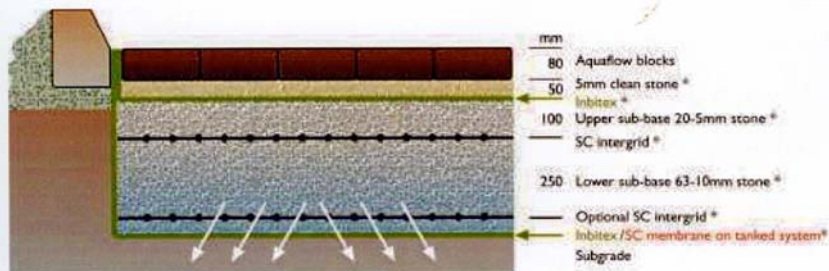


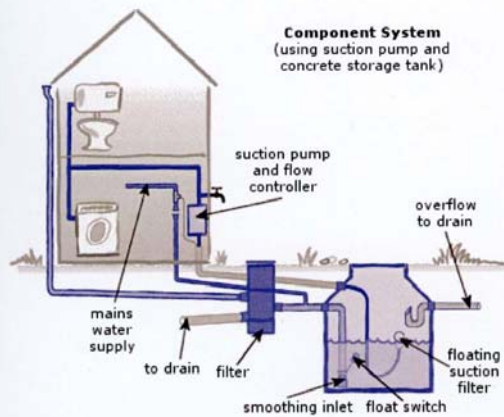
SUSTAINABLE URBAN DRAINAGE SYSTEMS

- Where possible, roof water shall be collected and reused for irrigation and some internal uses such as toilet flushing.
- All storm water shall be drained to soakaways where possible.
- Where soakaways are unable to be used efficiently, an overflow connection to a local watercourse should be provided.
- Discharge from individual blocks shall be restricted to the equivalent greenfield run-off from that development area.
- Where attenuation is required, this can be provided in the following situations within private non-adopted areas:
 - 1 Below car parking where possible formed by permeable surfacing.
 - 2 Below garden and soft landscape areas.

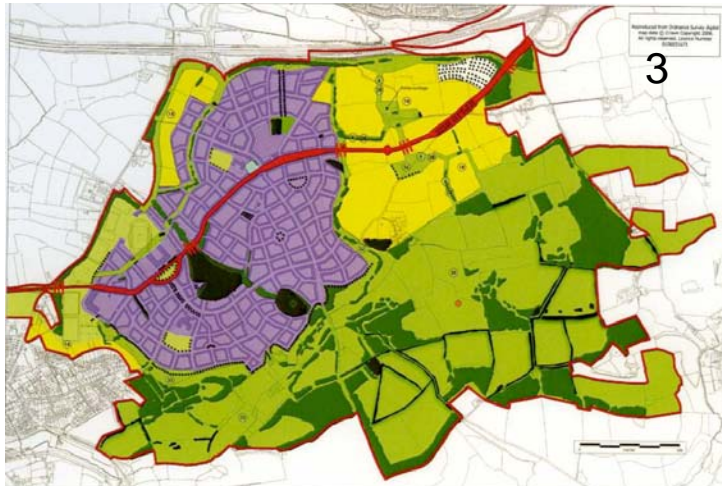
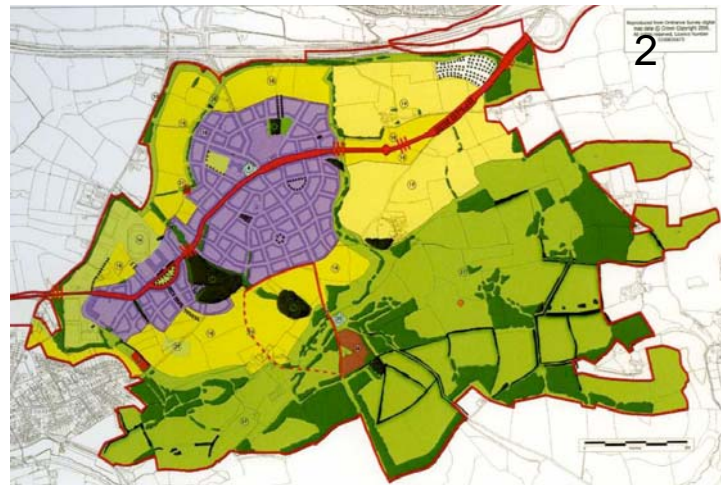
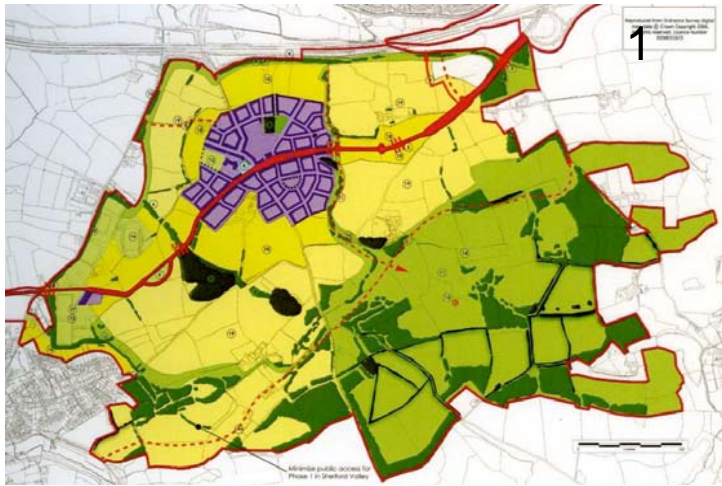
Highway drainage is to drain to soakaways located in open space areas and with overall flows into existing watercourses where soakage potential is poor.



Typical SUDS Detail for permeable paving

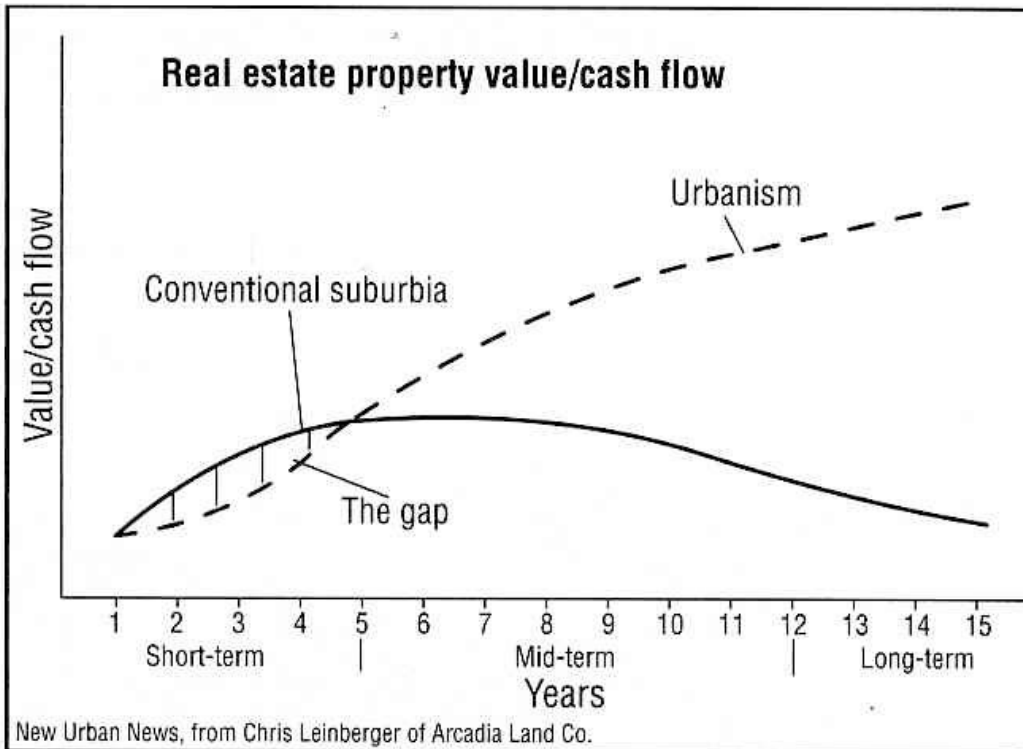


Typical Rain Water Harvesting System



Key

-  Application boundary
-  Built development area
-  Transitional farmland (with potential to allow public access)
-  Existing farmland areas
-  Community Park and Green Corridors (areas with public access)
-  Sports Facilities
-  Woodland areas



Code for Sustainable Homes

A step-change in sustainable home building practice



SUMMARY OF MINIMUM STANDARDS

The table below summarises all of the minimum standards which exist under the Code:

Minimum standards		
Code Level	Category	Minimum Standard
1(★)	Energy/CO₂ Percentage improvement over Target Emission Rate (TER) as determined by the 2006 Building Regulation Standards	10%
2(★★)		18%
3(★★★)		25%
4(★★★★)		44%
5(★★★★★)		100%
6(★★★★★★)		A 'zero carbon home' (heating, lighting, hot water and all other energy uses in the home)
1(★)	Water Internal potable water consumption measured in litres per person per day (l/p/d)	120 l/p/d
2(★★)		120 l/p/d
3(★★★)		105 l/p/d
4(★★★★)		105 l/p/d
5(★★★★★)		80 l/p/d
6(★★★★★★)		80 l/p/d
1(★)	Materials Environmental impact of materials [†]	At least three of the following 5 key element of construction are specified to achieve a BRE Green Guide 2006 rating of at least D <ul style="list-style-type: none"> - Roof structure and finishes - External walls - Upper floor - Internal walls - Windows and doors
1(★)	Surface Water Run-off Surface water management	Ensure that peak run-off rates and annual volumes of run-off will be no greater than the previous conditions for the development site

[†] A probable future development regarding the environmental impact of materials is to reward resource efficiency, as well as the use of resources that are more sustainable, by developing 'Ecopoints per m²' as a measure for this item. However, it may be that the 'Green Guide' route will remain as a simple route for smaller developments.

Category 1 – Energy/CO₂

Issue	Measurement Criteria	Points Awarded
Target Emission Rate (TER) as defined by 2006 Building Regulation Standards	Points for percentage improvement over Building Regulations Approved Document L (2006) – Conservation of Fuel & Power; calculated using SAP:2005	One of the following Point scores
	10%	1.2
	14%	2.4
	18%	3.5
	22%	4.7
	25%	5.8
	31%	7.0
	37%	8.2
	44%	9.4
	52%	10.5
	60%	11.7
	69%	12.9
	79%	14.0
	89%	15.2
100% a 'zero carbon home'	17.6	
Building fabric	Heat Loss Parameter (HLP) EITHER ≤1.3	EITHER 1.2
	OR ≤1.1	OR 2.4
Internal lighting	Where the following percentage of fixed fittings are dedicated energy efficient fittings EITHER ≥40% of fittings	EITHER 1.2
	OR ≥75% of fittings	OR 2.4
Other Energy		
Drying space	For providing space and posts, footings and fixings for drying clothes in a secure environment for each unit on the site	1.2

Category 5 – Waste

Issue	Measurement Criteria	Points Awarded
Household recycling facilities	EITHER Where the following recycling facilities are provided: <ul style="list-style-type: none"> • 3 internal storage bins for recyclable waste with <ul style="list-style-type: none"> – min total capacity of 60ltr – no individual bin smaller than 15ltr – all bins in a dedicated position that is accessible to disabled people 	EITHER 1.8
	OR Where full recycling facilities are provided: <ul style="list-style-type: none"> • 3 internal storage bins with <ul style="list-style-type: none"> – min total capacity of 30ltr – no individual bin smaller than 7ltr – all bins in a dedicated position that is accessible to disabled people AND EITHER <ul style="list-style-type: none"> • A Local Authority collection scheme for recyclable materials covering at least three streams of waste with sufficient space for the storage of the bins provided without stacking (within 10m of an external door) and which is accessible to disabled people OR <ul style="list-style-type: none"> • Where there is not a Local Authority collection scheme for recyclable materials, 3 external bins with: <ul style="list-style-type: none"> – min total capacity of 180ltr – no individual bin smaller than 40ltr • All bins to be in a dedicated position (within 10m of an external door), which is accessible to disabled people 	OR 3.6

Category 9 – Ecology

Issue	Measurement Criteria	Points Awarded
Ecological value of the site	Where development land is of low ecological value as defined by either <ul style="list-style-type: none"> • The BRE Ecological Value Checklist 	1.2
	OR <ul style="list-style-type: none"> • A report prepared by a suitably qualified ecologist 	
	OR <ul style="list-style-type: none"> • Where a suitably qualified ecologist confirms that the site will remain undisturbed by the works 	
Ecological enhancement	Where ecological features have been designed for positive enhancement in accordance with the recommendations of a suitably qualified ecologist	1.2
Protection of ecological features	Where all existing features of ecological value are maintained and adequately protected from damage during site preparation and construction works	1.2
Change in ecological value of the site	Where the resulting change in ecological value is as follows calculated using the Code Change (see Technical Guidance Manual for details) in Ecological Value Calculator	One of the following point scores
	• Minor negative change (-9 to -3)	1.2
	• Neutral (<-3 to +3)	2.4
	• Minor enhancement (<+3 to +9)	3.6
	• Major enhancement (>+9)	4.8
Building footprint	EITHER <ul style="list-style-type: none"> • Where the total combined floor area: footprint ratio for all houses on the site is greater than 2.5:1; <i>and</i> • Where the total combined floor area: footprint ratio for all flats on the site is greater than 3.5:1 	EITHER 1.2
	OR <ul style="list-style-type: none"> • Where the total combined floor area: footprint ratio for all dwellings on the site is greater than 3.5:1 	OR 2.4

Category 7 – Health and well-being

Issue	Measurement Criteria	Points Awarded
Daylight	Homes must meet the following standards before points can be awarded: <ul style="list-style-type: none"> • Kitchen to achieve minimum average daylight factor of at least 2% • Living rooms, dining rooms and studies to achieve a minimum average daylight factor of at least 1.5% • Kitchens, living rooms, dining rooms and studies to be designed to have a view of the sky 	Up to 4 points (for details see Technical Guidance Manual)
Sound insulation	Points are awarded for achieving higher standards of sound insulation than required by Part E of the Building Regulations, and demonstrating it by either using post-completion testing (PCT) or Robust Details (RD)	Between 1 and 4 points (for details see Technical Guidance Manual)
Private space	For the provision of outside space that is at least partially private, and that is accessible to disabled people	1
Lifetime Homes	Where all the standards of Lifetime Homes have been complied with, that is: <ul style="list-style-type: none"> • access to the dwelling (Standards 1-5); • general standards of accessibility within the dwelling (Standards 6-7, 11, 14, 15 and 16); • potential future adaptability of the dwelling (Standards 8, 9, 10, 12 and 13) 	4

Category 3 – Materials

Issue	Measurement Criteria	Points Awarded
Environmental impact of materials	<p>Where the total building points achieved under the CSH materials calculator is as follows:</p> <ul style="list-style-type: none"> • Score of at least 3 points • Score of at least 6 points • Score of at least 9 points • Score of at least 12 points • Score of 15 points <p>Scores are achieved as follows for each of the specifications:</p> <ul style="list-style-type: none"> • A+ rating = 3 • A rating = 2 • B rating = 1 • C, D or E = 0 <p>Scores achieved for each of the following elements are added to give the total building score:</p> <ul style="list-style-type: none"> • Roof • External Walls • Internal Walls (incl. party walls and partitions) • Floors – upper and ground floors • Windows 	<p>One of the following point scores</p> <ul style="list-style-type: none"> 0.9 1.8 2.7 3.6 4.5
Responsible sourcing of materials – basic elements	Where materials used in key building elements are responsibly sourced (e.g. timber certification, EMS etc.)	Between 0.3 points and 1.8 points (for details see Technical Guidance Manual)
Responsible sourcing of materials – finishing elements	Where materials used in secondary building and finishing elements are responsibly sourced (e.g. timber certification, EMS etc.)	Between 0.3 Points and 0.9 Points (for details see Technical Guidance Manual)

Category 6 – Pollution

Issue	Measurement Criteria	Points Awarded
Global warming potential (GWP) of insulant	<p>Where all insulating materials avoid the use of substances that have a global warming potential (GWP) of 5 or more (and an Ozone Depleting Potential of zero) in either their manufacture or composition for the following elements</p> <ul style="list-style-type: none"> • Roof (including loft access) • Walls internal and external (including doors, lintels and all acoustics insulation) • Floor (including foundations) • Hot water cylinder, pipe insulation and other thermal stores 	0.5
Nitrous Oxide (NOx) emissions	<p>Where NOx emissions from any space heating and hot water systems accord with the following</p> <p>EITHER</p> <ul style="list-style-type: none"> • Dry NOx level $\leq 100\text{mg/KWh}$ <p>OR</p> <ul style="list-style-type: none"> • Boiler class 4 under BS EN 297:1994 	Between 0.5 points and 2 points (for details see Technical Guidance Manual)

Category 4 – Surface Water Run-off

Issue	Measurement Criteria	Points Awarded
Reduction of surface water run-off from site	Where rainwater holding facilities/ sustainable drainage (SUD) is used to provide attenuation of water run-off to either natural water courses or municipal systems. Points for attenuation covering	0.5
	<ul style="list-style-type: none"> • Hard surfaces 	
	AND OPTIONALLY	AND OPTIONALLY
	<ul style="list-style-type: none"> • Roofs 	+0.5
	The percentage peak time attenuation should be provided as follows	
	<ul style="list-style-type: none"> • 50% in low flooding risk areas • 75% in medium flooding risk areas • 100% in high flooding risk areas 	
Flood risk	Where evidence is provided to demonstrate that the assessed development is located in an area of EITHER	EITHER
	<ul style="list-style-type: none"> • low annual probability of flooding 	1
	OR	OR
	<ul style="list-style-type: none"> • medium/high annual probability of flooding (subject to plans being approved by the relevant statutory bodies) and where • the ground level of buildings, car parks and access routes are above the flood level; • an appropriate assessment of how the building will react to flooding (including the use of resilient construction where necessary) to mitigate residual risk 	0.5

Category 8 – Management

Issue	Measurement Criteria	Points Awarded
Home user guide	Where there is provision in each home of a simple user guide that covers information relevant to the 'non-technical' tenant/ occupant on the operation and environmental performance of their home, together with information that the user guide is available in alternative accessible formats	2.2
	AND OPTIONALLY	AND OPTIONALLY
	Where the guide also covers information relating to the site and its surroundings	+1.1
Considerate Constructors Scheme	EITHER	EITHER
	Where there is a commitment to comply with best practice site management principles and a regular audit under a nationally or locally recognised independent certification scheme such as or comparable to the Considerate Contractors Scheme	1.1
	OR	OR
	Where the commitment is to go significantly beyond best practice including a regular audit under a nationally or locally recognised independent certification scheme such as, or comparable to, the Considerate Contractors Scheme	2.2

Code Level 1 – an illustrated example

A home meeting any level of the Code will have to meet certain minimum standards. For Level 1 this means:

The home will have to be 10% more energy efficient than one built to the 2006 Building Regulations standards. This could be achieved by:

- Improving the thermal efficiency of the walls, windows, and roof (by using more insulation or better glass for example);
- Reducing air permeability, that is by improving the control of the fresh air into a home, and the stale air out of a home. (A certain amount of air ventilation is needed in a home for health reasons);
- Installing a high efficiency condensing boiler;
- Carefully designing the fabric of the home to reduce thermal bridging (thermal bridging allows heat to easily escape between the inner walls and the outer walls of a home).

The home will have to be designed to use no more than about 120 litres of water per person per day. This could be achieved by fitting a number of items such as:

- 6/4 Dual Flush WC;
- Flow Reducing/Aerating taps throughout;
- 6-9 litres per minute shower (note that an average electric shower is about 6/7 litres per minute);
- 18ltr maximum volume dishwasher;
- 60ltr maximum volume washing machine.

Other minimum requirements are required for:

- Surface water management – this may mean the provision of soakaways and areas of porous paving;
- Materials – this means a minimum number of materials meeting at least a 'D' grade in the Building Research Establishment's Green Guide (the scale goes from A+ to E);
- Waste management – this means having a site waste management plan in place during the home's construction, and adequate space for waste storage during its use.

But to get to Level 1 you need a further 33.3 points. So the builder/developer must do other things to obtain the other points such as:

- Providing accessible drying space (so that tumble dryers need not be used);
- Providing more energy efficient lighting (taking into account the needs of disabled people with visual impairments);
- Providing cycle storage;
- Providing a room that can be easily set up as a home office;
- Reducing the amount of water that runs off the site into the storm drains;
- Using environmentally friendly materials;
- Providing recycling capacity either inside or outside the home.

Code Level 3 – an illustrated example

A home meeting any level of the Code will have to meet minimum standards for certain items depending on what level is desired. For Level 3 this means:

The home will have to be 25% more energy efficient than one built to the 2006 Building Regulations standards. This could be achieved by:

- Improving the thermal efficiency of the walls, windows, and roof as far as is practically possible (by using more insulation or better glass for example);
- Reducing air permeability to the minimum consistent with health requirements (a certain amount of air ventilation is needed in a home for health reasons);
- Installing a high efficiency condensing boiler;
- Carefully designing the fabric of the home to reduce thermal bridging (thermal bridging allows heat to easily escape between the inner walls and the outer walls of a home);
- Possibly using district heating systems or low and zero carbon technologies such as solar thermal panels or biomass boilers to help heat the hot water.

The home will have to be designed to use no more than about 105 litres of water per person per day. This could be achieved by fitting a number of items such as:

- 6/4 Dual Flush WC;
- Flow Reducing/Aerating taps throughout;
- 6-9 litres per minute shower (note that an average electric shower is about 6/7 litres per minute);
- a smaller, shaped bath – still long enough to lie down in, but less water required to fill it to a level consistent with personal comfort;
- 18ltr maximum volume dishwasher;
- 60ltr maximum volume washing machine.

Other minimum requirements are required for:

- Surface water management – this may mean the provision of soakaways and areas of porous paving;
- Materials – this means a minimum number of materials meeting at least a 'D' grade in the Building Research Establishment's Green Guide (the scale goes from A+ to E);
- Waste management – this means having a site waste management plan in place during the home's construction, and adequate space for waste storage during its use.

But to get to Level 3 you need a further 46.7 points. So the builder/developer must do other things to obtain the other points such as:

- Providing drying space (so that tumble dryers need not be used);
- Providing more energy efficient lighting (both internally and externally);
- Providing cycle storage;
- Providing a room that can be easily set up as a home office;
- Reducing the amount of water that runs off the site into the storm drains;
- Using much more environmentally friendly materials;
- Providing recycling capacity either inside or outside the home;
- Enhancing the security of the home;
- Enhancing the sound insulation used in the home.

Code Level 6 – an illustrated example

A home meeting any level of the Code will have to meet minimum standards for certain items depending on what Level is desired. For Level 6 this means:

The home will have to be completely zero carbon (i.e. zero net emissions of carbon dioxide (CO₂) from all energy use in the home). This could be achieved by:

- Improving the thermal efficiency of the walls, windows, and roof as far as is practically possible (by using more insulation or better glass for example);
- Reducing air permeability to the minimum consistent with health requirements (a certain amount of air ventilation is needed in a home for health reasons);
- Installing a high efficiency condensing boiler, or being on a district heating system;
- Carefully designing the fabric of the home to reduce thermal bridging (thermal bridging allows heat to easily escape between the inner walls and the outer walls of a home);
- Using low and zero carbon technologies such as solar thermal panels, biomass boilers, wind turbines, and combined heat and power systems (CHP). It would mean for example that energy taken from the national grid would have to be replaced by low or zero carbon generated energy, so that over a year the net emissions were zero.

The home will have to be designed to use no more than about 80 litres of water per person per day. This could be achieved by fitting such items as:

- 6/4 Dual Flush WC;
- Flow Reducing/Aerating taps throughout;
- 6-9 litres per minute shower (note that an average electric shower is about 6/7 litres per minute);
- a smaller, shaped bath – still long enough to lie down in, but less water required to fill it to a level consistent with personal comfort;
- 18ltr maximum volume dishwasher;
- 60ltr maximum volume washing machine.

To achieve the standard would also mean that about 30% of the water requirement of the home was provided from non-potable sources such as rainwater harvesting systems or grey water recycling systems.

Other minimum requirements are required for:

- Surface water management – this may mean the provision of soakaways and areas of porous paving;
- Materials – this means a minimum number of materials meeting at least a 'D' grade in the Building Research Establishment's Green Guide (the scale goes from A+ to E);
- Waste management – this means having a site waste management plan in place during the home's construction, and adequate space for waste storage during its use.

But to get to Level 6 you need a further 64.9 points. So the builder/developer must do many other things to obtain the other points. In fact they will need to do 90% of everything in the Code to achieve Level 6, including:

- Energy efficient appliances, and lighting;
- Supplying accessible water butts;
- Reducing surface water run-off as much as possible;
- Using highly environmentally friendly materials;
- Minimising construction waste;
- Maximum, accessible provision for recycling;
- Improved daylighting, sound insulation and security;
- Building to the Lifetime Homes standard;
- Assessing and minimising the ecological impact of the construction of the home.

What does the GreenPrint cover?

Usually the following 8 topics:

- **Climate Change** - Ensures developments are appropriately adapted to the impacts of present and future climate change
- **Resources** - Promotes the sustainable use of resources including water, materials and waste both in construction and operation
- **Transport** - Ensures transport hierarchy issues are fully addressed and catered for within the development
- **Ecology** - Ensures the ecological value of the site is conserved and enhanced
- **Business** - Ensures that the development contributes to the sustainable economic vitality of the local area and region
- **Community** - Ensures the development supports a vibrant, diverse and inclusive community which integrates with surrounding communities
- **Placemaking** - Ensures the design process, layout structure and form provide a development that is appropriate to the local context
- **Buildings** - Ensures that the design of individual buildings does not undermine the sustainability of the overall development

What does the GreenPrint produce?

“Good”, “Very Good” and “Excellent” benchmarks achieved by the developer

Performance achieved in each category

Total GreenPrint score for the development

Overall GreenPrint Rating for the development

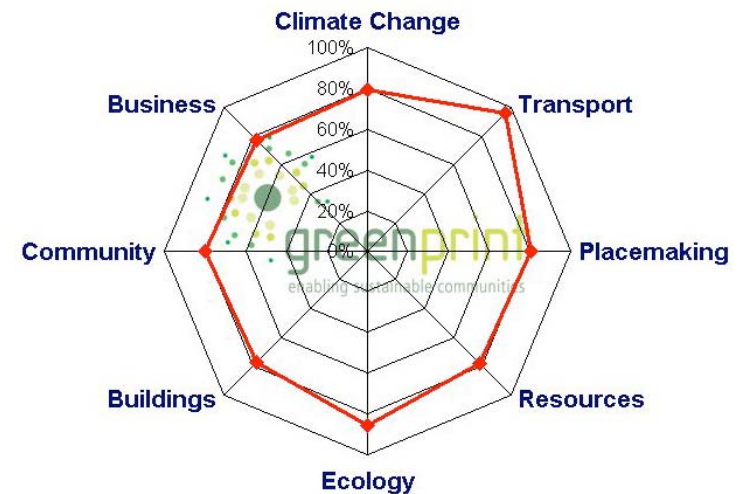
No grade: <50%

Good: 50% – 64%

Very Good: 65% – 74%

Excellent: 75% – 84%

Exemplar: >84%



Note: a GreenPrint is created for each development BRE are asked to assess. Therefore the score shown is the percentage of the total score available within the Framework developed for a particular site.

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Sustainability framework weightings table:

		Best Practice	Good Practice	Minimum
		1	0.7	0.3
P1	1	1	0.7	0.3
P2	0.85	0.85	0.595	0.255
P3	0.7	0.7	0.49	0.21

Sherford – Example GreenPrint objective

Objective	To encourage the future use of active solar technologies where they are not initially supplied.	
Question	What percentage of the development is designed to allow retrospective installation of active solar devices such as photovoltaic and solar hot water heating (where these are not fitted initially)?	
Benchmarks	Good	<input type="text" value=" <80%"/>
	Very Good	<input type="text" value=" 80-90%"/>
	Excellent	<input type="text" value=" 100%"/>
Benchmark achieved	 Excellent	Weighting 3
Justification/evidence	Masterplan: Infrastructure and Utilities Strategy section - '100% of all roofs will be built to be capable of accommodating renewable energy devices'.	
Sources	SPG) 1.1: NON-RENEWABLE RESOURCES, 1.3: RENEWABLE ENERGY PRODUCTION	

Sherford – Example GreenPrint objective

Objective	To increase the number of trees on the development for wildlife, amenity and pollution purposes.	
Question	Will the development increase the number of trees on the site (after deducting any destroyed by development)?	
Benchmarks	Good	5%
	Very Good	5%-20%
	Excellent	>20%
Benchmark achieved	Excellent	
	Weighting	3
Justification/evidence	<p>The entire scheme will result in a net increase in the number of native trees within Sherford and it has been stated by the Landscape Architect that he believes the overall biodiversity of the site will improve markedly after the completion of the development.</p> <p>Red Tree have stated that approximately 3.4ha of woody planting (hedgerows) will be lost due to the development, 10% of which includes standard trees. Within the Community Park 70 ha of new planting is expected to be planted with native broadleaved trees which will deliver a net increase in the number of trees on the site. There is therefore an approximate net increase in trees of site of 66.3ha, which is more than 20% of trees currently on site.</p>	
Sources	SPG) 7.2: BIODIVERSITY	

Sherford – Example GreenPrint objective

Objective

To reduce the overall consumption of clean water for non-potable uses.

Question

What percentage of the roof area of the development will be used for rainwater harvesting system?

Benchmarks

Good

100% of all communal building roofs used for rainwater harvesting.

Very Good

>50% of the roof area of the whole development used for rainwater harvesting.

Excellent

80% of the roof area of the whole development used for rainwater harvesting. Additionally the water collected must be capable of being used for internal use including flushing one or more toilets within the premises.

Benchmark achieved

Very Good

Weighting 1

Justification/evidence

Masterplan: Resource Efficiency of the Built Form section -
'Residential Building Standards: Rainwater harvesting to be used for 80% of roofs'.
'Rainwater harvesting to be used for 80% of non residential buildings'.

Good Practice has been awarded, because whilst a commitment to 80% of roof areas has been made there is no commitment at this stage to provide an integrated system that will allow for internal use.

Sources

SPG) 1.4: MINIMISE WATER DEMAND, 1.5: CONSERVE SURFACE AND UNDERGROUND WATER RESOURCES

Sherford – GreenPrint

Climate Change “Excellent”

- Development has been designed to reduce the contribution to flash flooding through incorporation of Sustainable Urban Drainage systems, green roofs, ponds and wetlands, and the use of permeable surfaces
- Two 1.8mW wind turbines within the 207ha Community park to generate between 32 – 41%
- A carbon sink in the form of a permanent native woodland will be planted, on approximately 70 ha of agricultural land, to help offset the balance of emissions
- 75% of buildings will be equipped with solar thermal systems and/or photovoltaic devices generating between 8 and 12% contribution
- Provision of ‘A rated’ energy and water savings appliances in all dwellings
- 80% of the roof area of the whole development used for rainwater harvesting

Sherford – GreenPrint “Excellent”

Sustainable Construction and Procurement

- All dwellings to be built to EcoHomes 'excellent' standards
- All non residential buildings to be built to BREEAM 'excellent' standards
- Low carbon targets for all buildings, exceeding new Part L and matching EST Best Practice and Advanced Practice standards
 - Phase 1 – 25% reduction on Part L
 - Phase 2 – 35% reduction on Part L
 - Phase 3 – 50% reduction on Part L
 - Phase 4 – 60% reduction on Part L
- All timber sourced from independently verified sustainable sources as recognised by the Environment Agency
- One 7 yard skip of waste per dwelling target set

Sherford – GreenPrint

“Excellent”

Community and Sustainable Lifestyles

- Set-up of the Sherford Community Trust whose aim will be to promote “more sustainable lifestyles”, it will work with all residents/businesses in Sherford and manage many initiatives, including:
 - Car club
 - Community intranet
 - Energy advice
 - Green travel planning
 - Renewable energy and energy reduction projects
 - Sustainable food initiatives
- Development of a sustainable lifestyles pack for all residents covering issues including sustainable travel advice, energy and water efficiency, recycling and environmental technologies installed in the development and dwelling
- Measures to promote and facilitate the production of home-grown food by residents, and an Organic Community Farm and farmers market

Sherford – GreenPrint

“Excellent”

Placemaking

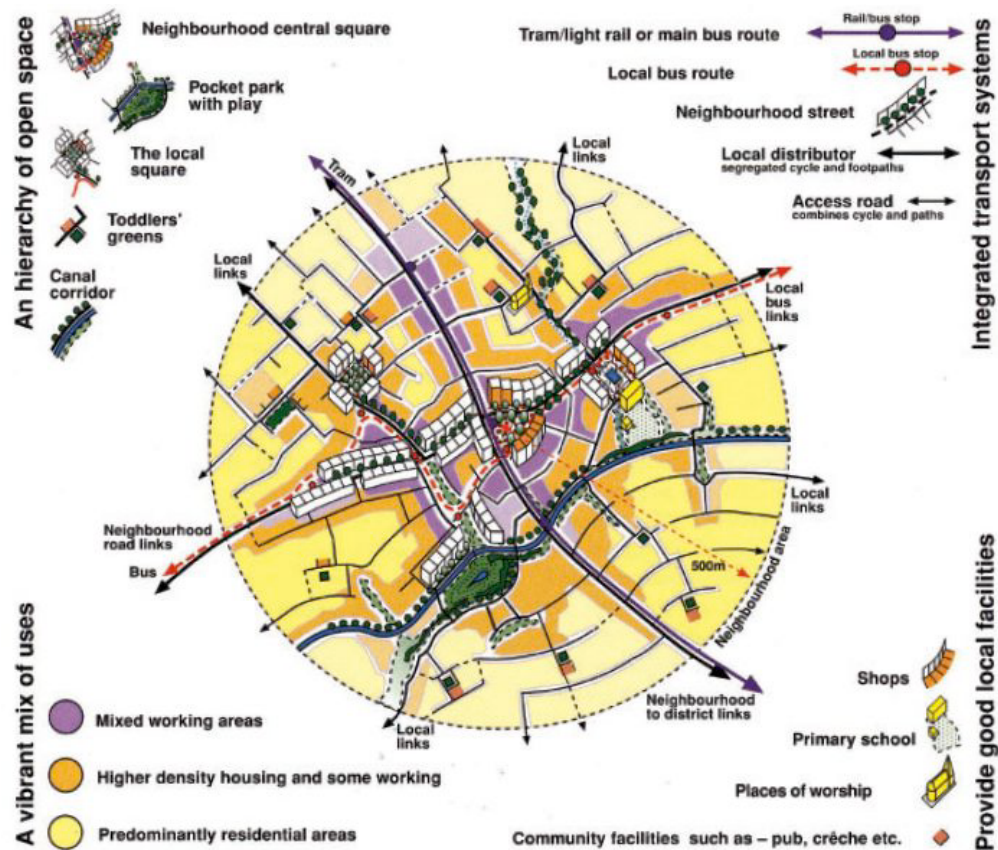
- Enquiry by Design process led by The Prince’s Foundation From which Sherford Town Code has been established
- Transport and movement strategy which places the pedestrian and cyclist at the heart of the development, minimising walking distances between home, workplace, schools shops and other daily needs, whilst designing streets, such that speed limits are self-enforcing
- Height:width ratios in line with Urban Design Compendium
- Delivering ‘affordable’ homes and a mix of accommodation types and tenures to meet current and future needs, with good integration of accommodation types and affordable housing throughout development that are ‘tenure blind’

Village Square of Secondary School

Sherford – GreenPrint

“Excellent”

Transport: Walkable neighbourhoods



Sherford – GreenPrint

“Excellent”

Transport

- High Quality Public Transport service at the heart of the transport and movement strategy which will run down the main street linking the three neighborhood centres and proposed park and ride facility at deep lane to Plymouth City Centre.
- 100% of dwellings within 400 metres of a bus stop providing a regular service to a local centre
- Provision of a fibre optic network throughout the site as well as a community based interactive public and private services
- 20 mph design speed across much of the development
- Provision of a Car Club with central office facility with storage parking and customer collection / return, and smart card access system

FORNAL TERRACE - URBAN EDGE

Sherford – GreenPrint

Ecology

“Excellent”



Sherford – GreenPrint

“Excellent”

Ecology

- 70 ha of new woodland as part of the 207 ha Community park
- Provision of wildlife corridors through the town from the west to the east and north to the south
- Extensive planting across the development of locally occurring native deciduous and evergreen trees and shrubs
- Lakes and double planting of hedgerows
- SUDS – swales, ponds, reedbeds

Business

- Identification and development of priority business sectors, including clusters of related activity, and other key business sectors of sub-regional importance
- Deliver an increase in jobs and local skills base, and training opportunities to help local workers upskill

Sherford GreenPrint Rating

- Sherford achieved an "Exemplar" rating
- Overall score of 85%

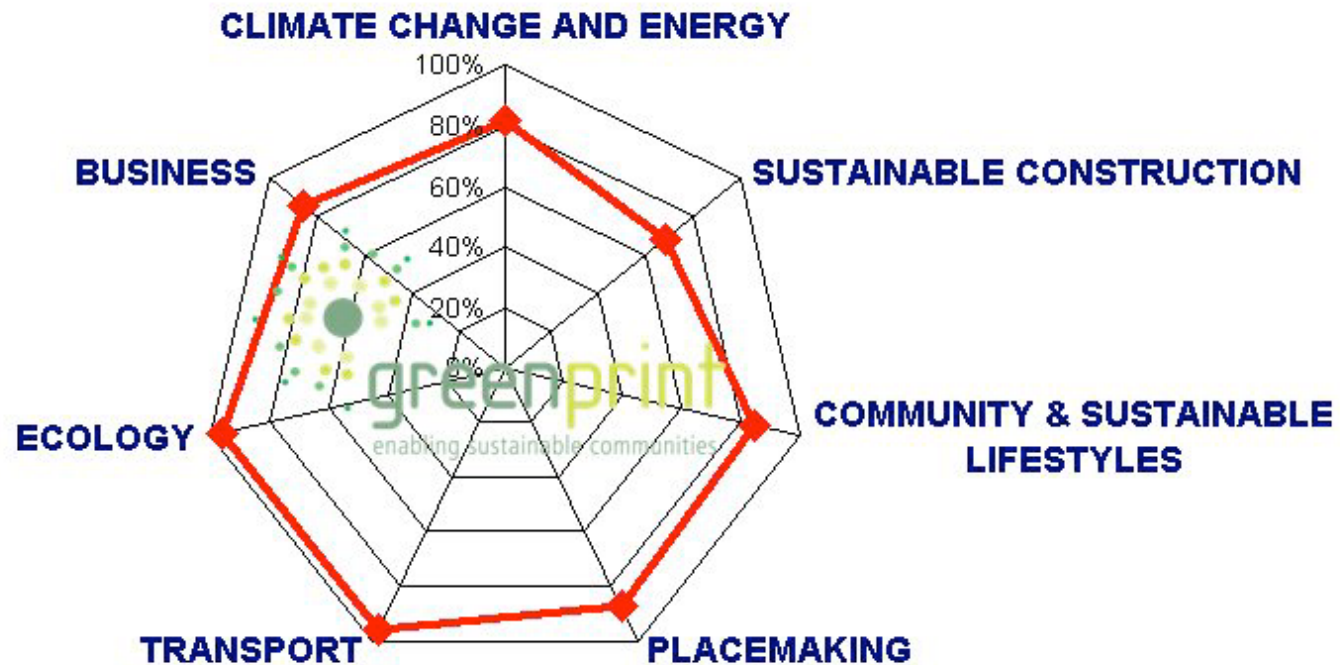
Site: **Sherford, South Hams**

Assessor: **Stuart Blofeld**

Date: **09/03/2007**

Categories		Benchmarks achieved				Maximum possible score	Actual score achieved	%
		Excellent	Very Good	Good	Not Met			
1	CLIMATE CHANGE AND ENERGY	10	4	1	1	14.05	11.44	81%
2	SUSTAINABLE CONSTRUCTION	5	5	3	1	11.3	7.68	68%
3	COMMUNITY & SUSTAINABLE LIFESTYLES	6	0	0	1	6.4	5.40	84%
4	PLACEMAKING	10	4	1	0	13.2	11.54	87%
5	TRANSPORT	11	2	0	0	11.35	10.89	96%
6	ECOLOGY	6	1	0	0	5.65	5.44	96%
7	BUSINESS	2	2	0	0	3.85	3.30	86%
TOTAL SCORE		50	18	5	3	65.80	55.67	85%

Sherford GreenPrint radar



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BUILDING MATERIALS, SUSTAINABLE CONSTRUCTION AND DESIGN

At Sherford, developers should utilise materials and designs that are in keeping with the character of the South Hams region.

Adaptability

Buildings should be robust, adaptable and the basic structure should be built for a target lifespan of 300 years. Developers must demonstrate that they have contemplated conceivable future change of use in producing their first use design. Each house should demonstrate its flexibility to other residential uses and where buildings have other uses indicated by the land use plan, they must demonstrate how they can be converted to the other plan type/s specified. Mix use and apartment buildings should also demonstrate how they may be laterally converted within the building and, if required, through to adjacent buildings. This is particularly important on the high street where most change of use is likely. Developers should demonstrate that all commercial buildings are adaptable to a variety of internal plan configurations. Equally, office buildings must demonstrate their ability to be adapted to residential subdivision. All buildings should be designed based on plan types that have been proven to adapt well over time. These historical types should be carefully refined in both plan and elevation to incorporate new requirements of minimising energy consumption in the building and the changing climate.

Local Materials Developers at Sherford should look to source materials from within a 50 mile radius of the site, where reasonable; this will help to reduce the transport impacts of development and contribute significantly to the local economy. The target for sourcing local materials is 65% bulk materials by mass, from a distance no greater than 50 miles by road. All developers must be able to demonstrate efforts to achieve this target. A minimum of 35% must be achieved.

Bulk building materials will include 15% (as a percentage of the value of materials used) recycled content.

Materials used in the construction of roads and external hard surfaces must utilise at least 30% recycled content from local reclaimed or recycled sources within 50 miles by road.

All of these requirements may be modified with regard to:

- Availability
- Ethical production
- Lifespan
- Renewability of source materials
- Energy performance
- Practical or viable feasibility.

Local materials are defined as either:

- a. found in the area as raw material
- b. produced in the area from materials that are either from or outside of the area
- c. processed in the area but the source material is found either within or outside of the area

Local and Regional Vernacular

The South Hams and wider southwest regional towns have largely grown organically along local high streets and with more formal planning interventions in the Regency period.

This combination of organic and formal is the essence of these settlements and will be reflected in the Spatial Composition Cards that are then allocated to different streets and urban spaces that inform the Detailed Design Codes.

Developers must demonstrate that they have embraced the local and regional vernacular.

Individual buildings tend to display a varied palette of materials, primarily painted render and stucco, with some slate-hanging and occasional use of stone (both rubble masonry and cut ashlar) and brick for grander buildings.

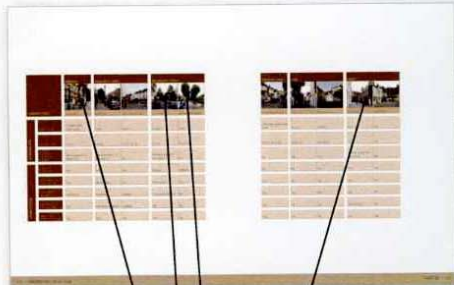
Colour is mainly introduced via the use of coloured renders, which should be principally white but supplemented by the extensive use of soft creams, pinks, blues, ochres and grey (with the occasional bolder use of colour such as cobalt blue).

South Devon: South Devon

A Pattern Book of Urban & Architectural Form

Teignmouth • Shaldon • Totnes • Dawlish • Modbury
Dartmouth • Kingsbridge • Newton Abbot





(Name) Crescent

M15.11

Uniform character and composition. Uniform vertical rhythm of openings and trees
Continuous first floor balconies Uniform colour.



Type	Specification	Relationship
Part II A	A15.1	Uniform
Part II B	B4	Uniform/regular
Part II C	C3.2	Uniform/regular
Part II D	D3	Regular
Elements		
Materials	Stucco - painted	Regular
Windows	6 over 6 - 2 over 2	Regular
Colour	White CP 2.3, 2.4	Uniform
Gradient Response	Flat	Uniform
Boundary Treatment	1.1 spear headed c.i. railings	Uniform
Balconies	c.i. decorative, leaded roof	Uniform/regular
Other elements		
Door	Hardwood 6 panel CP 6 - 9	Variable

NOTES: 1st floor balconies not necessary on south side of street where rear south facing conservatories may be employed as option

(Name) Street

M3.14

Similar double fronted. Prominent porches. Variety of colour from similar colour hue.
Prominent palms in gardens.

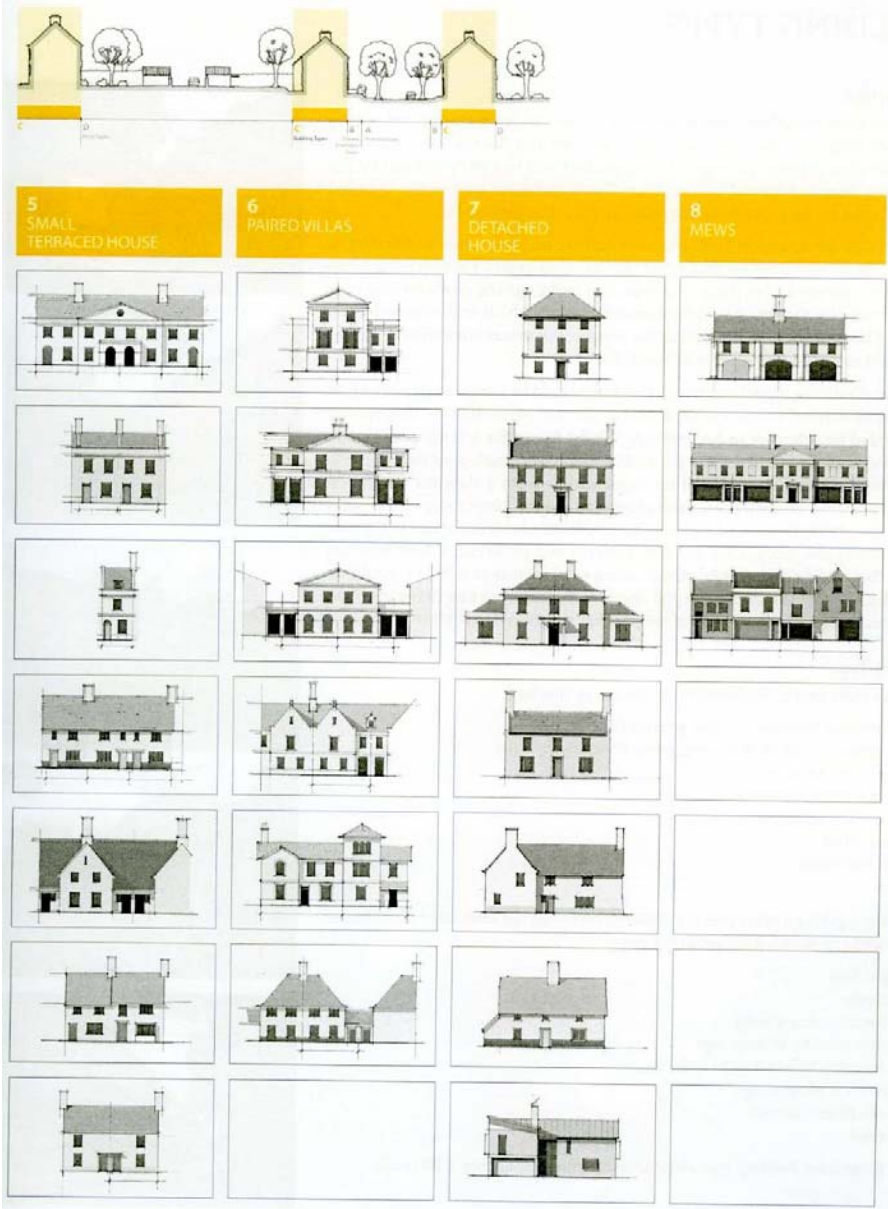


Type	Specification	Relationship
Part II A	A3.1	Uniform
Part II B	B2	Regular
Part II C	C4.2	Regular
Part II D	D12	Regular
Elements		
Materials	Stucco - painted	Regular
Windows	6 over 6 - 2 over 2	Regular
Colour	Colours CP 4 - 7	Variable
Gradient Response	Slope taken up by each house	Regular
Boundary Treatment	Stonewall with hedge	Regular
Porch	Timber Painted	Regular/Variable
Other elements		

NOTES: Subtle variant in porch detailing and palms in garden is important

Samples of spatial composition card





3. UNIFORMITY OF OPENINGS

Uniformly aligned openings are a characteristic of formal design.

CODE: Openings should align both vertically and horizontally in a formally composed façade.

Variation: Smaller townhouses often show misalignments between ground and first floor windows (refer C4, C5) reflecting internal staircase/hall layouts.



i) Formal
The windows align vertically and horizontally.



ii) Informal
The windows misalign.



iii) Formal variation
The door and ground floor window in this townhouse are misaligned from the windows above, due to the interior floor layout.

4. REGULAR SPACING OF OPENINGS

Regular spacing of openings is a characteristic of formal design, particularly in terraced architecture.

CODE: Openings must be regularly spaced.

Variation: For more complex façades (5 bay, 7 bay or more), the device of inflection or deflection can be adopted to emphasise the centre or the wings (refer to illustration).



i) Regular openings
Regular openings on 3 bay terraced houses.



ii) Regular openings
The openings on this 5 bay façade are equally spaced.



iii) Variation: inflection
The centre is emphasised.



iv) Variation: deflection
The wings are emphasised.

