministerial to local level, to ensure that design quality is maintained at the heart of the programme and that the public sector continues to recognise the importance of quality design and implementation.

#### *The public*

The demand for high quality environments and buildings amongst the public and from society has never been so high. Modern communications and travel have enabled large numbers to appreciate that high standards are desirable and achievable. Mobility and relative affluence have allowed people to choose where they live and work. London and the South-East of England have become the destination of choice for many from across the world. Yet the quality of the environment and accommodation has not kept up with changes in the commercial and leisure fields. It must do if success is to be maintained.

Local communities need the ability to engage with changes in their environment, to become better 'primary' clients themselves. Local Architecture and Built Environment Centres are one way to achieve this. Spatial awareness and design training also need to find a place in the National Curriculum. The country can only benefit from greater

public involvement with and awareness of the built environment, and this process should start at school.

### ***The planning system***

The planning system has become a ‘development control’ system that is failing to provide appropriate mechanisms to envisage, plan and create successful communities

The planning system:

- is based on an adversarial system that rewards those who can win consent but is disconnected from the providers of the necessary infrastructure or those who will have a stake in the long-term success of the community created;
- is unable to generate integrated developments, with adequate transport, social and employment provision;
- is able only to provide a low-level supply of safe, lowest common denominator and nondescript ‘housing’; and
- cannot **think forward** to provide ‘future-proof’ infrastructure, environments and buildings.

The Sustainable Communities Plan creates an opportunity to ‘road-test’ new approaches to planning. The RIBA is proposing a set of planning recommendations for new and extensions of existing settlements that can be trialled on the sustainable communities programme (Appendix B1).

A further set of planning reforms is proposed to enable increased housing and small workplace provision within identified urban intensification zones (Appendix B2).

### Leadership

High quality leadership within local planning authorities is absolutely necessary for achieving worthwhile community development. Planning authorities vary considerably in their ability to deliver the vision for implementing the sustainable communities plan. Success requires vision and a degree of risk-taking in taking bold decisions. It needs holistic thinking and the ability to challenge developers to provide the best offer for the design, implementation and management of communities.

Local Authorities need to invest in their planning teams and recruit the right individuals to lead them. The political leaders need to work with their planners as well as their design teams and to believe in them to achieve the best results. Some of the most inspiring examples of urban regeneration in the UK in recent years have been accomplished by just such partnerships, whether in Manchester or the London Borough of Southwark.

### ***The built environment professions***

*“The levels of skills within the built environment professions have a direct effect on the quality of what they create”* [Building Sustainable Communities: developing the skills we need, CABE, 2003].

The built environment professions have the ability and the talent to fulfill the requirements of the sustainable communities plan as well as the other major building programmes currently underway in both public and private sectors. The problem lies not with numbers or ability but instead with an industry that has not had a similar workflow for several decades and has dis-aggregated into small studio based companies

that lack the individual experience and organisation that would make them attractive to commissioning clients.

These structural problems are combined with the need to work in new ways and with new skills coming from different disciplines in order to effectively design and deliver the new communities and the need to achieve sustainable solutions. The old divisions of professional skills have become blurred and new urban design skills are required, building on the established skills in architecture and the other professions.

In part these skills can be delivered through enhanced training programmes equipping existing built environment professionals with the further skills they need to become effective urbanists. However the real skills deficit will only be made up by doing, by individuals and firms working through the real problems of consultation, of working with a wide range of partners and of delivering on the ground. This cannot be a task for conventional Continuing Professional Development (CPD).

The RIBA proposes a combined training and mentoring programme to equip both individual professionals and companies with the necessary skills, based around the design and implementation of the first sustainable community projects. Those that are commissioned to work on the programme must commit to working with other less-experienced groups and individuals and participate in working on the projects, who will also receive more direct training and assessment courses. It is essential that the early stages of the sustainable communities plan are exploited to develop our national skill base for the later stages of its delivery.

The sustainable communities programme needs to have a full urban skills programme running alongside it. This should aim to deliver trained and multi-disciplinary urbanists, drawn from a range of existing professions able to provide the skills to make this and future programmes a success, both in the UK and abroad.

At the same time the client bodies need to be learn to work with a greater diversity of companies who can deliver the necessary skills. Modern companies are unlikely to be the large multi-providers of old. Delivery teams can be more effectively built around a project composed of smaller and more flexible and creative companies. The new delivery skills required may also be those that can manage such an adaptable project team.

### ***Delivery & good practice***

The Sustainable Communities programme needs to be delivered by a wide range of providers that mirrors the mixture of uses and tenures required to make up the communities. Providers might include house builders, housing associations, small developers and self-builders, local authorities, charities, businesses and corporations. What should bring all these diverse providers together is a strong, well-designed masterplan and set of design guides.

The design process requires input from a large number of disciplines including architecture, planning, highways, landscape, etc. All those involved, including land owners, developers, housing associations, local authorities, residents and other stakeholders need to work as a partnership to ensure an holistic approach is taken. Strong leadership is essential to ensure that the integrity of the underlying concept is retained.

### *The supply chain*

A robust supply chain mechanism will assist in delivering better quality buildings on time and on budget. Large scale developments can ensure long-term relationships and cost certainty with suppliers; this may assist in research and development of building elements, a guarantee of quality and reliability, and a certain amount of standardisation to reduce future maintenance.

Strategic Partnering for the supply of materials and services provides opportunities for investment and team development, with a focus on co-operation. Suppliers can add value to projects by contributing ideas to the delivery process which may save time and cost, whilst maintaining or improving quality. Continued improvement can be achieved through monitoring the performance and effectiveness of the partnership, with savings shared amongst the appropriate team members.

‘Sustainable’ items which are not currently used in traditional buildings, such as photovoltaic and solar panels, grey-water recycling systems, etc. will reduce in cost when purchased in bulk. Large scale developments might also justify the setting up of localised production plants for building elements, giving local employment opportunities.

The colder countries of northern Europe – particularly Austria, Germany, Sweden, Denmark, and Norway are already significantly further advanced with both higher minimum legislative standards and more advanced zero heating supply chains. There is a growing international market for this supply chain, making it very important that the UK develops its own with components and services sourced within our national boundaries, if we are not to rely on imports indefinitely.

The Constructing Excellence programme and M4I’s concentration on the supply chain is helpful. This work clearly shows that much of the costs of realising innovation are attributable to the prototype status of non-standard construction methods. The Government’s sustainable communities programme is capable of supplying enough volume throughput to enable an alternative supply chain that could deliver a step change reduction in environmental impact.

RIBA, October 2003

## **APPENDIX A: Measuring Sustainability**

Sustainability can be measured against a set of criteria taking into account certain social, economic and environmental factors. A number of these considerations are listed below.

### **A. Social**

- Decent homes
- Mixed development
- Better places
- Community involvement
- Tackling crime and anti-social behaviour
- Inclusive communities
- Provision of minimum standards of public services
- Re-use of brownfield sites
- Affordable homes
- Provision of life-long learning opportunities
- Provision of social and community facilities
- Provision of cultural facilities
- “Tackle disparities in opportunity, economic success, environmental quality and health”
- Educational provision

### **B. Economic**

Items not listed in ‘Social’

- Create employment
- Develop a sustainable infrastructure (transport, energy, water and waste) which is efficient, versatile and capable of change

Items also listed in ‘Social’

- Affordable homes

### **C. Environmental**

- The Eco-Homes standard of gold/excellent should be achieved
- Improve biodiversity
- Use materials well
- Address flood risk
- Safeguard the environment
- Reduce energy use
- Reduce water use
- Reduce waste production and increase waste recycling
- Avoid the use of greenfield sites where possible
- Reduce pollution

#### References:

Sustainable Communities: building for the future  
Sustainable Communities in the South East

## **APPENDIX B1: Proposals for planning reform – Sustainable Communities**

Following pre-planning:

- Sites to be identified for masterplanning & development
- Well considered briefs and output specifications to be developed for sites or possible sites. The briefs to be sufficiently open-ended to allow imaginative and innovative solutions
- Bids to be sought from provider consortia for a 'Licence to Develop' based on a multi-faceted submission to provide the facilities required.
- Such bids will be judged on:
  - The quality of the masterplan proposals including appropriate mixes of uses and tenures
  - A plan for the ownership and civic and democratic engagement with the management of the development
  - A resource use & sustainable management plan
  - A statement of design and construction standards to be achieved
  - The initial programme of development
  - Input from local consultation
  - The financial bid (including any public investment)
- The winner of the bid will be obliged to:
  - Develop the plan into agreed proposals together with the LA and other stakeholders.
  - Enter into a development and management plan with the appropriate authorities and providers of facilities and services
  - Construct infrastructure and the implement the agreed initial programme of development including an agreed mixture of facilities, homes (with various tenures, etc) and environments
  - Publish a set of development guidelines and standards for development within the community that has been agreed with the Local Authority
- Further planning consents for development will not be required if it falls within the masterplan and is delivered in accordance with the development guidelines and standards.

## APPENDIX B2: Planning Reform – ‘licensing’

### *Introduction*

The following RIBA proposals, developed and led by Roger Zogolovitch, recognise the mismatch between housing supply and demand. The statistics are well researched and understood, but within the wider development industry there is a failure to provide sufficient supply of well designed new housing.

### *Context*

From an historical standpoint the United Kingdom has a ‘developer-led’ planning system, in contrast to the European ‘plan-led’ model. This historical developer-led model has created a planning system governed by the notion of ‘planning control’ and is *reactive* not positive, i.e. it is the developers who bring forward schemes for the system to react.

This process in Central London, for example, with its welter of restrictions, policies, and special guidance policies has had two destructive effects. Local authorities planning officers are overworked and the process becomes delayed. Developers plans are often frustrated by parochial influences at planning committees which result in further delay as schemes are forced through to appeal.

In seeking to address this problem of over regulation we need to find a new methodology and tools which will generate sufficient supply to support development and intensification of the city, sustainable mixed use, quality public space and design that responds to the existing heritage and constraints with innovation and imagination.

This is clearly the realm of architecture. It is a resolution of the three dimensional forms of building and the spaces between that can exploit the left-over corners, the abandoned spaces, the redundant buildings, that litter our cities and which if husbanded correctly, could yield windfalls of supply in development opportunities which would assist in the rebalancing of the supply and demand equation.

### *Licensing – ‘permitted development’*

The licensing concept begins with identifying parts or zones of the city, around the public transport nodes, where the infrastructure provides accessibility and the historic development pattern of the city is capable of intensification.

These are in development terms the opposite of conservation areas – known as ***densification areas***. These ‘densification areas’ would be categorised as opportunities for high design quality and innovative new development, designated as such in consultation with Local Authorities, amenity groups, resident groups, conservation groups, and heritage groups.

Within the boundaries of a ‘densification area’ development licences would be offered to existing landowners permitting the holder to develop their plots at higher density. These licences would be a ‘building permit’ equivalent to a planning permission.

Licences would be in the form of a legal agreement that granted the holder consent subject to compliance with a set of rules and the payment of proscribed tariff of fees.

A possible set of conditions for the granting of a licence could be:

**that the use would permit**

- either B1 or residential use on existing B1 or residential sites
  - these uses could change freely over the life of the building
- this change of use would bring supply on stream immediately*

**that the design would be of high quality**

**that the size of each permit development would have**

- floor plates no more than 150 sq metres,
- total floor area of an individual development at a maximum of 900 sq metres, and heights to a maximum of 18m.

**that the proximity of development to its neighbours would permit**

- building blocks constructed to a minimum of 6.00metres apart
- a relaxation of the current BRE guidance on daylight and sunlight

**that the licence would permit**

- redevelopment of any existing building within the designated area provided the building being replaced was not listed.
- redevelopment would provide no car parking and no replacement car parking

The applicant for the licences would have the assurance of knowing that provided they met the rules as outlined and paid the fee in accordance with the tariff they would obtain their permit.

This proactive approach would have the benefit of immediately bringing forward opportunity sites within the ‘densification areas’ that would dramatically add to the supply of land. It has the benefit of working through the local developers.

It should be noted that over 90% of all planning applications deal with developments of less than 10 units. By concentrating on the small intervention – up to 900 sq metres it releases the overburdened planning authorities to permit them to concentrate on larger schemes.

Whilst large scale strategic schemes such as Thames Gateway have their place, this set of small scale interventions can provide imaginative exemplars that will encourage and meet the aspiration for a new ‘developer’ led and ‘demand’ led experimentation into housing for the 21<sup>st</sup> Century.

## **SECTION 2: SUSTAINABLE COMMUNITIES EXEMPLARS**

The following exemplars have been selected to illustrate the three main aspects that make up a sustainable community: social, economic and environmental, as well as for their physical design quality. Some, like BedZED, have been developed in recent years and are driven by cutting-edge knowledge of modern environmental issues. Other older exemplars, like Saltaire in Yorkshire, a Victorian model village for industrial workers, score very highly on ‘social’ sustainability but not as highly on twenty-first century environmental criteria. Although they were built for a different age, exemplars such as Saltaire and the New Town developments still provide valuable lessons for today.

Below is the list of exemplars in this section. We have tried to encapsulate the key features of each exemplar at the beginning of each section, followed by a full analysis of their qualities as a sustainable community.

- BedZED, Surrey
- Coin Street, London
- Coopers Road, London
- Curitiba, Brazil
- Dublin Colonies, Edinburgh
- Ecolonia, Netherlands
- Glastonbury House, London
- Hulme, Manchester
- Lacuna, Kent
- Newhall, Harlow
- Poundbury, Dorset
- Saltaire, Yorkshire

# BedZED, Surrey

BedZED is a 21<sup>st</sup> century take on the English Garden City. Not only is it truly sustainable – 90% of the steel was reclaimed from Brighton station – it is also the first attempt in the UK to help residents achieve a near “carbon-neutral” lifestyle.

## 1. Background facts

### ***Project name & location***

BedZED (Beddington Zero [fossil] Energy Development), Wallington, Surrey

### ***Character/type***

Contemporary brownfield housing development

### ***Architects/project team***

Masterplan, concept and realisation: Bill Dunster Architects / ZEDfactory ltd

Sustainability advisors: BioRegional Development group

Building physics: Arup

Structural: Ellis and Moore

Landscape: Andrew Grant

Associates

### ***Date + time taken to plan & build***

Two years to progress from concept through the local planning process. Two years to complete construction of all phases.

### ***Planning authority***

London Borough of Sutton

### ***Champion/sponsor***

Housing Association - The Peabody Trust

### ***Size & Density***

117 homes per hectare on core site

55 homes per hectare including playing field and power station

### ***Population (current & target)***

250 people target mix of one, two, three, four bed homes with 18 live work units

### ***Cost***

£15.5 million

### ***Built by (public/private developer)***

The Peabody Trust

### ***Land ownership – public/private?***

Public land sold to the Trust

### ***Transport and communication links***

4 mins walk to station – 20 mins to London Victoria, 2 bus routes past site

### ***Design & planning process***

Strategic community consultation and liaison with LA21 to finalise masterplan with full involvement of all consultants from site purchase through to detail design and contract administration

### ***Delivery process & mechanisms***

Construction management – individually let works subcontract packages

### ***Delivery skill set required***

Architect lead consultant, common vision adopted by extended team and client



## 2. Description

### ***Mix of accommodation and uses***

196 workstations @ 12 m<sup>2</sup> desk capability in B1 office zones. One creche / nursery / bar/ café / village hall / conference facility / 100 homes

### ***Mix of affordability & tenure***

One third shared ownership, one third social rent, one third private for sale, live / work units all private for sale, rentable workspace

### ***Mix of hard and soft landscape***

90 x 45m pitch grass area, bredon gravel village square, porous paved homezone roads, most homes have garden with lawn

### ***Materials/systems used***

Green oak weatherboarding, local Cranleigh brick, hollowcore precast slabs, local concrete blocks, sedum upper roof, turfed skygardens, painted ochre timber windows

### ***Buildings & street layout***

Housing faces south with passive solar conservatories, workspace is placed in shade zone, private gardens placed on workspace roofs, terraces split to maximise



pedestrian permeability, homezone, parking at site perimeter. Pedestrianised village square. Site layout optimised to minimise cost and heat losses from combined heat and power plant. Car club at most convenient position at site entrance. Traffic is reduced to a minimum by natural traffic calming measures and the design of the street layout.

### ***Maintenance regime***

Paint timber windows every 5 years with micro porous high build stain, no maintenance on green oak, fertilise sedum roof every three years, grease wind cowl bearings every three years, clean heat recovery units every three years

### ***Design quality/Quality of 'place'***

To create a solar urban village with strong sense of community, good social facilities and a higher overall quality of life than would be expected from a conventional development approach. All family homes have sunny conservatories, good daylight and a garden where none would normally be provided at these densities. Add the opportunity to work from home, rent workspace on site, organise childcare, share cars creating an average 15 to 30% premium for the private for sale properties compared to conventional units of a similar size immediately over the fence.

### ***Innovation & creativity***

Demonstrates how a new urban language and architectural aesthetic is generated from rethinking a suburban lifestyle along urban priorities beside an existing underused transport node. This project is the first carbon neutral urban development in the UK, and shows how a step change reduction in environmental impact can be sold to the general public because it is better – avoiding the worthy but dull green tag usually adopted by this type of project.

### 3. Society

***Social infrastructure/available facilities***

Residents bar, shared IT and office facilities, on site catering service to order by residents, 100 seat conference facility / village hall on site childcare, football pitch with showers and changing rooms, shaded tree lined boules pitch in village square.

***Health and leisure provision***

Surgery facility for local doctor (yet to be adopted). Keep fit classes, children’s football

***Patterns of use***

Intensive 24 hour live / work community

***Diversity & local culture***

Good ethnic diversity

***Local leadership/engagement/participation***

A Resident's Association to be involved in managing key facilities bar, village hall - including planted areas and football pitch

***Accessibility***

Most ground floor flats have flush threshold disabled access with option for disabled lift in sunspace.

### 4. Economy

***Local employment and economy***

115 workspaces per hectare

***Developed/developing supply chains***

Local bulk material sourcing within 35 miles of site, local reclaimed materials used extensively, many special components developed with manufacturers to create zero heating spec home

***Education and training resources***

Full supply chain now ready to undertake more advanced projects of this kind

***Retail opportunities***

Small businesses, shops and offices planned within development

### 5. Environment

***Siting***

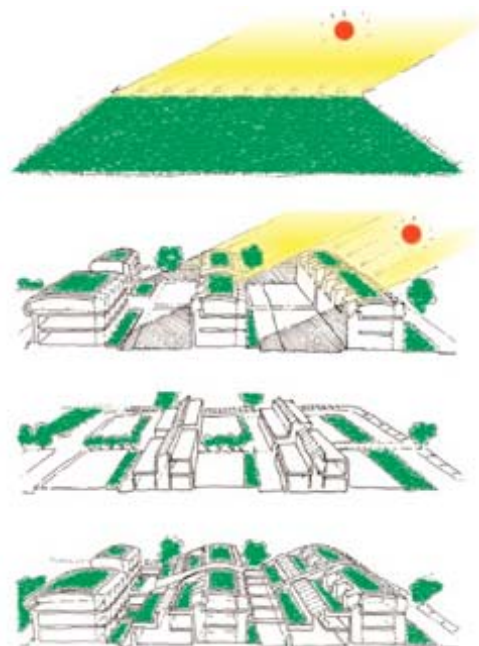
The existing topography of site is maintained, conserving existing trees, an ancient drainage ditch, with the masterplan anticipating an ecology park on the adjacent landfill site

***Resource use – construction***

Minimise construction waste, low embodied energy, thermally massive construction future proofed against summer overheating and associated climate change, opportunities for building integrated renewable energy harvesting within site boundaries maximised

***Resource use – in use (inc. food/farming)***

Local farm shop integrated, farmers markets held on site, organic box supply, insulated internet supermarket delivery boxes, strategy designed to minimise foodmiles and maximise locally sourced organic food.



***Environmental measures***

SUDS, grey and black water treatment on site, passive solar, active solar photovoltaics installation, urban tree waste powered CHP (combined heat and power), superinsulated homes and offices with wind driven heat recovery ventilation – renewable generating capacity 47 W/ m<sup>2</sup> floor area

***Energy strategy & services***

Homes benefit from a third of their winter space heating being met by passive solar gain, overshadowing minimised, at the same time as shading workspace from high angle summer sun minimising cooling loads for offices



***Future adaptability***

All internal partitions from reclaimed timber are easily replanned. Extra doors put into workspace top facilitate live / work conversion and subdivision into smaller units.

***Biodiversity***

95% existing trees retained, many small private gardens create good wildlife habitat, existing ditch habitat for water voles retained, sedum roofs have high biodiversity value – good monitored bird and bug count.

**6. Feedback**

***Survey results***

FPD Savills: 15 to 30 % higher value proven on private for sale units

***Occupant quotes***

Ferrari fan buys BedZED home – shock: full report and pictures in Building Homes, June 2003, interview with residents

***LA responses***

Although obstructive at officer level, support from the highest levels in principle

***Lessons learned***

BedZED is a prototype for a new supply chain and development template. It cost more than building regulations minimum spec because of the tooling up, risk pricing and R and D. Building to this zero heating spec only costs more because there are no economies of scale. Above 1000 units the bulk purchasing will reduce construction cost to the minimum sales added value of 15% recorded by FPD Savills.

***Further information***

Website: [www.bedzed.org.uk](http://www.bedzed.org.uk). For information on a value-engineered range of standard housetypes see ZEDinaBOX pages on [www.zedfactory.com](http://www.zedfactory.com).

# Coin Street, London

Iroko is the latest affordable housing development by the Coin Street Community Builders, which have become models for community-led urban regeneration as well as award-winning buildings for their design. Coin Street's aim and success has been to create a human scale residential area amongst the urban development of central London.

## 1. Background Facts

### *Project name, location*

Iroko Housing Co-operative, Coin Street, London SE1

### *Character/type*

Redevelopment of inner city brownfield site

### *Architects/Project team*

Haworth Tompkins Architects

### *Date, time taken to plan/build*

Limited competition 1997, completed spring 2001

### *Planning Authority*

London Borough of Lambeth

### *Public/private sector champion/sponsor*

Coin Street Community Builders/Coin Street Secondary Housing Co-operative

### *Size and density*

291 habitable rooms equating to 330 habitable rooms per hectare

### *Population (current and target)*

Current (early 2003): 260 occupants

Proposed: 360 occupants

### *Built by (public/private developer)*

Private co-operative developer

### *Land ownership public/private*

Private co-operative

### *Transport & communication links*

Easy access to London Underground, London Buses and Mainline services at Waterloo. Also close to River boat services.

### *Design and planning process*

Whole site application. Density higher than required by London Borough of Lambeth and complies with PPG3.



## 2. Description

### *General*

Phase four of rolling programme of residential development for Coin Street Community Builders.

### *Mix of accommodation and uses*

59 dwellings comprising:

32 three and four-storey town houses, 18 two-storey maisonettes and 9 flats.

2 corner shops

### *Mix of affordability & tenure*

Affordable rents ranging from £77 per week for a one bed flat to £123 per week for a family home

### ***Mix of hard and soft landscape***

Private gardens and communal central courtyard, the latter comprising four distinct zones: children's playground, games pitch, sloping lawn and paved seating area.

### ***Materials/systems used***

Street elevations – orange/red brick with deep window reveals. Zinc panels to recessed porches and top storeys. Existing concrete pad foundations re-used and new structural basement slab suspended from combination of new and existing bases. Timber cladding naturally durable hardwood from managed source: Vitex Cofassus which requires no preservative treatment or applied finishes.



### ***Buildings and street layout***

Buildings arranged round the central courtyard. The rear gardens to the houses open directly onto this courtyard. Street layout as existing pattern.

### ***Parking provision***

The whole development is built on top of an underground car park which partially finances the scheme. Houses have individual car parking spaces

### ***Maintenance regime***

Carried out by the housing co-operative itself.

### ***Urban design quality/Quality of place***

High quality, publications at the time of completion give it high praise. The quality of the houses and their relationship to the courtyard is greatly prized by the tenants.

## 3. Society

### ***Social infrastructure/available facilities***

As well as the benefit of its central London location, a proposed neighbourhood centre is to be built to the south of the central square.

### ***Local leadership/engagement/participation***

Well established Coin Street co-operative system applied to this latest scheme. All four Coin Street housing developments are run by 'fully-mutual' co-operatives. The tenants become shareholders in a company that owns the lease on the building and is responsible for maintaining its properties, collecting rents and selecting new tenants.



### ***Accessibility***

Landscaping designed with accessibility in mind. One of the flats is fully accessible to a wheelchair user.

### ***Equity, social inclusion***

The co-operative model is viewed as democratic and gives residents a greater stake in their homes.

## 4. Economy

### ***Local employment and economy***

The Coin Street "Hothouse" creates partnerships with Central London employers.

### ***Education and training resources***

Community and training facilities in an integrated building located on the southern part of the site adjacent to the housing. Plans have been developed for a building containing meeting bar and creche facilities specifically for local residents, a cybercafe and I.T. resource centre, spaces for meeting, training, advice and rehearsal, small offices for local groups and arts organisations, retail catering and exhibition areas.

### ***Retail opportunities***

Iroko includes two corner shops as well as community facilities. In the adjacent area, Coin Street Community Builders have also been responsible for the refurbishment of Oxo Tower Wharf which includes shops and restaurants as well as the Gabriel's Wharf market.

### ***Commercial viability***

Because the leasehold is owned jointly by all co-operative members, individual tenants do not have a 'right to buy' their own homes, therefore housing will remain available at reasonable rents to those in need. Overall, Coin Street Community Builders is a social enterprise, a business which uses profits from its commercial enterprises to cross-subsidise activities which otherwise would not be viable.

## 5. Environment

### ***Siting***

Located on an inner city site near Waterloo station, enclosed by four roads. Site originally occupied by warehouses and temporarily used as car park. The car park has been retained in a new basement.

### ***Integration***

The Coin Street schemes are well-integrated in their surrounding environment and have contributed to a more humane, mixed-use part of central London as opposed to the large, mono-use office developments proposed in the 1980's.

### ***Resource use – construction***

Re-use of some existing foundations.

### ***Environmental measures***

All houses have individual back gardens leading into a common courtyard.

### ***Energy strategy & services***

Good energy specification includes super-insulation, condensing boilers, heat recovery units and roof mounted solar panels that provide two-thirds of the hot water requirement. Low emissivity double-glazing. High air tightness.



## 6. Feedback

### ***Occupant quotes***

“The homes are very solidly built and the noise and heat insulation is exceptional. We are in the centre of London yet inside there is no traffic noise and we don't even hear our neighbours. Even on the coldest days we only need to have the heating on for an hour in the morning. In the summer the solar panels provide all our hot water – and there are seven of us living here. The bills are really low.”

### ***Further information***

Websites: [www.coinstreet.org](http://www.coinstreet.org) / [www.designforhomes.org](http://www.designforhomes.org)

# Coopers Road, London

Masterplanning of major urban regeneration project for joint venture clients Peabody Trust and the London Borough of Southwark, involving the demolition of 1960s blocks of flats and their replacement with mixed tenure new build housing. The priority for Coopers Road is to achieve zero CO2 emissions by 2020 without major modifications to the fabric, services or infrastructure. Creating a sense of community ownership is another key design principle defining the scheme.

## 1. Background Facts

### ***Project name, location***

Coopers Road, Southwark, London SE1

### ***Character/type***

Mixed use

### ***Project team***

Architects: ECD architects

Structural Engineers: Price & Myers

Services Engineers: Max Fordham

Landscape Architects: Jenny Coe

Planning Supervisor: Philip Pank Partnership

Additional consultants: ECD Energy & Environment, BPP Construction Consultants

### ***Date, time taken to plan***

Planning Approval: November 2001

Start on site: January 2003. Three phase development

### ***Planning Authority***

London Borough of Southwark

### ***Public sector champion***

Since 1999 the Southwark Estates Initiative has been in place. This has involved extensive regeneration of a number of Council estates. Some of this activity has involved a role for Registered Social Landlords (RSLs) in developing new housing. RSLs were selected on a competitive basis on a scheme by scheme basis. Coopers Road also involves the construction of new Council homes with the RSL acting as the Council's development agents.

### ***Size and density***

Previous estate: The Coopers Road Estate built in 1960' comprising 196 dwellings in five blocks, from 3 to 11 storeys each. Existing density is 358 habitable rooms per hectare

Proposed Scheme: 154 new homes in four courtyards. Anticipated density is 355 habitable rooms per hectare.

### ***Built by (public/private developer)***

Peabody Trust and the London Borough of Southwark

### ***Land ownership public/private***

Public

### ***Transport & communication links***

The location of the site adjacent to existing public transport routes within an established urban environment minimises the reliance on car use.

### ***Delivery process/mechanisms***

The scheme will be delivered in three phases to allow the gradual decanting and demolition of existing buildings.

### ***Assessment & Benchmarking***

Eco-Homes Rating: Very Good



### 2. Description

#### ***Mix of accommodation and uses***

Mixed tenure development of 154 new homes for rent and on a separate plot 36 flats for sale.

#### ***Mix of affordability & tenure***

All dwellings are for rent. Each courtyard consists of about 40 homes in a mix of one to three bedroom apartments and three to four bedroom family houses.

#### ***Mix of hard and soft landscape***

Dwelling courtyard gardens surround larger communal gardens.

#### ***Materials/systems used***

The inner city environment demands robust materials and finishes particularly to public areas; floor materials include tarmac to roads, concrete paving slabs and porous concrete blocks.

#### ***Buildings and street layout***

Roads are designed in short runs, intersected by squares and traffic calming measures.

#### ***Urban Design quality/Quality of place***

Estate roads are designed to emphasise pedestrian and cycle use. Vehicles are restricted to 20 mph. Many tenants are looking forward to having a garden for the first time since they have lived in the Estate, gardening clubs and workshops will be arranged to encourage and assist new gardeners. Within the communal gardens there are places for gardening, cycle storage, composting, child play, seating and picnics.



#### ***Innovation & creativity***

External light fittings are selected to minimise light pollution, with downward facing light sources with reflectors.

### 3. Society

#### ***Social infrastructure***

50% of tenants have chosen to remain/return and are an important agreement for the long term success of the project.

#### ***Available facilities***

Adjacent site will include relocated existing Youth Centre, community café, flexible office accommodation, 30 flats for key workers and 36 flats for sale.

#### ***Accessibility***

All homes will be designed to Lifetime Homes Standards with some provision for full wheelchair accessibility

#### ***Quality of Life***

One design principle is to develop a sense of community ownership. Individual houses and ground floor flats have gardens to the front and rear, which create well defined private space. Rear gardens face onto one of the larger communal gardens measuring 21 x 34 metres, comparable in size to a small London square.

#### ***Participation***

Tenants have formed a steering group and have been closely involved with the development of the masterplan through meetings and workshops together with open day style events to include neighbouring communities. Areas of tenant influence included choice of heating system and layout of homes. The consultation process will continue through the project and will address future management etc.

#### 4. Economy

***Local employment and economy***

Redeveloped estate in existing location.

***Education and training resources***

Gardening training

***Commercial Viability***

Local authority development for rental income

#### 5. Environment

***Siting***

Existing site, redeveloped estate. New courtyard gardens were sited to take advantage of the sun's path. Lower storey buildings were positioned to the south of higher ones. Roofs are designed to face south where possible for future photovoltaic (PV) panels. Site investigation has revealed a low level of contamination; gardens will be excavated and replaced with neutral imported soil, to 300-500mm deep.

***Environmental capital***

Key aim of scheme is to achieve zero CO2 emissions by 2020 without major modifications to the fabric, services or infrastructure.

***Resource use – construction***

Preference for timber and masonry use over plastics and steel to reduce environmental impact when disposed of. Contractor encouraged to source materials within 50 mile radius.

***Resource use – in use (incl.food/farming)***

Priority to reduce the demand for energy on site, then selection of an efficient system was key with finally a strategy for introducing renewable supplies to reach goal of zero CO2 emissions by 2020.

***Environmental measures***

All dwellings will be provided with waste separator bins to kitchens and recycling facilities (assume collection) will be provided on site. Residents will be able to recycle kitchen and garden waste in communal garden composting units. Porous paving allows natural water dissipation over formal drainage systems. Water butts will be provided, tenants will be encouraged to re-use water.

***Energy strategy & services***

Services risers have been oversized to facilitate future technologies, i.e. PV or rainwater recycling. Community heating with combined heat and power (CHP). A study showed that despite additional capital cost, the payback period for the system will be less than 10 years. The central boiler plant will allow ease of future change of fuel supply. A switch to biomass within the next 10 to 15 years could significantly reduce CO2 emissions. Many properties fitted with an internal metering system to measure individual consumption.

***Resource consumption***

Water conservation will be achieved by the specification of low flush WCs and spray taps to kitchens, together with rainwater collection systems to filter and deliver water to cistern.

***Future adaptability***

The dwelling mix arrangement has been designed to be flexible to meet future changing needs and developments in living patterns.

***Biodiversity***

A hedge of native species – willows, elder and hawthorn – is proposed adjacent to the eastern and northern boundaries as cover and food for birds and insects. Trees both within the hedge and in isolation will be provided.

# Curitiba, Brazil

An industrial city in Brazil which demonstrates the impact of strong leadership through Jamie Lerner, architect and former mayor of the city. Curitiba has focused on sustainable principles for over thirty years comprising a series of integrated urban planning issues based on valuing the individual. The city is now recognised as the world ecological capital.

## 1. Background Facts

### ***Project name, location***

Municipality of Curitiba, Parana, Brazil

### ***Character/type***

Industrial city with overall sustainable planning

### ***Architects/Project team***

Once mayor of the city, architect and the now governor of the State of Parana - Jamie Lerner

### ***Date + time taken to plan/build***

Started in 1965 and ongoing

### ***Planning Authority***

IPPUC Urban Planning Institute of Curitiba

### ***Public/private sector champion/sponsor***

Municipal Budget of US\$600 million

### ***Size and density***

432 km<sup>2</sup>

### ***Population (current and target)***

Population has doubled to 1.6 million in 30 years

### ***Transport & communication links***

An all-bus rapid transit network with bus-only avenues

### ***Design and planning process***

A linear plan to spread the town out only along specified lines, pedestrianisation of the historical centre, the fast north-south and east-west routes connected via a ring-road and four concentric lines where added with stations at intersections with earlier lines.



## 2. Description

### ***Mix of accommodation and uses***

Industrial non-polluting city, with a mixture of accommodation, enclosures, services and recreational areas. Transport planning integrated with use.

### ***Mix of affordability & tenure***

High-rise buildings have been authorised only along to perpendicular routes, at a short distance from the bus stops.

### ***Mix of hard and soft landscape***

In 20 years, the amount of green space per inhabitant has increased from 0.5m<sup>2</sup> to 52m<sup>2</sup>, with the planting of 1.5 million trees.

### ***Buildings and street layout***

Express radial routes dividing the flow of traffic into three neighbouring parallel streets, the first and third being one-way for private travel and the centre being reserved for the express bus and later for the tram or surface railway when the means are available.

### ***Parking provision***

Initially Curitiba had 0.5 million private cars, but they are no longer to be seen, there are still as many private car owners, but the cars remain in the garage.

***Urban Design quality/Quality of place/ Innovation & creativity***

The ‘capacity building job line’ was created to provide a better quality of life for people in the region surrounding a new economic development axis in Curitiba. This includes the South-Circular bus line, Entrepreneurial Sheds, business incubators designed to help small businesses prosper and the Crafts Lycee, which trains people for professions such as marketing and finance so that they can find employment in new companies that emerge from the business incubator.

**3. Society**

***Social infrastructure/Quality of Life***

Curitiba’s strategy focuses on accelerating the transition to Sustainable Communities and societies by putting people first, these influences are apparent in all aspects of the city.

***Available facilities***

Well-constructed and popular parks: The Wire Opera, a round structure of completely glazed steel tubes, and a new Botanical Garden in which the greenhouses are also constructed with steel tubes and domes.



***Health and leisure provision***

There is a 150km network for walkers and workers.

***Diversity & local culture***

Lorries cannot reach the favelas, so the inhabitants are ‘paid’ for their rubbish, i.e. they sort the rubbish from the town and are repaid with vegetables, fruit and bus tickets (green exchange).

***Local leadership/engagement/participation***

Most of the Brazilian politicians begin their career as famous celebrities and end up barricaded behind closed doors in fear of violence; Jaime Lerner walks peacefully in his city with the only people stopping him are autograph-hunters.

***Participation***

Orphaned or abandoned street children are a problem all over Brazil. Curitiba’s industries adopt a few children and provide them with a daily meal and a small wage in exchange for simple maintenance gardening or office work.

**4. Economy**

***Local employment and economy***

Industrial non-polluting city, with a mixture of accommodation, enclosures, services and recreational areas.

***Developed/developing supply chains***

Over the past 38 years, a web of partners and funders has contributed, working with local government in the creation of Curitiba. City workers, IPPUC, government agencies, research institutions, community organisations, residents, non-governmental organisations and international agencies have all been involved in Curitiba’s ongoing development.



***Education and training resources***

The industrial city provides 50,000 direct jobs and 150,000 indirect jobs. Workers benefit from the quality of the surroundings, the excellent transport system, and health, education and food services. Curitiba created and set up Unilivre, the Open University

for the Environment, which trains professionals and citizens, teachers, educationalists, administrators and official managers of property, concierges and police.

***Retail opportunities***

After turning the downtown shopping district into a pedestrian zone the mayor was met with resistance from the shop keepers, so he suggested a thirty day trial. The zone proved to be so successful that shopkeepers on the other streets asked to be included.

**5. Environment**

***Siting***

700km south of Rio and 100km from the Atlantic coast

***Environmental capital***

Relief from taxation has been promised for all areas which still contain portions of the primitive forest.

***Resource use – construction***

Curitiba builders get a tax break if their projects include green area.

***Energy strategy & services***

After a few appearances on television, Lerner succeeded in persuading everyone to sort their waste by hand for selective collection; 40% of the waste can be recycled (50kg of recycled paper avoids the need to cut down a tree, and Curitiba saves a thousand trees per day). Organic waste is put to one side and used as manure, a way of earning money. The waste is carried to a factory outside the town and is sorted for sale.

***Resource consumption***

Recovered materials are sold to local industries. Styrofoam is shredded to stuff quilt for the poor. The recycling programme costs no more than the old landfill, but the city is cleaner, there are more jobs, farmers are supported and the poor get food and transportation. Curitiba recycles two-thirds of its waste.

***Future adaptability***

Filtering barrages stop solid waste and upstream basins reduce sewage pollution by biological means, until the fish can return and carry out their scavenging work.

**6. Feedback**

***Survey results***

17 new parks, 90 miles of bike paths, trees everywhere and traffic and waste systems that officials from other cities come to study. The city has become a showcase of ecological and humane urbanism with ongoing improvements over the past 38 years to social, economic and environmental conditions for its residents.

***Occupant quotes***

‘The dream of a better town lives firstly in the heads of the people’

‘When a city accepts as a mandate its quality of life; when it respects the people who live in it; when it respects the environment; when it prepares for future generations, the people share the responsibility for that mandate, and this shared cause is the only way to achieve that collective dream.’

***Lessons learned***

Curitiba is today regarded as the world ecological capital, but is strangely little known in Europe, particularly among those whose ecology is somewhat literary.

***Further information***

[www.globalideasbank.org](http://www.globalideasbank.org)

<http://www3.iclei.org/localstrategies/summary/curitiba2.html>

[www.curitiba.pr.gov.br](http://www.curitiba.pr.gov.br)

[www.solutions-site.org](http://www.solutions-site.org)

[www.ippuc.org.br](http://www.ippuc.org.br)

# Dublin Colonies, Edinburgh

This was a prize-winning entry in an open competition for the development of this difficult site. A significant amount of consideration went into the design to use a previous settlement footprint in order to reinstate organic plans and spatial relationships within the rigid existing geometries that surround the site. The scheme represents a model for residential development and integration within established New Towns.

## 1. Background Facts

### ***Project name, location***

Dublin Colonies, Edinburgh New Town,  
Scotland

### ***Character/type***

Mixed Use

### ***Architects/Project team***

Richard Murphy Architects  
Client: The Burrell Company / The  
Edinburgh Development & Investment Ltd  
Structural Engineer: The Laird Menzies  
Partnership  
Contractor: Watson Construction Ltd

### ***Date, time taken to plan/build***

Limited competition 1994, completed  
spring 2000

### ***Planning Authority***

Edinburgh

### ***Public/private sector champion/sponsor***

Burrell Company / EDI

### ***Size and density***

Six two-storey town houses and 22 flats

### ***Built by (public/private developer)***

Private Developer

### ***Land ownership public/private***

A public development company, owned by the local council

### ***Design and planning process***

Whole site application.



## 2. Description

### ***Mix of accommodation and uses***

Inner city housing development set within the historic New Town quarter of Edinburgh. 28 dwellings comprising: 6 two-storey town houses, 22 flats including one/two bedroom flats and a three bedroom maisonette. Central series of interlocking courtyards, with 4 flats having private gardens.

### ***Mix of affordability & tenure***

Controlled rent managed by Scottish Homes

### ***Mix of hard and soft landscape***

The external hard landscaping focuses on granite sets, while soft landscaping runs through the open-deck and external access to the flats.

### ***Materials/systems used***

Street elevations - Lightweight insulated cedar boarding cladding, existing masonry, and curved aluminium clad roof. Plan arrangement of units determined by historic footprints

of previous dwellings. Lightweight steel structural frames are used for the structural support of the flats. Each first and second floor flat is accessed externally from a suspended steel and masonry staircase; meaning each has its own sitting out area.

### ***Buildings and street layout***

Buildings arranged within an existing central courtyard.

### ***Parking provision***

The hard landscaping allows for 17 car parking spaces in designated perimeter areas.

### ***Design quality/Quality of place***

High quality. Published magazines at the time of completion give it high praise. The quality of the homes is admired by the tenants.

### ***Innovation & creativity***

Design involved use of a previous settlement footprint in order to reinstate organic plans and spatial relationships within difficult site constraints.

## 3. Environment

### ***Siting***

“The scheme reflects the organic form of the mediaeval village of Broughton which once occupied the site, before it was surrounded by the formality of the New Town. It also reinterprets the external staircases, the rooflines and elevations of mediaeval houses.”

<http://www.richardmurphyarchitects.com/news/news00-07.htm>

### ***Resource use – construction***

Re-use of some existing masonry. Timber used to reconnect with former timber mill that was adjacent to the site.



# Ecologia, The Netherlands

The Dutch government was the first in Europe to adopt the principles of the 1987 Brundtland Report and this is one of the first demonstration projects to follow the development of the Netherlands National Environment Policy and Plan in 1990. Planned with an ecological and social focus, the development demonstrates the importance of providing variety within a large-scale development to reflect the diversity of residents, achieved by pairing different developers with architects. It is an important demonstration and pilot project, which was developed to gain experience for future sustainable estates and show the quality of knowledge in ecological town planning and architecture that was available. However, many residents are unhappy with technical problems of some of the environmental technologies and specifications. It is a partial success and therefore raises important issues regarding the planning and design of a sustainable community which are summarised in this case study.

## 1. Background Facts

### ***Project name, location***

Ecologia, Alphen-aan-den-Rijn, The Netherlands

### ***Character/type***

Demonstration project, two / three storeys, predominantly residential, terraced / semi detached / flats, single family dwellings, integrated landscape



### ***Architects/Project team***

Urban plan / Masterplan: Lucien Kroll

Architects: All Dutch/Belgian, chosen for environmental credentials - BEAR Architects, Albert & Van Huut, Hopman bv, J P Moehrlein, Bakker / Boots / Van Haaren / Van der Donk, Peter van Gerwen, Archi Service and Vakgroep FAGO.

### ***Date, time taken to plan/build***

1989 - Feasibility study commissioned

1990 - 17 architects invited to submit ideas, 9 architects chosen to produce designs

1991 (June) - construction commenced

1992 (December) - completion

### ***Planning Authority***

Alphen-aan-den-Rijn, The Netherlands

### ***Public/private sector champion/sponsor***

Main client: Bouwfonds Woningbouw Housing Association

Other sponsors/champions: Netherlands Agency for Energy and Environment (NOVEM), Ministry of Housing, Physical Planning and Environment (VROM), Ministry of Economic Affairs (EZ), local energy supplier (EWR)

### ***Size and density***

101 dwellings

### ***Built by (public/private developer)***

9 developers each twinned with an architect on a zone of the development

### ***Land ownership public/private***

Public

### ***Transport & communication links***

Cars subservient to pedestrian based 'home zone' infrastructure. Pedestrian / cycle path to local station linked to development.

### ***Delivery process/mechanisms***

An innovative approach that was not developer led (as with other 'sustainable community' projects such as Milton Keynes). Instead, architect/developer partnerships

were created within an ecological planning framework. All designs were assessed by research specialists from Universities and institutions and amended to improve their environmental aspects.

### ***Delivery skill set required***

Urban planner with specialist skills in ecology and social aspects  
Integrated approach with local authority, urban planner, architects and developers  
Support from government (subsidies, assessment)

### ***Assessment & Benchmarking***

Assessments carried out, though system not confirmed. Testing, monitoring and evaluating performance for future projects was a primary focus for the development.

## 2. Description

### ***Mix of accommodation and uses***

Predominantly residential. On site information centre.

### ***Mix of hard and soft landscape***

Central lake for recreation and balancing rain/grey water storage. Functional open spaces with pedestrian priority over cars and no defined pavements. Planting to improve microclimate around buildings.

### ***Buildings and street layout***

Generally terraced dwellings arranged around a central lake and 'town square'. No rigid grids of streets.

### ***Urban Design quality/Quality of place***

Ecological and social issues were integrated within the planning approach. Kroll's approach is anti mechanistic / homogenous / mass produced settlements – he avoids imposing strong linear grids that 'obliterate signs of nature and human habitation' as he believes these lead to depressing, lifeless places. He supports people in making personal changes that act as a catalyst for creating 'real' places that will grow and change. 'The result may be cacophony as architecture, but it is unity as town planning...'

### ***Innovation & creativity***

An innovative approach to urban planning guided by ecological and social concerns. An innovative delivery process that was not developer led.



## 3. Society

### ***Patterns of use***

Designed to provide for adaptability and change

### ***Local leadership/engagement/participation***

Wide range of stakeholders were involved in development of the project (see section 1)

### ***Accessibility***

The flat site enhances ease of accessibility

### ***Quality of Life***

Residents feel that the ecologically based lifestyle has led to improved quality of life.

### ***Equity Social Inclusion***

The dwellings were designed to attract a wide range of users and be mostly affordable.

### ***Participation***

Lucien Kroll is a leader in participatory design. His philosophy is based on 'dialogue' rather than 'monologue', with a goal of inspiring residents to take control of their environment. His work demonstrates that design cannot be implemented, or indeed enhanced, without the co-operation of others (users, developers etc.)

#### 4. Economy

##### *Education and training resources*

Information on how to use the dwellings and benefit from resource savings was produced. It was however provided too late, which led to user frustration.

##### *Commercial Viability*

Subsidies of 6 million Dutch Guilders received (£1.9m)

Equivalent to 23,000 Dutch Guilders per house (£7,282 per house)

Cost per dwelling of 180,000 – 300,000 Dutch Guilders (£57,000 - £95,000)

These costs are above typical market rates in the Netherlands.

#### 5. Environment

##### *Siting*

Terraces of dwellings are predominantly orientated east-west with roofs and main elevations facing south. The existing natural features were extremely limited as they had been covered in 3 metres of sand to reclaim the waterlogged land. A central lake provides a social focus as well as functioning as a reservoir for rainwater storage.

##### *Environmental measures*

The various architects each focused on particular environmental criteria. These are summarised below under the three key headings of the National Policy: Energy conservation, Integrated chain management and Quality improvement:

##### 1. Energy Conservation

###### **Reduced heat loss**

- high performance wall construction
- large windows to south, small windows to north
- blinds to control summer heat gain
- use of thermal shutters for enhanced night time insulation
- maximum 300MJ/m<sup>3</sup> energy consumption for all dwellings

###### **Use of solar energy**

- passive sun spaces to south
- solar thermal hot water systems
- photovoltaics
- zoning of internal rooms

##### 2. Integrated Chain Management

###### **Materials cycles**

- Chosen for durability / low maintenance
- Low embodied energy
- Sustainably sourced timber
- High thermal mass
- Re-usable / renewable / recycled / recyclable materials
- Design for dismantling and re-use / recycling

###### **Reduced water consumption**

- Low flush toilets
- Low flow showers
- Water saving appliances / fixtures
- Rain water harvesting

##### 3. Quality Improvement

###### **Acoustic insulation**

- Low noise heat/ventilation systems
- Zoning of high/low noise rooms
- Enhanced bedroom wall/door construction (quiet room)
- Enhanced acoustic insulation between units



**Health & wellbeing**

- Underfloor heating
- Integrated vacuum system
- Cold bridge prevention
- Low allergy materials
- Reduced electromagnetic fields (cork floors, natural paints)
- Natural ventilation

***Energy strategy & services***

61 dwellings have mechanical ventilation system with heat recovery  
32 dwellings have mechanical ventilation system without heat recovery  
8 dwellings have natural ventilation  
80 dwellings have solar collectors on south facing roofs

***Future adaptability***

Ten buildings focussed on concepts of flexibility and adaptability. These incorporated movable internal walls and defined 'service' cores (WC, stair, risers).

**6. Feedback**

***Survey results***

A resource measurement programme was carried out in 1993 with the following results. It is not clear what these savings were compared to:  
40% reduction in gas consumption  
20% reduction in water consumption  
10% reduction in electricity consumption

***Lessons learned***

The following are key lessons learnt from the scheme:

- Multidisciplinary co-operation and co-ordination is essential and was surprisingly time-consuming (Housing Association, local authority, architects and developers).
- An innovative approach requires rigorous working methods. There were difficulties in the planning and implementation due to the sophistication and complexity of the project – responsibilities need clearly defining and an experienced ecological project manager is required.
- The ecological standards had to be reduced to meet financial pressures. It is unlikely that they would be viable for other developments due to the level of subsidies.
- Using a variety of architects and building designs creates a development that reflects the diversity of a typical community.
- House buyers are only willing to invest in 'green' measures that have tangible benefits (e.g. reduced utilities bills).
- Public housing is becoming unaffordable due to rising standards and complexity of regulations.
- Building orientation, zoning of rooms and an ecological focus to landscaping all provide great benefits for slight additional cost.
- Closed rainwater systems not entirely successful, only achieved 22% water savings.
- The sense of a 'green community' appealed to residents, who now generally equate sustainable practices with quality of life.

***Further information***

<http://www.umanitoba.ca/academic/faculties/architecture/la/sustainable/cases/ecolonia/eoindx.htm>  
<http://homeusers.brutele.be/kroll/ecolonia.htm>  
<http://home.hetnet.nl/~perronas/ecolonia.english.html>  
<http://www.iclei.org/egpis/egpc-041.html>

# Glastonbury House, London

INTEGER was appointed by Westminster City Council as research and development team to create and deliver 21st century standards in housing refurbishment. Glastonbury House is the first project to be undertaken. The project takes into account key areas of sustainability: environment, social innovation, construction innovation and technology. Various green and intelligent technologies are incorporated and social concerns addressed by applying health in housing through technology support and the provision of a neighbourhood health centre, extra care facilities; and education and training for IT and environmental aspects.

## 1. Background Facts

### ***Project name and location***

Glastonbury House,  
Westminster, London

### ***Character/type***

Refurbishment of 1960's  
tower block

### ***Architects/Project team***

Team: INTEGER  
Intelligent & Green  
Architects - Cole  
Thompson Associates  
Technology - i&i limited  
Structure/M&E - WSP  
Communications -  
enabling concepts

### ***Date + time taken to plan/build***

Design/production  
information period 15  
months. Construction  
programme 13 months  
commencing February  
2004

### ***Planning Authority***

Westminster City  
Council

### ***Public/private sector champion/sponsor***

City West Homes

### ***Size and density***

162 flats in existing tower block on 1960's estate

### ***Population (current and target)***

Approximately 250 (no increase targeted)

### ***Built by (public/private developer)***

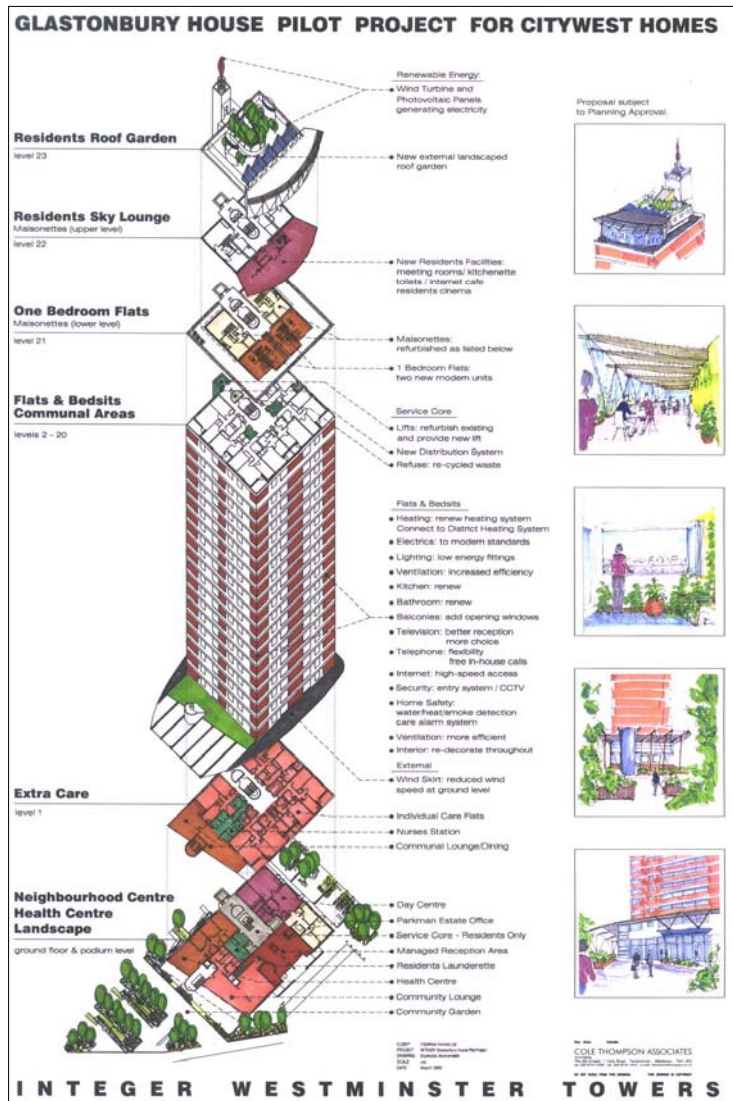
Refurbishment being carried out by Wates Construction Ltd

### ***Land ownership public/private***

Public, Westminster City Council

### ***Transport & communication links***

Glastonbury House is located 10 minutes walk from Victoria rail and underground station and is on local bus routes.



### ***Design and planning process***

Research and innovation programme carried out prior to designing scheme

### ***Delivery process/mechanisms***

PPC 2000 partnering contract. 'Invisible' contracting, multi-skilled 'A' team approach; residents can stay in the block during construction; installing new service core outside the building so that building services may be completely replaced on floor by floor basis.

### ***Delivery skill set required***

On-going consultation with residents and other stakeholders

### ***Assessment & Benchmarking***

Eco-Homes rating; processed September 2003

## 2. Description

### ***Mix of accommodation and uses***

80 bedsits, 80 one bed flats, 3 two bed flats. Extended communal facilities including large health centre.

### ***Mix of affordability & tenure***

100% social tenants. Semi-supported and sheltered for elderly.

### ***Mix of hard and soft landscape***

Major landscaping proposed over podium, residents sky lounge

### ***Materials/systems used***

Existing concrete/brick infill tower block. New metal/glass balcony infills, sky lounge and ground/first floor extension. Sedum roof to first floor canopy.

### ***Buildings and street layout***

23 storey tower block within Abbots Manor Estate, Westminster

### ***Parking provision***

Very low car ownership. Limited space in front of building and underground car park below

### ***Maintenance regime***

Maintenance/management by Parkman Ltd

### ***Urban Design quality/Quality of place***

Existing estate improved by proposed hard and soft landscaping

### ***Innovation & creativity***

Various green and intelligent technologies incorporated, eg rainwater harvesting, PV, solar panel and wind turbine renewable energy, sedum grass roof. Intelligent lifts, IT infrastructure for data communications and entertainment, security, maintenance and monitoring of power, water usage, bathroom overflows etc. Video entry connected to TV & phones, remote metering of services. Heating supplied from Pimlico District Heating Undertaking.



## 3. Society

### ***Social infrastructure***

Elderly (supported/sheltered). Singles, couples, no families.

***Available facilities***

Communal lounge, manager/concierge, launderette, sky lounge, meeting rooms. Installing networked cabling for IT, telephony, digital TV. Integrating systems for social care, access control, communications and building services controls – including lowest cost router telephony, free-calls within the block, access for ethnic groups to own language broadcasting, video door entry on TV.

***Health and leisure provision***

Health visitor rooms, special care unit. Application of health in housing through technology support

***Patterns of use***

Open daily to all

***Local leadership/Engagement/participation***

Residents steering group and various residents clubs

***Quality of Life***

Edge of conservation area. Good transport & local shops. Relatively safe environment.

**4. Economy**

***Local employment and economy***

Central London location in prosperous area

***Education and training resources***

Education and training for IT and environmental aspects working with residents and with local schools as part of INTEGER Education Programme

**5. Environment**

***Siting***

The tower block is set over a car park podium within Abbots Manor Estate

***Environmental measures***

Extensive landscaping & planting, sedum roof, better heating controls, lower water usage (dual flush WC, showers), low energy light bulbs

***Energy strategy & services***

Designed to minimise water and energy

***Future adaptability***

Multi functional community areas, flats can be joined to form larger units

***Biodiversity***

Improved with new landscape.

**6. Feedback**

***Further information***

Feedback and communication with residents on-going.

Websites: [www.colethompson.co.uk](http://www.colethompson.co.uk) / [www.integerproject.co.uk](http://www.integerproject.co.uk)

# Hulme, Manchester

The new Hulme is a return to the traditional street pattern with terraced housing. The street hierarchy is established by using three storey houses along principal routes and two storey to residential streets. The area's redevelopment includes 3,000 new homes, shops, roads, offices and community facilities over 125 acres which were cleared and rebuilt within 5 years. Its success lies in achieving such a complex, large-scale redevelopment over a relatively short time-scale, and very much depended on strong political leadership, from central government backing to a local council leader dedicated to quality urban design and architecture which responds to local social needs.

## 1. Background Facts

### *Project name, location*

Hulme is an area of 110 hectares (272 acres), 1.5 km from Manchester city centre, in North West England

### *Character/type*

Terraced housing

### *Architects/Project team*

Manchester City Council and Hulme Regeneration Limited. Several phased developments, generated by different project teams have shaped the new Hulme.

Initial Masterplanner: Jo Berridge of Berridge Lewenberg Greenberg designed an urban design code, for various developers and architects to adopt, that belongs to the same movement as the Urban Villages Campaign backed by the Prince of Wales. George Mills of Mills Beaumont Leavey Channon developed urban design code.



### *Projects*

- HULME 3, Phase 1: £6.3m scheme 165 dwellings. Architect: Ainsley Gommon Wood
- HULME 3, Phases 2-4: £5m scheme 124 dwellings. Developer: The Guinness Trust with OMI Architects, Curtins (structural engineer), and Tweeds (quantity surveyor).
- HULME 4, Phase 1: £5m scheme 106 dwellings, North British Housing Association
- ROLLS CRESCENT HOUSING SCHEME – Design & Build
- HULME 5: £4.2m scheme 67 dwellings developed by North British Housing Association with ECD Architects, Cruden Construction (contractor), Curtins (structural engineer) and Poole Stokes Wood (quantity surveyor). Start on site December 1995 and completed October 1997.
- HULME HIGH STREET REGENERATION: £25m mixed use scheme including 94 dwellings developed by Urban Space Management with Ahrends Burton & Koralek (architects).
- HOMES FOR CHANGE: £3.5m scheme 50 dwellings (density of 110 dwellings/hectare). Developed by The Guinness Trust, designed by Mills Beaumont Leavey Channon (architects) with Steven Hunt Associates (services engineer), YRM Anthony Hunt Associates (structural engineer), Tweeds (quantity surveyor), Amey Hind (contractor).

### *Date, time taken to plan/build*

5 Year Plan

### *Planning Authority*

Manchester City Council

### ***Public/private sector sponsor***

Housing associations, private sector companies, local and national government, statutory & voluntary agencies and the Hulme community. £37.5m initial funding from Government City Challenge Scheme, set up in April 1992. Plus £230m private investment over the first five years.

### ***Size and density***

Target to develop 1000 homes for sale plus 1000 homes for rent  
Victorian Terraces: 150 dwellings/ha  
1960's system-built housing: 37 dwellings/ha  
Return to terraced streets: 75 to 85 dwellings/ha or 225-250 bedspaces/ha

### ***Population (current and target)***

The population of the area before redevelopment was 10,000 with a large number of single person and all adult households. Estimated population has grown by 3.3% since 1992, compared to a 0.2% increase in the city.

### ***Built by (public/private developer)***

Series of private developers

### ***Land ownership public/private***

Local Authority ownership

### ***Design and planning process***

Initial Masterplanner designed an urban design code, for various developers and architects to adopt.

### ***Delivery process/mechanisms***

Hulme City Challenge run by Hulme Regeneration Limited. (an independent company formed as a joint venture between Manchester City Council and Amec, a local contractor/developer)

## 2. Description

With numerous separate developments making up the new Hulme, one is chosen below for further investigation – Homes for Change.

### ***Mix of accommodation & uses***

50 flats and maisonettes from 1-4 bedrooms. 1500m<sup>2</sup> of non-residential space to be used as studios, offices, retail, workshops a theatre and cafe. 450 square metres of workspace for small businesses for members of its co-operative.

### ***Mix of affordability & tenure***

Affordable housing based on voluntary management co-operative, goal is for residents to eventually own.

### ***Mix of hard and soft landscape***

Central courtyard, 3 separate roof gardens.

### ***Materials/systems used***

The design incorporates sloping glazed walls, zinc cladding, cedar boarding, forming the quarter part of the exterior facade, exposed steelwork internally and cantilever balconies. Timber deck access walkways with materials imported from Holland, concrete cantilever balconies using the 'schook isokorb' system from Germany. A mixed palette of materials is used externally, buff brickwork, grey render, western red cedar cladding, fair faced



concrete and tem coated stainless steel. All external structural steelwork is self-finish galvanised, with the roof being standing seam aluminium.

### ***Parking provision***

On-street parking as promoted within the Hulme urban design code, negating the need for large areas of development to be devoted to servicing and parking. This freed up a courtyard space for social purposes in the Homes for Change development.

### ***Maintenance regime***

The building is maintained by the tenants as part of the co-operative system.

### ***Urban Design quality/Quality of place***

The building followed the design standards laid out in the Hulme urban design code. Access to all dwellings above ground floor is via galleries at second and fourth floor levels, stepped back from the main block to promote sociability between floors. A voluntary management co-operative allows tenants to share responsibility for their environment. Despite its density the scheme offers a large amount of quality open spaces. An internal courtyard, overlooked by the scheme's windows provides a secure play area for children watched over by parents. The turnover of residents is very low at less than 10% over a 4 year period. A community has bonded and includes a café, small theatre space and 32 workspaces provide community facilities.

### ***Innovation & creativity***

Construction innovation – the building is structured with a cross wall precast/in situ composite concrete frame, the first time such a system has been used in this country. First building in Hulme to receive a secured by design award.

## 3. Society

### ***Social infrastructure***

With 64% of households still in social rented accommodation, however, Hulme remains a relatively poor area. There are also larger than expected numbers of transient households living in Hulme temporarily. Big price rises in the private housing stock have brought many more professional and managerial households to the area but have meant that local people on lower incomes must increasingly look beyond Hulme when choosing to buy a home.



### ***Local leadership/engagement/participation***

Local residents won a pledge that all current residents, whether or not they were eligible for statutory housing, would be rehoused in the area. 8 Full-time staff involved in design of all individual housing schemes. The widescale participation of tenants in the design has increased the satisfaction felt by the residents. The level of consultation has required considerable patience, energy and commitment from professionals, but also understanding and flexibility from tenants about what in the end it was possible to have.

## 4. Economy

### ***Local employment and economy***

The comprehensive regeneration of Hulme depended upon expanding the commercial base of the area and helping local people into jobs in Hulme and elsewhere. Successes in these areas over the last five years include the development of new, popular workspaces, some major, job-creating commercial projects, the 'placement' of substantial numbers of local people into jobs in Hulme and the growing attractiveness of the area to high technology industries that value a location near to Manchester's higher education and medical complexes. Against this, however, new small retailers and entertainment

providers have not appeared on the expected scale, giving Hulme an ‘unfinished’ feel in terms of the market services and facilities that people associate with an up and coming area. Unemployment has fallen in Hulme but remains ‘sticky’ compared to the city as a whole where unemployment has fallen faster.

### ***Retail opportunities***

Regeneration of Hulme High Street

## 5. Environment

### ***Siting***

Hulme 5 - following site development and demolition at least twice, Victorian and 1960's housing, the site left was generally flat with a covering of crushed brick and concrete. A borehole investigation instigated by Curtins, Structural Engineers, indicated a sub-surface strata comprising made ground of depths between 1metre and 3.5 metres overlying dense sands over stiff boulder clays. Further investigation showed that the ground was not suitable to bear the foundations of dwellings. The site was subsequently treated by vibrocompaction to achieve a bearing capacity of 100kN/m<sup>2</sup>, which allowed the use of reinforced strip footings at shallow depth.



### ***Resource use – in use (incl.food/farming)***

A permaculture strategy has been proposed for Hulme; land uses within the garden will include:

- Growing of foodstuffs: for home use and sale within the community.
- Recreation: an area of the garden will be given over to recreation, including a safe, enclosed play area for children, whilst adults work.
- Training: horticulture, organic gardening, permaculture. Courses will be run in association with local training institutions.
- Micro enterprise: excess foodstuffs, specialised high value cash crops, carpentry and green woodwork, nursery plants. Produce will be sold through markets and trading networks local to Hulme. Accrued wealth will be divided equitably amongst project participants.
- Recycling: organic waste and household waste from the Bentley Estate will be put to use on the land.

### ***Environmental measures***

At Homes for Change, green issues were very important to the tenant group, using recycled or sustainably sourced materials and insulation standards far in excess of the building regulations.

## 6. Feedback

### ***Lessons learned / further information***

‘Hulme, ten years on’ draft final report to Manchester City Council, June 2002, by The Surf Centre (Centre for Sustainable Urban and Regional Futures)

<http://www.cn4m.info/files/Hulme%20Piglet%20July%2003%20text.doc>

<http://www.sustainability.org.uk/info/casestudies/hulme.htm>

<http://www.ecda.co.uk/pdfs/hulme.pdf> (Rolls Crescent housing scheme)

[http://www.mjgleeson.com/housing/case\\_histories/case\\_hfc.php](http://www.mjgleeson.com/housing/case_histories/case_hfc.php) (Homes for Change)

# Lacuna, Kent

This award-winning brownfield phased development occupies a vast site of a former 'Battle of Britain' Air Force Base in Kent. Designed by Clague Architects to closely follow principles of PPG3 and the Kent Design Guide, Lacuna is the first phase of development. Zones B & C of Lacuna incorporate a prefabricated timber-framed building system which has shown a reduction in defects and has ensured compliance with environmental building regulations as well as proving beneficial to health and well-being. The overall design standards, both in terms of the buildings and their layout, provide housebuilders with a model for new residential development.

## 1. Background Facts

### ***Project name, location***

Lacuna, King's Hill, West Malling, Kent

### ***Character/type***

Brownfield development

### ***Architects/Project team***

Designed by Clague architects, Canterbury, for Kent based House Builder Environ and its joint-venture partner Sunley Estates

### ***Date, time taken to plan/build***

Phased scheme commenced 10 years ago.

### ***Planning Authority***

Tonbridge and Malling Council, Kent

### ***Public/private sector champion/sponsor***

Kent County Council and Rouse Kent Ltd, part of the Liberty Property Group (USA)

### ***Size and density***

The central village is designed to have a tight village feel with between 400-500 houses. Lacuna consists of 180 residential units on 7.6 acres; this equates to 23.7 units/acre or 58.6 units/hectare. Overall density of 25275 sq ft/acre.

### ***Built by (public/private developer)***

Private Developer

### ***Land ownership public/private***

Public: Kent County Council

### ***Transport & communication links***

Adjacent to M25, M26 and M20 and West Malling Station offers frequent rail services to London Victoria or Ashford for the Eurostar connection.

### ***Design and planning process***

The development closely follows principles of PPG3 and the Kent Design Guide.

### ***Delivery skill set required***

High. Zones B & C factory-made overseas to combat problem of UK skills shortage.

### ***Assessment & Benchmarking***

Zone A at Lacuna was traditional construction and SAP calculations were provided by the services engineers for the project, Slender Winter. Zones B & C are Canadian timber frame construction, part of their Super-E programme and supplied by MIC Alouette. There is a good description of Super-E in the Zurich handbook. A LANTAC approval certificate for the system is currently being gained which will allow SAP ratings to be superseded by Canadian HOT2000 software results. These will generally exceed UK standards. Environmental assessment is also part of the Super-E package. Similar to UK's Eco-Homes method it comprises an "Indoor Air Quality and Environmental Features Pick List".



## 2. Description

### ***Mix of accommodation and uses***

Brownfield phased development (site of a former Battle of Britain Air Force Base). Mix of semi-detached, detached and terraced housing. 27 Basic Unit types, 180 residential units consisting of 2/3 bed flats or 3/4/5 bed houses. The scheme comprises family housing, contemporary housing and apartments.

### ***Mix of affordability & tenure***

Rouse Kent agreed overall figures with Tonbridge & Malling Council. Whilst an agreed percentage is being provided at King's Hill there is no affordable housing on Lacuna site.

### ***Mix of hard and soft landscape***

Homes have choice of 'modern' sculpted landscape or contemporary cottage garden.

### ***Materials/systems used***

Zone B & C incorporates a timber-framed Building System prefabricated in Canada, shipped to the UK and then assembled. Construction period reduced from 32 weeks to just 14 weeks. The exterior of the homes comprises of walls of cool glazing which merge with traditional tile hanging. The exterior design is based on a Kentish vernacular theme that incorporates a richly coloured roof tiling contrasted by natural render.



### ***Buildings and street layout***

Mixture of houses and perimeter flats with 'fingers' of vehicle / pedestrian access, and pedestrian only lanes, run North-South of the central distributor road.

### ***Parking provision***

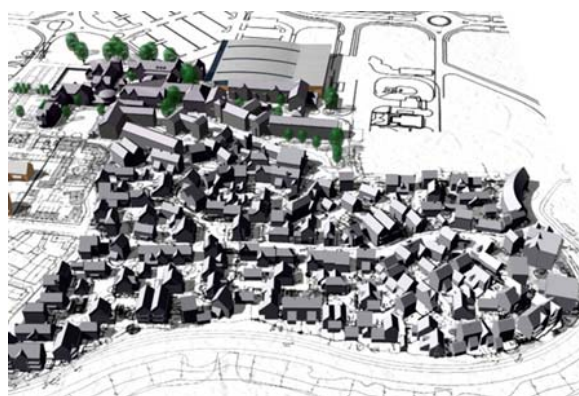
Each home has one garage and is allocated one parking space.

### ***Maintenance regime***

Special maintenance service offered to home buyers which includes upkeep of gardens, window cleaning, redecoration, fencing, lighting, building insurance and general property maintenance.

### ***Urban Design/Quality of place***

Lacuna is designed with a hierarchy of urban spaces – roads, paths, courts, mews and greens. The location of the property entrances in relation to these spaces are such that they attempt to give individual identities to the dwellings and give a 'sense of ownership' to the occupants. Overall building concept based on Kentish vernacular theme.



### ***Innovation & creativity***

Zone B & C dwellings are factory-made overseas. This has shown a reduction in defects and has ensured compliance with new environmental building regulations.

## 3. Society

### ***Social infrastructure / Available facilities / Health and leisure provision***

In close proximity to the 'business quarter' of King's Hill, Lacuna residents are near to sports, leisure, retail (e.g. Bluewater), healthcare and educational facilities. An 18-hole

championship golf course development is also close by. The central village area was re-planned to include a school, community hall, nursery and a doctor's surgery as well as various leisure facilities.

### ***Patterns of use***

Designers claim that the dwellings and spaces are designed with sufficient depth and range to meet a broad range of lifestyles and age groups, the scheme comprises family housing, contemporary housing and apartments

### ***Local leadership/engagement/participation***

On-line information facility well publicised, covering all areas of community engagement. Also includes a comprehensive directory of local services.

### ***Accessibility***

Disabled access is being provided to the satisfaction of Building Control generally in accordance with Part M of the Building Regulations. Vehicular and Pedestrian Access is via an adopted highway network and a series of private roads, squares, lanes mews courts and individual housing courts.

### ***Quality of Life***

The Central village incorporates leisure facilities, restaurants, pubs, a hotel and is linked to all parts of King's Hill via 'green routes' – "ribbons of green for walking, cycling and horseback riding.



## 4. Economy

### ***Local employment and economy***

Rouse Kent, which is an affiliate of Liberty Property Trust is developing a business park that now employs more than 3500 people working for approx. 100 companies.

### ***Education and training resources***

Refer to section 3

### ***Retail opportunities***

Refer to section 3

### ***Commercial Viability***

1.17 million people live within 45 minutes of King's Hill Developments (Annual Earnings Survey 1999)

## 5. Environment

### ***Siting***

Re-use of brownfield site that was a former Battle of Britain Air Force Base

### ***Resource use – construction***

Super E units used in Zones B & C uses the following products (see super-e website): Fibreglass insulation made from recycled glass. Fibreboard made with recycled paper and wood fibres. Drywall made with recycled gypsum and paper. Structural engineered wood products manufactured from waste wood and/or fast growing trees from managed forests. Trims and finishes made from waste wood products.

### ***Resource use – in use***

Low water consumption toilets, taps and showerheads used. High-efficiency heating and cooling systems and energy-efficient windows used.

***Environmental measures***

All houses have individual gardens, impact of car use has been minimised and gardens purposefully kept compact and easy to maintain. Zone B & C Homes claim to be ‘allergy-reducing’ in that a timber-frame building system (called Super E) works silently to draw in and filter fresh air from the outside while simultaneously extracting stale, unhealthy air that would normally be trapped. Car Share scheme in operation, this is organised through a community on-line facility.

***Energy strategy & services***

Council arranges / undertakes free energy assessment service to identify where energy saving measures can be made in the home. TMBC web offers top ten tips for Energy Saving. KASH – Kent Action to Save Money, this is a partnership of all of Kent’s Local Authorities and is run on their behalf by Kent Energy Centre. KASH have negotiated discounts of up to 20% with a number of Energy Efficient heating and insulation installers.

**6. Feedback**

***Occupant quotes***

“...we are very happy here. The main reason we moved here was because of a sense of security.” Nina Evans, resident (extract from BBC Newsnight)

***Lessons learned***

- Type of Construction can lead to enhanced quality of health and lifestyle.
- Prefabrication showed a reduction in defects and has ensured compliance with environmental building regulations.
- Overseas companies used to combat short-fall in skilled labour in UK.
- Strategy regarding local economy, facilities and infrastructure put in place to ensure long-term success to development.

***Further information***

[www.clague.co.uk](http://www.clague.co.uk)  
[www.vironcountryhomes.com](http://www.vironcountryhomes.com)  
[www.kings-hill.com](http://www.kings-hill.com)  
[www.lacuna.uk.com](http://www.lacuna.uk.com)  
[www.super-e.com](http://www.super-e.com)  
[www.tmbc.gov.uk](http://www.tmbc.gov.uk)

# Newhall, Harlow

Newhall represents the innovative, high quality environment which can result from the successful partnership between architect and housebuilder. The overall Newhall site has been subdivided into 10 parcels of land, each bid for under a designer/developer competition within the framework of an overall masterplan. These smaller parcels provide greater choice and diversity within the larger new community. This case study highlights the recently completed Phase 2 led by Proctor Matthews Architects with Copthorn Homes which sets a model for greenfield development - compact, urban, and responsive to modern lifestyles though flexible for future needs.

## 1. Background Facts

### *Project name, location*

Newhall, Harlow, Essex

### *Character/type*

Contemporary greenfield housing development, mixed use

### *Architects/Project team*

Masterplan: Roger Evans Associates  
Architects (Phase 2): Proctor Matthews  
Architects (Phase 3): PCKO

### *Date, time taken to plan/build*

Ten years to progress from concept through the local planning process. Phased building in progress. Total projected time is 18 years.

### *Planning Authority*

Harlow District Council

### *Public/private sector champion/sponsor*

Private: Newhall Projects Ltd (representing landowners Jon & William Moen)

### *Size and density*

2800 houses + district centre/mixed use on 615 hectares (30-60 dwellings per hectare in areas of development)

### *Population (current and target)*

6000 persons

### *Built by (public/private developer)*

Private: Phase 2 - Copthorn Homes  
Phase 3 - Cala Homes

### *Land ownership public/private*

Private

### *Transport & communication links*

Quality bus service/rapid transit system. Easy access Harlow Town Centre & Station, M11 & Stansted airport

### *Design and planning process*

Urban design led through overall masterplan with subdivision of site into 10 parcels of 50-100 units for sale to different developers (with own design teams)

### *Delivery process/mechanisms*

Masterplan & design codes attached to land sale - achieved by covenant.

### *Delivery skill set required*

Client control/masterplanners/architects/urban design and development planning



## 2. Description

### ***Mix of accommodation and uses***

Includes community buildings, shops, services, pubs

### ***Mix of affordability & tenure***

25% affordable mixed tenures

### ***Mix of hard and soft landscape***

Urban to 42% retained parkland/landscape

### ***Materials/systems used***

50 parcels from steel frame, prefab timber. Colour/materials palette for the floorscape, roofscape, walls, doors and windows. Welsh slate, clay for roofs, weatherboarding, featherboard, render, flint and two approved bricks (one handmade) for walls.

### ***Buildings and street layout***

Mews houses around central courtyards and additional cars are tucked away behind the buildings and under trees rather than on the front courtyard of the houses. Car traffic is reduced to a minimum by natural traffic calming measures and the design of the street layout.



### ***Parking provision***

High

### ***Maintenance regime***

A Resident's Association to be involved in managing key facilities including planted areas and parkland.

### ***Urban Design quality/Quality of place***

The underlying philosophy of the Newhall project is that places that attract people attract investment. By careful design, a high quality environment will be created which, in turn, will command premium prices for the properties. To curtail traffic domination at intersections and street corners where pedestrians want to cross on foot, small courtyards/squares have been created, with trees planted in the middle of the road. Street tree planting has become a rarity in recent decades.

### ***Innovation & creativity***

Driven by a passion for high quality, architecturally inspired housing. Most Innovation comes from architect at masterplanning and landowners covenant. Artist involvement in material selection.

## 3. Society

### ***Social infrastructure***

Health and sports centre at different locations. One local centre + district centre

### ***Diversity & local culture***

20% for art

### ***Accessibility***

Maximise linkages. Local plans do not allow for accessibility

### ***Quality of Life***

Mix of class/ based on socio-economic survey. Profile of provision to match.

### ***Equity / Social Inclusion***

Through residents trust + planned intranet linked to houses. Local employment.

### ***Participation***

A Resident's Association to be involved in managing key facilities.

#### 4. Economy

***Local employment and economy***

Local employment available though skills shortage

***Education and training resources***

Existing apprentice scheme

***Retail opportunities***

Yes for local access, local shops not supermarkets

***Commercial Viability***

High + profitable

#### 5. Environment

***Siting***

The existing topography of site is maintained, conserving streams, copses, woodland and hedgerow, and joined to 'green corridors' which provide a visual structure for the neighbourhood.

***Environmental capital***

Conserved and enhanced.  
Section 106 only

***Resource use – construction***

Sustainability standards + nominated suppliers + specification contractor led

***Resource use – in use (incl.food/farming)***

Retained, all spoil could be explored further. 40% land allocated for parkland & lake

***Environmental measures***

Sustained urban drainage, (channelling rainwater off the new homes via true balancing ponds and reed beds into a balancing lake)

***Energy strategy & services***

No rationalisation of voltage. National grid supplier not involved. Additional photovoltaic additional work to be done to implement energy plan. Needs more involvement with designers and electricity suppliers to agree pay back under reduced voltage supply as part of electricity bills. The layout of the development encourages passive solar heating.

***Resource consumption***

Too early to predict though building energy standards are more rigorous through covenant.

***Future adaptability***

Sustainable and flexible housing designs

***Biodiversity***

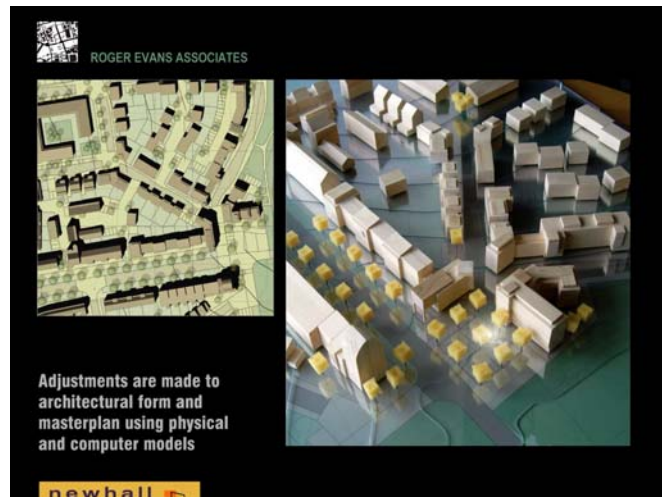
Within landscape

#### 6. Feedback

***Further information***

Report: Newhall Sustainability Standards by Roger Evans Associates for Newhall Projects Ltd.

Website: [www.designforhomes.org/hda/2002/projects/newhall/newmain.html](http://www.designforhomes.org/hda/2002/projects/newhall/newmain.html)



# Poundbury, Dorset

Poundbury is an extension to the existing market town of Dorchester which will eventually house about 5,000 people or one third of the present population of the Town. The development has just passed its 10 year milestone, on completion the development will cover around 400 acres, of which 250 acres will be mixed use building, and the residue open parkland landscaping. Employment, recreation, educational and shopping opportunities are integrated with housing. Social housing (20%) is integrated with private housing. The development attempts to achieve a 'sense of place' in contrast to the bland environments created by suburban estate type housing, townscape quality is a high priority.

## 1. Background Facts

### *Project name, location*

Poundbury, Dorset

### *Character/type*

New build town extension

### *Architects/Project team*

Housing Association: Guinness Trust

Masterplanner: Leon Krier

Lead Consultant & Engineer: Alan Baxter & Associates

Architects: Percy Thomas Partnership, Ken Morgan Architects, David Oliver, Sidell Gibson Partnership, David Wren and Saunders & Wheelwright

Quantity Surveyor: Philip Pank Partnership

Landscape Architect: Adrian Lisney

Housebuilders: CG Fry & Son, Morrish Builders

### *Date, time taken to plan/build*

Outline Planning Permission Granted: 1989

Phase One Completed (500 dwellings): 2000

Estimated Completion: 2014

### *Planning Authority*

West Dorset District Council

### *Public/private sector champion/sponsor*

Duchy of Cornwall funded entire development except some European funding to subsidise Enterprise Centre. Development Director: Andrew Hamilton.

### *Size and density*

Total of 2,500 homes proposed.

Site area: 160 hectares

Density: 40 habitable rooms per hectare.

Density is recognised as being twice as high as the average speculatively developed scheme.

### *Population (current and target)*

Target: 5,000

### *Built by*

Private developer

### *Land ownership private*

Duchy of Cornwall owned

### *Transport & communication links*

Daily bus service. Roads within Poundbury are restrictive in width and turning capabilities, this overtly discourages use. However transport links to and from Poundbury are poor and car use is prevalent.



## ***Design and planning process***

The Masterplanner, Leon Krier, was determined that Poundbury should incorporate many of the radical urban design principles he has been advocating for many years. The density is typically urban rather than suburban at between 15-20 units per acre although this figure is not strictly relevant as each urban quarter of Poundbury contains a mixture of uses which means that the density is actually higher than stated. In order to try to wean residents from dependency upon the car, Krier intends that people should ideally live within 10 minutes' walk of their work; recognising that much of the new employment created nowadays is in the high technology sectors, factories, offices and workshops have been integrated into the housing development—eschewing traditional post-war zoning policies.

## ***Delivery process/mechanisms***

Standard construction process, traditional house builders

## ***Delivery skill set required***

Traditional building techniques.

## ***Assessment & Benchmarking***

National Home Energy Rating (NHER), generally 8.5 out of 10.

## **2. Description**

### ***Mix of accommodation and use***

Phase 1: 14 hectares includes offices & workshops, residential (private houses and flats, social housing, sheltered flats), 5 shops, a café, restaurant, pub and market hall to follow

Phase 2: 72 hectares of private and rented housing, factories.

Phases 3/4: approximately 800 homes

### ***Mix of affordability & tenure***

Phase 1: 55 out of 199 homes are for social housing, 29 out of 46 flats are sheltered

### ***Mix of hard and soft landscape***

Approx. 40 hectares of public parkland

### ***Materials/systems used***

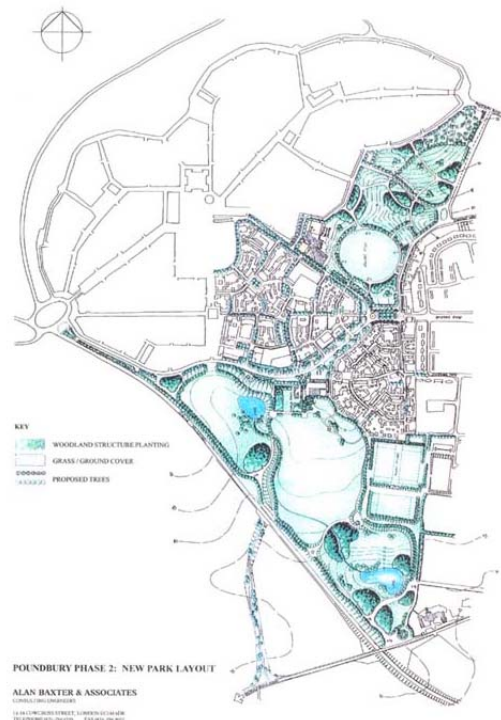
Traditional materials, hand made bricks, Bath stone ashlar, regional random rubble, second hand slates and clay tiles together with stone tiles, timber sash windows and porticoes with lead flashings.

### ***Buildings and street layout***

The buildings have been deliberately placed to reflect the topography of the land, thereby dictating the road design rather than vice versa. This not only creates interesting townscape but achieves traffic calming without recourse to physical obstructions such as sleeping policemen or chicanes. Road pattern discourages car use, walking and cycle use within Poundbury is prevalent. Target of 10 minute walk to work.

### ***Parking provision***

Spaces per residential unit. Cars are fully accommodated, but constrained by tortuous streets, and concentrated in rear car parking courtyards. Pedestrian and cycle movements are favoured. The parking at Poundbury is generally in landscaped courtyards at the rear of the housing enabling level access from car to kitchen. Recognising that the majority of households only have one car, the masterplanners have increased the size of gardens



incorporating one or possibly both parking spaces within the garden enclosure—thereby enabling residents to benefit from a larger garden whilst at the same time technically complying with the Local Authority's requirements.

### ***Maintenance regime***

Poundbury Management Company. Traditional materials, competently built, promise durability over the years, but external timber work and lime washes require regular maintenance.

### ***Design quality/Quality of place***

All housing at Poundbury has been designed by local architects working to a basic Building Code which prescribes local building materials, roof angles and window detail. The design of housing is co-ordinated and controlled by the Duchy of Cornwall through the mechanism of a Building Agreement whereby the Freehold is only conveyed to the developer when the housing has been completed to our satisfaction. This helps to ensure that we achieve quality of building workmanship and that the designs approved at the outset are delivered. Externally visible waste runs and flues are strictly prohibited, enhancing visual quality of Poundbury.



### ***Innovation & creativity***

The restricted road strategy is innovative and has been adopted by many local authorities.

## 3. Society

### ***Social infrastructure***

Mix of houses and workplace buildings, social housing and private housing indistinguishable. A local councillor stated that the nearest thing to a reported crime is a broken set of playground swings. The perceived security of the intimate streets, all with overlooking windows, is appreciated by residents.

### ***Available facilities***

Workplaces, retail outlets, sports facilities

### ***Health and leisure provision***

A cricket oval, football pitches and state of the art tennis facilities are to be implemented. The Duchy agreed to provide leisure and sporting facilities as part of its original planning permission for Poundbury.

## 4. Economy

### ***Local employment and economy***

Healthy mix of residential and workplace buildings ranging from small workshops to factories, all within walking distance.

### ***Education and training resources***

School included in scheme.

### ***Retail opportunities***

Five shops, a restaurant and a café are sited within the community

### ***Commercial Viability***

The local retailing, the new factories and craft workshops complement the housing in Poundbury; for example, one workshop is supplying curtains and upholstery to some of the new private housing being built. Much of the new industry is high tech including a state-of-the-art specialist in printed circuit boards. Poundbury is priced at about 10 to 15 per cent more than other developments in the region. Demand prices in Poundbury are

almost 20 per cent above the Dorset average, according to price index researchers Hometrack: <http://www.new-homes.co.uk/developments/28.html>

### 5. Environment

#### *Siting*

Previous use: Grade 2 agricultural land

#### *Site History*

Disposals of land at Poundbury are dependent on Treasury Warrants, and full value has to be achieved. The higher cost of master-planning, architectural quality and the use of traditional materials are balanced by higher densities of construction, terracing of housing and higher open market values. After a difficult beginning during a housing recession, both land and housing are now selling well and at high values.

#### *Integration*

The social housing at Poundbury, which was a planning requirement, has been "pepper potted" throughout the scheme and is indistinguishable in quality from the private housing. This achieves a more balanced social mixture and has interestingly had no adverse effect upon the sale of private housing. Although the project is less than 10% through its eventual size, its success in achieving many of its original objectives is readily demonstrable. Perhaps the most important of these is 'community', achieved by physical design and the involvement of residents.

#### *Environmental measures*

The housing achieves the highest standards of energy conservation and experiments with certain features such as Grey water re-cycling systems and cabled satellite/terrestrial TV. Four new homes at the Prince of Wales' Poundbury development in Dorset will have solar heating, water recycling, ventilation recycling 'used heat' and heavily insulated walls.

### 6. Feedback

#### *Occupant quotes*

"The density is getting on top of us. We have very little space at the back and all we can see is chimney pots."

General criticism of gravel covering to alleyways and pavements, "It gets into your house on your shoes, especially when it's wet".

"The new residents absolutely love it" – Wally Gundry, councillor and resident.

#### *Lessons learned*

The only other comparable development locally is another site within the town, the old Thomas Hardy School, where new housing is expected to be priced at around £95 per square foot. Interestingly the West Dorset District Architect, David Oliver, who has been working closely with Leon Krier throughout Poundbury, has had a major influence on the scheme's design with a similar emphasis on quality, though sadly no mixed uses.

#### *Further information*

The Philosophy behind Poundbury - In the 1980's the opportunity arose to build a significant new extension to Dorchester on 400 acres of Duchy land. As the Duke of Cornwall, The Prince of Wales, who is well known for his views on architecture and planning, took the opportunity to work with West Dorset District Council to contribute an exemplary urban addition to this ancient market town. His book, A Vision of Britain, published in 1989, re-examined many of the accepted precepts of urban and rural planning. Poundbury is the first new community in Britain where, with the help of leading architects and planners and assistance from the local authority, the thoughtful principals on planning and architecture in A Vision of Britain are being put into practice.  
<http://www.princes-foundation.org/foundation/projdir-uep-poundbury.html>  
<http://www.westdorset-dc.gov.uk>

# Saltaire, Yorkshire

A village specifically built to accommodate the workers at an adjacent wool textile mill. Entirely funded by the mill owner, a wealthy philanthropic and deeply religious man, who saw the advantages of improving the welfare of his employees. Highly innovative for its time in its response to social needs, Saltaire can still provide valuable lessons for today and demonstrates the importance of visionary leadership.

## 1. Background Facts

### ***Project name, location***

Saltaire Village, Shipley near Bradford, West Yorkshire

### ***Character/type***

Purpose built model Victorian industrial village serving adjacent 1,000,000 sq.ft. woollen textile mill

### ***Architects/Project team***

Lockwood and Mawson, Architects  
Moulson Brothers, Masons and Master Builder

### ***Date, time taken to plan/build***

Started 1851, completed 1871

### ***Public/private sector champion/sponsor***

Privately championed by Sir Titus Salt, owner of the woollen textile mill.

### ***Size and density***

Total area: 49 acres

Residential area: 25 acres

### ***Population (current and target)***

Original: 4389

### ***Built by (public/private developer)***

Sir Titus Salt, owner and operator of the Textile Mill.

### ***Land ownership public/private***

Private. Owned by Sir Titus Salt and his successors until closure of the mill. Houses were sold to local housing trust and are now privately owned. The village was granted World Heritage site status in 2002.

### ***Transport & communication links***

Very good since all dwellings in walking distance of employment.



## 2. Description

### ***Mix of accommodation and uses***

775 houses, 45 almshouses. Majority: 2 storey cottages with 2-bed/living room/kitchen/cellar pantry/outside wc. Some larger houses for management staff. Some 3 storey houses for large families or shared between two families. All dwellings for rent.

### ***Mix of affordability & tenure***

All dwellings for rent. Low rent compared with contemporary dwellings elsewhere. All but 100 of the tenants worked at the textile mill.

### ***Mix of hard and soft landscape***

Recreational park provided as part of the overall plan. Gardens around both churches.

***Materials/systems used***

Locally mined stone from twenty nearby quarries.

***Buildings and street layout***

Standard grid pattern. All within walking distance of the textile mill.

***Parking provision***

None envisaged at the time of construction. Street parking is now available.

***Urban Design quality/Quality of place***

Design itself was plain but generous. Wide roads to allow good natural light penetration to dwellings. Recreation park provided early in the scheme. Baths and wash houses also built. Large Institute for education and enlightenment provided. Two substantial churches provided.



***Innovation & creativity***

At the time of construction, highly innovative. Similar projects contemporary with Saltaire are: Essen, Germany by Krupps; Bournville, England by Cadbury; Port Sunlight, England by Lever Brothers.

**3. Society**

***Social infrastructure/Available facilities***

Educational institute, churches, communal dining hall, wash house and baths, cottage hospital with casualty and dispensary. School added later.

***Accessibility***

Very good. No class distinctions all workers had access to all facilities.

***Quality of Life***

Compared with that of similar workers in nearby Bradford at the time, very good indeed. Sir Titus Salt proclaimed that: “the basic necessities of a decent life; work, health, education and moral instruction should be readily available to all persons.”

***Equity Social Inclusion***

Large community dining hall adjacent to the mill. Workers encouraged but not obliged to use the facility. Average attendance 600 for breakfast, 750 for dinner.

**4. Economy**

***Local employment and economy***

The whole project was developed to service the textile mill. Adjacent gas works, communal dining hall and recreational park also serviced by people living in the village.

***Developed/developing supply chains***

Special deals arranged with coal suppliers to allow tenants to buy heaper coal. Small gas works built adjacent to the mill to supply gas lighting to all dwellings.

***Retail opportunities***

Small general stores were provided, but no pubs or off licences since Sir Titus Salt was a staunch temperance man.

***Commercial Viability***

Capital outlay recovered in 25 years.

**5. Environment**

***Siting***

Greenfield site outside Bradford beside River Aire which supplied water for a textile mill.

***Resource use – construction***

Stone from local quarries.

***Energy strategy & services***

Gas and water supplies to all dwellings and cheaper coal supplies. Drainage connections to all dwellings.

***Future adaptability***

Still exists as a community, albeit no longer serving the mill.



**6. Feedback**

***Quotes***

Sir Titus Salt on his reasons for developing Saltaire:

“The moral state of this town (Bradford) is at a low ebb...let the poor be extricated from the dark, damp noisome courts ... give them a view of the sky from their dwellings... supply plenty of wholesome water ...speedy removal of ashes and garbage ... when home really is sweet home ... a man may walk in the park, spend an hour in the library or music hall ...let him be content and possess a home not a hovel.”

***Lessons learned***

Despite the fact that, essentially, the main reason for creating the village was to improve the profits of the Textile Company, the philanthropic attitude of the owner resulted in some innovative ideas and sustainable qualities being put into practice. These were in place over 100 years before the word sustainable was established with its current interpretation.

***Further information***

Website: [www.saltaire.yorks.com](http://www.saltaire.yorks.com)