

GREAT DENHAM

(FORMERLY BIDDENHAM LOOP)

DESIGN GUIDE AND CODE
SUPPLEMENTARY PLANNING DOCUMENT

JUNE 2009



BEDFORD BOROUGH COUNCIL

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This guidance was adopted as a supplementary planning document within the Bedford Development Framework by the Council on 23 June 2009.

The preparation of this guidance took account of comments made during two periods of public consultation: on its scope and objectives, between 27 November 2006 and 8 January 2007; and on the draft supplementary planning document, between 21 December 2007 and 1 February 2008.

A separate sustainability appraisal of the supplementary planning document has been carried out and is available from the Council.

The Great Denham (formerly Biddenham Loop) Design Guide and Code SPD can be purchased from the Town Hall, price £19 or through the post by sending a cheque for £23 payable to 'Bedford Borough Council' to Planning Services, Bedford Borough Council, Town Hall, St Paul's Square, Bedford MK40 1SJ. The Plan is also available to view on the Council's website (www.bedford.gov.uk/planning).

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1.0Part I Design and Development Principles

1.1 Introduction

Objectives

- 1.1.1

The objective of the Design Guide is to facilitate the delivery of higher quality development as a key part of creating sustainable communities for the future. It will provide a benchmark for David Wilson Homes design quality and for third party developers. The Coding mechanism will help achieve this by providing ‘clarity over what constitutes acceptable design quality’ through the establishment of a clear set of design instructions and components. In turn, this will provide Bedford Borough Council with a quality benchmark against which to assess reserved matters applications.

‘A design code is an illustrated compendium of the necessary optional design components of a particular development with instructions and advice about how these relate together in order to deliver a master plan or other site based vision’
(Design Coding in Practice: An Evaluation. DCLG. 2006).
- 1.1.2

The Design Guide will also be developed in the context of the existing adopted Supplementary Planning Guidance – Biddenham Loop Revised Development Brief. It will build upon the established development principles and parameters set out in the Brief whilst refining the framework in light of further information, notably the Master Plan and Environmental Statement accompanying the outline application. The Design Guide will also respond to the Adopted Bedford Borough Local Plan (October 2002) and the emerging Local Development Framework.

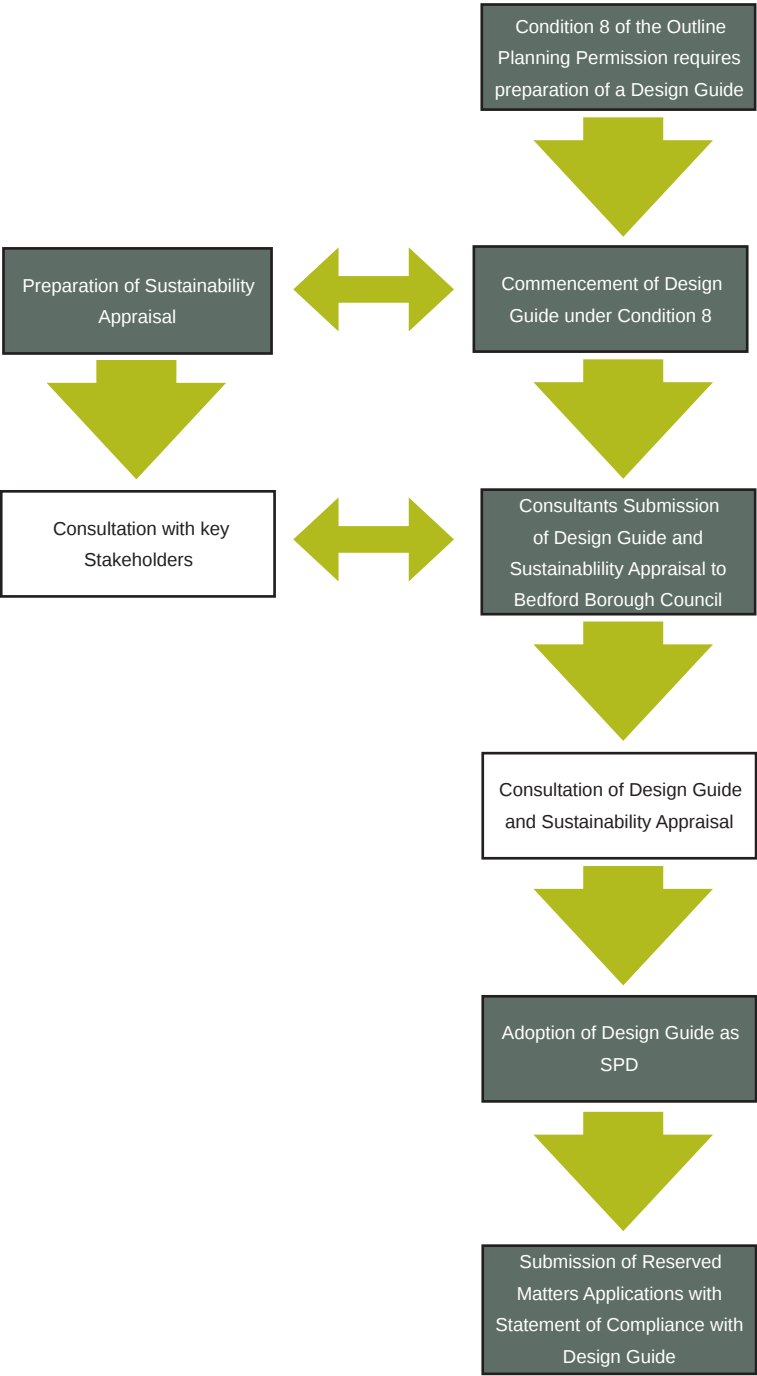
Scope

Part I -	Design and Development Principles sets down the overarching design and development principles that will inform the proposals.	1 - 15
Part II -	Site Development Framework consists of three distinct elements: it identifies the site development constraints and opportunities and provides a refined development framework structured around key design principles; it undertakes an analysis of appropriate local character references that will inform the coding element of the document and; it develops the overarching design and development principles into a series of focused strategies.	16 - 65
Part III -	Design Coding forms the Design Code element of the Design Guide and is the delivery mechanism through which the vision set out in the Development Framework is articulated and refined. It provides clarity to designers on what will constitute acceptable design, drawing upon the local character principles identified in Part II with particular emphasis on the public realm, including building frontages and typologies.	66 - 153



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SITE LOCATION PLAN



DESIGN GUIDE PROCESS

1.2Promoting Sustainability and Energy Efficiency

- 1.2.1 A Sustainability Strategy has been commissioned by David Wilson Homes to outline the major sustainability issues relating to the Great Denham site. The Strategy sets out a series of challenging and binding targets which the proposals will have to embrace.
- 1.2.2 This stand alone document consists of two parts: Sustainability Objectives and; the Sustainability Strategy. The Sustainability Objectives are reproduced on the following pages and have provided the basis for the Sustainability Strategy.
- 1.2.3 The Sustainability Objectives have been informed by national, regional and local policy. They have also been developed from the following specific guidance:

Adopted Development Brief for Biddenham Loop

Paragraph 5.3 -5.7 of the Brief identifies five key principles to promote the creation of more sustainable environments, including: a locally distinctive development; a mixed and balanced community; an open space network for recreation, wildlife, energy and water management; energy efficient movement networks and; promoting energy efficiency.

Chapter 14 of the Environmental Statement: An Energy and Sustainability Strategy

This sets out the Strategy that will be adopted to minimise building construction and operational effects of the site on the immediate and wider environment.

- 1.2.4 Eight additional objectives (27–34) covering architectural and social sustainability are also set out on the following pages. These have been included to augment those set out in the Sustainability Strategy document, which focuses on environmental, resource and energy efficiency sustainability.



THE SUSTAINABILITY STRATEGY WILL FOCUS ON RESOURCE CONSERVATION

Layout and Form	
1.	Use building grouping/layout to - utilise wind flow to promote pollution removal, natural ventilation and pedestrian comfort - improve solar exposure and promote good daylighting
2.	Dwelling Utilise building design for optimal passive solar design and use of daylight and natural ventilation
3.	Energy Efficiency Specify energy efficient lighting and low U-values (below Part L requirements). Specify energy efficient white goods where these are supplied. Specify high efficiency boilers. Increase daylighting in appropriate rooms e.g. kitchens and living rooms, and use natural ventilation where mechanical ventilation is not required by legislation
Energy Provision	
4.	Site Evaluate energy supply strategies including community renewable heat and power (including wind turbines) and conventional combined heat and power. Implement selected technologies
5.	Dwelling All homes to achieve, at least, a 10% reduction in carbon emissions (below the Building Regulations) as required by Bedford Borough Council's Core Strategy and Rural Issues Plan Policy CP 27. In addition, David Wilson Homes have allocated a budget, £2million overall for Great Denham and West of Kempston, towards achieving a target of 10% renewable energy generated on site that is to be spent in a manner to be agreed with the Local Planning Authority. (All applicants will also be expected to meet the requirements of those Building Regulations in force at the time of construction).
6.	Provide all properties to purchasers with a Green Electricity tariff in place

SUSTAINABILITY OBJECTIVES

Water Strategy	
7.	Site Provide Sustainable Urban Drainage Systems on site, including balancing ponds where appropriate
8.	Dwelling Specify low water use devices for all properties, to include taps, toilets and showers
9.	Provide water butts for all properties where space exists
Construction Process and Materials	
10.	Site Comply with the Considerate Constructors Scheme and the waste management strategies of Bedfordshire County Council (as set out in the Managing Waste in New Developments Supplementary Planning Document. 2006) and David Wilson Homes to ensure use of best practices
11.	Separate and reduce waste streams
12.	Monitor site impacts during construction
13.	Provide community recycling facilities in Great Denham
14.	Dwelling Use recycled, reclaimed and local materials in construction where possible
15.	Use certified and responsibly sourced materials where possible
16.	Provide for storage of recyclable waste at each dwelling
17.	Provision of Green Space Provide green spaces facilitating natural habitat and access for residents including a community planting area and Country Park, (including sports pitches, pavilion and equipped areas for play)
18.	Retain and protect appropriate ecological features wherever possible

Transport	
19. 20. 21.	Site
	Promote cycling and walking throughout the site, including incorporation of the Sustrans route and Safer Routes to School off site
	Provide quality public transport access, including new priority bus routes, gates, a Park and Ride facility and subsidised public transport
	Incorporate local services and amenities to reduce the need to travel
22. 23.	Dwelling
	Provide cycle storage facilities on site and at dwellings where possible (See Sustainability Strategy in Section 2.10)
	Provide capability to set up a home office in dwellings where possible (See Sustainability Strategy in Section 2.10)
24. 25.	Sustainability Information and Show Homes
	Provide information packs for residents covering the sustainable and low energy features of the development and their property, including transport provision, renewable power, Sustainable Urban Drainage Systems and other relevant features
	Provide Sustainability Show Homes within the development as a show case for sustainable design and to show purchasers what additional technologies can be bought
26.	EcoHomes
	Achieve a “Very Good” rating under Ecohomes (for residential) and “Good” under BREEAM for Offices/Commercial buildings in accordance with the S106 Agreement and subject to an agreed review process

Additional Architectural and Social Sustainability Objectives	
27. 28. 29.	Provide for inclusive access where people can get to and move through the place on equal terms regardless of age, disability, ethnicity or social grouping
	Define a street and perimeter block structure where buildings overlook public space and have their front entrances onto the street to foster activity
	Develop building forms that allow for adaptation, conversion and extension of internal and external spaces and allow for home working/micro business development
30. 31.	Strengthen local identity and deliver quality through use of local materials and a high standard of architectural design
	To plan new development to help reduce crime and fear of crime in accordance with Safer Places: the Planning System and Crime Prevention (2004) and The Bedfordshire Community Safety Design Guide (2005)
32. 33.	To provide access to decent, affordable housing of different tenures that is not architecturally distinct from market housing
	Utilise prominent corners to good advantage by designing a building form that turns the corner and facilitates continuous frontages
34.	Use materials and finishes with a strong basis in local character and distinctiveness to create a sense of place

1.3Local Identity and Character

1.3.1 PPS1 requires developments to respond to their local context and create or reinforce local distinctiveness (paragraph 36). This places locally distinctive design at the heart of the planning process and builds on one of the central tenets of PPS3. This requires good design to contribute positively to making better places for people. Design which is inappropriate in its context, or which fails to take the opportunities available for improving the character and quality of an area and the way it functions, should not be accepted (paragraph 13). The following objectives will guide the delivery of locally distinctive development at Great Denham.

Objective 1 - Draw on the urban typology of Biddenham, Bedford and the surrounding towns and villages including:

- blocks, plot widths and street patterns
- materials and details
- building heights and forms
- boundary treatments and set-backs

Objective 2 - Establish a landscape character and structure that responds to the existing distinctive soft landscape dominated edge treatments, that:

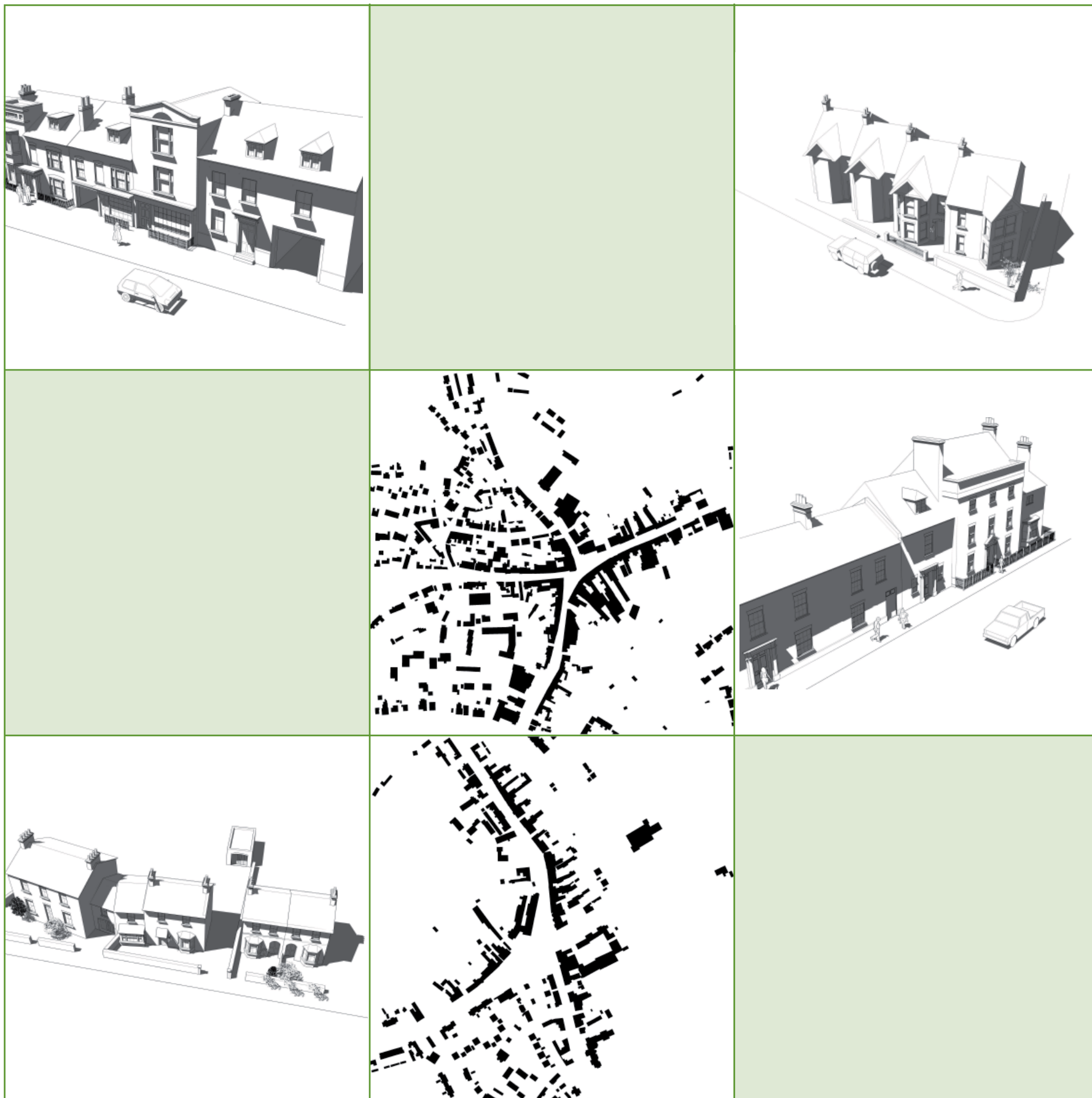
- improves existing planting and retains native tree and hedge species
- enhances habitats and biodiversity
- provides for informal and formal recreation provision
- preserves and enhances the majority of existing rights of way

Objective 3 - With the exception of the slender linkage to the Queen’s Park area, maintain physical separation between the development and Biddenham Village to the north and west Bedford to the south and west of the River Ouse by:

- provision of a Country Park adjacent to the Ouse
- respecting the Golf Course extents to the north
- implementing appropriate structure planting

1.3.2 The densities identified in the character appraisal (2.3) of this document will not be used as a guide to inform the proposed development as the planning permission allows for higher densities.

‘The development will reflect the distinctive characteristics of the immediate settlement pattern of Biddenham and the wider surroundings of the Bedford area, whilst providing a distinctive and legible environment of its own’.
(Biddenham Loop Revised Development Brief. 6.1)



LOCALLY DISTINCT URBAN TYPOLOGIES

1.4A Mixed and Balanced Community

1.4.1 A key component of delivering sustainable communities is identified in PPS1 as providing for a mix of uses (paragraph 27). A mix of uses can help contribute to a diverse, vibrant and attractive place (By Design: Urban Design in the Planning System. 2000). Variation in layout, form, density and tenure can also contribute to sustainable and successful environments though creating balanced and inclusive communities. The objectives set out below will guide the delivery of mixed and balanced communities:

Objective 1 - Promote the efficient use of land through higher density mixed use development

Objective 2 - Focus a mix of uses around a local centre that is well connected and accessible to the new community through walking, cycling and public transport

Objective 3 - Provide for a range of housing types and tenures from 1 bed to 5 bed, including 30 percent social, consisting of rented and intermediate tenures and 10 percent mobility housing.

‘Reinforcing the physical separation between settlements will also tend to reduce the natural opportunity for social interaction between this development and the adjoining communities. It is therefore important that the development should provide sufficient social infrastructure so that local self sufficiency can be maximised. At the same time, the Council require the creation of a balanced community with a range of housing types and mix of land uses, including employment, services and retail facilities to serve the development’. (Biddenham Loop Revised Development Brief. 7.1)

1.5 Priority to Pedestrians, Cyclists and Public Transport

- 1.5.1

The Bedfordshire Community Safety Design Guide recognises that there is a balance to be achieved between the degree of connectivity that is appropriate and community safety issues. Protocol 2 specifically addresses permeability and requires it to be designed in an appropriate manner. At the macro scale, there is a need to connect new routes to existing routes and movement patterns, with clear and direct routes through an area for all forms of movement being the most desirable. At the micro scale these connections should be provided between places without undermining the defensible space of neighbourhoods. The degree of permeability will be consistent with the requirements of the Bedfordshire Community Safety Design Guide pursuant to achieving safe, sustainable communities.
- 1.5.2

Manual for Streets superseded Design Bulletin 32 and its companion document, Places, Streets and Movement, and the document supports the delivery of attractive, safe and well designed streets (1.1.1) and actively discourages the design of streets based on motor traffic criteria. This represents a fundamental shift away from the traditional basis on which highways have been constructed and the priority this has given to vehicular uses rather than pedestrians and cyclists. The new best practice approach will be used to guide the development of streets that give priority to pedestrians, cyclists and public transport with reference to the following objectives:

Objective 1 - A cohesive network of streets (defined as ‘a highway that has important functions beyond just the movement of traffic’) will be developed that gives priority to pedestrians, cyclists and public transport. This will include bus priority measures and two bus gates

Objective 2 - The principal functions of streets (place; movement; access; parking; and drainage and utilities) are considered as an integral part of the design response, with place and movement functions given priority

- Objective 3** - That the ‘five C’s’ approach (Encouraging Walking. DETR. 2000) is applied to the design and implementation of the footpath and cycle routes, namely that they are:
- connected
 - comfortable
 - convenient
 - convivial
 - conspicuous

Objective 4 - The proposed movement corridors connect into the existing Rights of Way network facilitating access to the surrounding urban and rural landscape

Objective 5 - The proposals will facilitate Safer Routes to School provision

‘A comprehensive network of footpaths and cycleways should be incorporated into the development, linking the housing areas with the district centre, schools, community facilities, the country park and the surrounding area. These should link with routes provided already as part of phase 1 of the development. The provision of safe pedestrian/ cycle routes to the schools will be essential.’ (Biddenham Loop Revised Development Brief. 9.2)

1.6Protecting and Enhancing the Natural Environment

1.6.1 A Better Quality of Life: A Strategy for Sustainable Development for the UK (1999) identifies effective protection of the environment as one of four key aims for delivery of sustainable development. PPS1 places a requirement on planning to protect and enhance the natural and historic environment and the quality and character of the countryside (paragraph 5). The adopted Biddenham Loop Development Brief is consistent with this approach. The following principles will guide the open space strategy:

Objective 1 - Secure ‘green wedges’ between Biddenham, Queen’s Park and Kempston and the development in Great Denham

Objective 2 - Open up the River Great Ouse environs for community use

Objective 3 - Provide the appropriate setting for a riverside walk linking Bromham Mill and Hillgrounds via a new footbridge, and opportunities for countryside recreation, both on foot and cycle

Objective 4 - Retain and enhance features of landscape, ecological and nature conservation value

Objective 5 - Preserve in-situ Scheduled Ancient Monuments and, wherever practicable, other defined sites of archaeological importance

Objective 6 - Enhance and define movement corridors through the use of ‘greenways’ and enable the green space to flow through the development from the Country Park

Objective 7 - Outdoor sport provision is incorporated within the Country Park with associated changing facilities

Objective 8 - The landscape should respond to the character of the river valley and include wetland, ponds, pastoral agriculture, woodland, amenity grassland, meadow and scrub

‘The open space and landscape network has an important role to play in terms of:

- establishing character and early sense of maturity
- integrating the development into the existing landscape
- providing for the formal and informal recreation needs of residents
- protecting and supporting wildlife, thus increasing biodiversity
- reducing the use of energy, water and other resources
- minimising pollution’. (Biddenham Loop Revised Development Brief. 8.1)

1.7Community Safety

- 1.7.1PPS1 places the creation of safe, sustainable communities at the heart of good planning and good design. A key objective of good design is to create safe and accessible environments where crime or fear of crime does not adversely effect quality of life or community cohesion (PPS1, paragraph 36).
- 1.7.2Safer Places: The Planning System and Crime Prevention, a companion guide to PPS1, supports this principle and sets out ways of creating safe, sustainable and attractive environments that meet all good planning objectives.
- 1.7.3At the national level, the building industry is encouraged to adopt crime prevention measures to assist in reducing the opportunities for crime and fear of crime by a police initiative – Secured by Design. This initiative addresses both planning and design principles at the strategic level and the design of buildings at the detailed level.
- 1.7.4At the County level, The Bedfordshire Community Safety Working Group consisting of Bedford County Council, the District and Borough Councils, in conjunction with Bedfordshire Police and Government Office for the East of England, have developed The Bedfordshire Community Safety Design Guide, which has been adopted as a Supplementary Planning Document. This document has been prepared in the context of the national guidance set out above and the need for it to be applicable to practical examples. Its purpose is to assist in planning out crime within existing and new developments in Bedfordshire and ensure that every opportunity is taken to create sustainable new communities.
- 1.7.5The Biddenham Loop Revised Development Brief also identifies that the design and layout of the external environment can play an important part in reducing opportunities for crime, the fear of crime and anti-social behaviour. Seven principles are identified to aid this approach:
 - Integrated approach – the developments overall design and layout should be considered as a whole from the outset
 - Legibility and Identity – take account of existing and proposed features and facilities to ensure that pedestrian routes have a clear reason and use
 - Environmental Quality and Sense of Ownership – a high quality environment will engender pride in its users, who will tend to feel comfortable and safe and have a sense of shared ownership and responsibility
 - Layout and Building Details – key factors include: natural surveillance; the creation of defensible space; the use of physical boundaries and the strength of materials used in construction
 - Maintenance of public areas – it is important that ownership and responsibilities are clearly identified and sufficient resources made available to adequately maintain buildings and communal spaces. It is envisaged that at Great Denham the public open space and equipped play areas will be funded by resident contribution and the master developer. The Country Park will be maintained by a dedicated community trust fund
 - Public Lighting – there is a strong link between the standard of lighting and fear of crime
 - CCTV – closed circuit television surveillance may be an appropriate measure in certain situations. At Great Denham, funding will be provided by the master developer for a camera in the Local Centre in accordance with the S106.

1.7.6The principles set out below are a distillation of the advice contained in these documents and represent the essential overarching tenets by which the proposals for Great Denham should be developed.

Housing Layout

1.7.7Good design will provide for natural surveillance and create a sense of ownership, territorial responsibility and community through:

- clear definition between public and private realm
- dwelling orientations that front onto public space and with windows positioned to afford good views of publicly accessible open spaces
- places that have an appropriate level of human activity for their context, encouraged through measures such as front doors and habitable rooms addressing the street
- places that include necessary, well designed physical security features
- avoiding segregated routes for pedestrians and cyclists within housing areas.

Parking

1.7.8A variety of parking solutions will be applicable to development at Great Denham that will balance the desire of owners to park cars as close to their property as possible and reinforce the character of the neighbourhood. These following principles will guide the provision of parking in all instances:

- owners should be able to see their vehicle from at least one habitable room, except where parking is provided on plot
- parking courtyards should be identifiable as private spaces and be provided in small groups
- communal parking areas should be lit to British Standard illuminance levels
- Parking courtyards should not facilitate a through route and should have a narrow entrance, gated where necessary
- The screening of parked cars to avoid over dominance in the street scene should be balanced with the requirement for hard or soft landscaping not to create concealed spaces.

Traffic Calming

1.7.9A variety of different measures to reduce vehicle speeds will be used that are responsive to the street hierarchy within the development. These will include:

Physical interruptions – mainly horizontal features such as sharp bends but also humps and ramps, where horizontal features are inappropriate

Street Dimensions – short lengths of street between junctions and variation in carriageway widths

Changes in Priority – stop and give way signs, roundabouts, bus gates and single lanes

Psychological measures – narrowing the optical width of the street, removing demarcation of vehicle and pedestrian routes (Manual for Streets)

‘...All development should front on to and have access from the street or public space. This will create a ‘public front’ to the development.’ (The Bedfordshire Community Safety Design Guide, 2005)

Public Open Spaces

1.7.10 Public open spaces form a significant part of the development at Great Denham and the majority of non vehicular connections with the surrounding urban forms of Biddenham and Bedford are through open space. Therefore It is crucial that these linkages are designed to the highest standards and have considered the interests of community safety as an integral part of the proposals. The following principles will guide the safe design of these routes:

- a high degree of natural surveillance will be encouraged from adjacent overlooking dwellings
- footpaths and cycleways, in particular, should be overlooked with buildings fronting these spaces
- play areas should benefit from natural surveillance by adjacent dwellings but these should not be sited so close as to cause loss of amenity for residents
- as far as possible formal play areas should be visible from roads so that at night the headlights of patrol cars can sweep these areas
- sharp changes in direction, blind corners, high shrubs and banks should be avoided
- street furniture should not obscure views
- landscaping should be of high quality design
- alternative well lit routes should be provided in preference to more secluded recreational routes.

Street Layout

1.7.11 Good design will provide a permeable neighbourhood based on a street and perimeter block structure. The requirement of connectivity will not, however, unacceptably compromise community safety or residential amenity and will be developed as part of a considered and balanced approach to the movement strategy. The following measures will guide the street layout:

- routes for pedestrians, cyclists and vehicles will run along side each other and will not be separated through the built up area
- there will be a clearly defined need or benefit for the existence of routes
- clear and direct routes through a development for all modes of transport should be encouraged, but in a way that does not undermine defensible space and community safety
- public transport and bus permeability will be designed as an integral part of the street layout
- exposure of private space to the public realm should be avoided.

‘Safety and security are essential to successful, sustainable communities’ Safer Places: The Planning System and Crime Prevention. 2004

1.8 Privacy, Garden Size and Separation Distances

1.8.1 The Bedford Borough Council document ‘Achieving Quality in Residential Layouts (September 1997) sets out separation distances between buildings and minimum garden sizes. This Supplementary Planning Guidance predates PPG3 and PPS3 and the increased minimum densities to which new development will be expected to be built. PPS1 places onus on designers to ensure that privacy and amenity are not sacrificed in order to achieve higher densities. Garden sizes should be a minimum of 9m long and usually in excess of this for properties with 4 or more bedrooms or where there is main habitable living room(s) at first floor and above.



PART II SITE DEVELOPMENT FRAMEWORK

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2.0PART II SITE DEVELOPMENT FRAMEWORK

2.1 Introduction

2.1.1 The Site Development Framework uses the overarching design and development principles set down in Part I of this document to inform the spatial framework of the Master Plan and derived Strategies. This Framework is also informed by the refined site Development constraints and an analysis of appropriate local character references from the adopted development Brief. This is supplemented with further local character references to facilitate variety and distinctiveness. The local character references and development strategies will provide the basis for the Coding (Part III) in this document.

2.2 Refined Development Influences

2.2.1 Chapter 4 of the Biddenham Loop Development Brief identified the main development influences that shaped the Master Plan. The Master Plan (No. 1180001-034) included in the Revised Environmental Statement of July 2005 produced by Chris Blandford Associates (CBA) was based on the Bedford Borough Council Development Brief. Since this point there have been a number of refinements to the Master Plan. A summary of the changes and justification for these are set out below. The location of these changes are set out on the plan opposite.

Exclusion of Bypass Land (1)

2.2.2 The planning permission and compulsory purchase orders relating to the Western Bypass incorporated land beyond that shown in the CBA Master Plan. The addition of this land has resulted in:

- localised increases in the separation between the Bypass and the housing land
- bypass landscaping incorporated within the overall scheme
- relocation of parts of the development land.

Increase in Middle School size (2)

2.2.3 The Middle School has increased from 2.9 to 4 hectares in accordance with County requirements. This has resulted in the redesign of housing areas to accommodate the increased size. The Lower School site has been reduced to 1.3 hectares to reflect the site requirement as contained in the S106 Agreement.

Increase in size of facilities (3)

2.2.4 The Nursey, Library and Ecumenical Centre sites have been increased in size to reflect the S106 requirements. This has driven small scale changes to the immediate adjoining areas within the Local Centre.

Balancing Pond incorporation (4)

2.2.5 Detailed design of the surface water drainage system has identified 3 balancing ponds within the Country Park, increasing biodiversity and opportunities for nature conservation.

Scheduled Ancient Monument (5)

2.2.6 A Scheduled Ancient Monument and other important archaeological features identified in the Environmental Statement have been incorporated within the Country Park or public open space by reconfiguring development parcels.

Exclusion of development from the 100 year flood plain (6)

2.2.7 Revision has taken place to the development parcels adjacent to the Country Park to ensure that development is beyond the 100 year floodplain in accordance with Environment Agency requirements.

Omission of Non-Residential Uses (7)

2.2.8 Small scale offices/workshops and a petrol filling station are no longer required by the Borough Council and have been omitted from the Local Centre.

Legend



Refined Development Influences

1.

Exclusion of Bypass Land

2.

Increase in Middle School Size

3.

Increase in Size of Facilities

4.

Balancing Pond Incorporation

5.

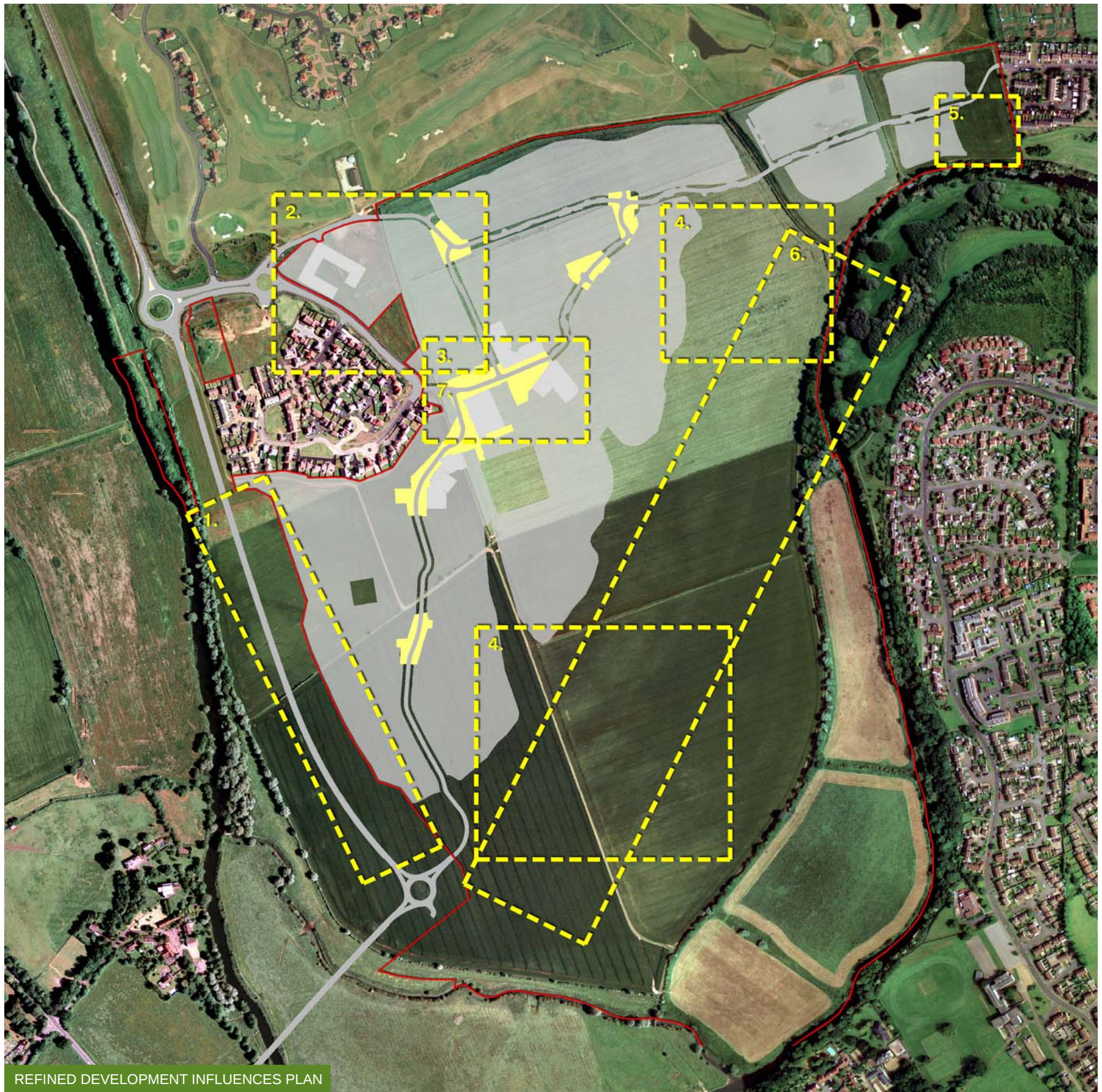
Scheduled Ancient Monument

6.

Exclusion of Development From the 100 Year Flood Plain

7.

Omission of Non-Residential Uses

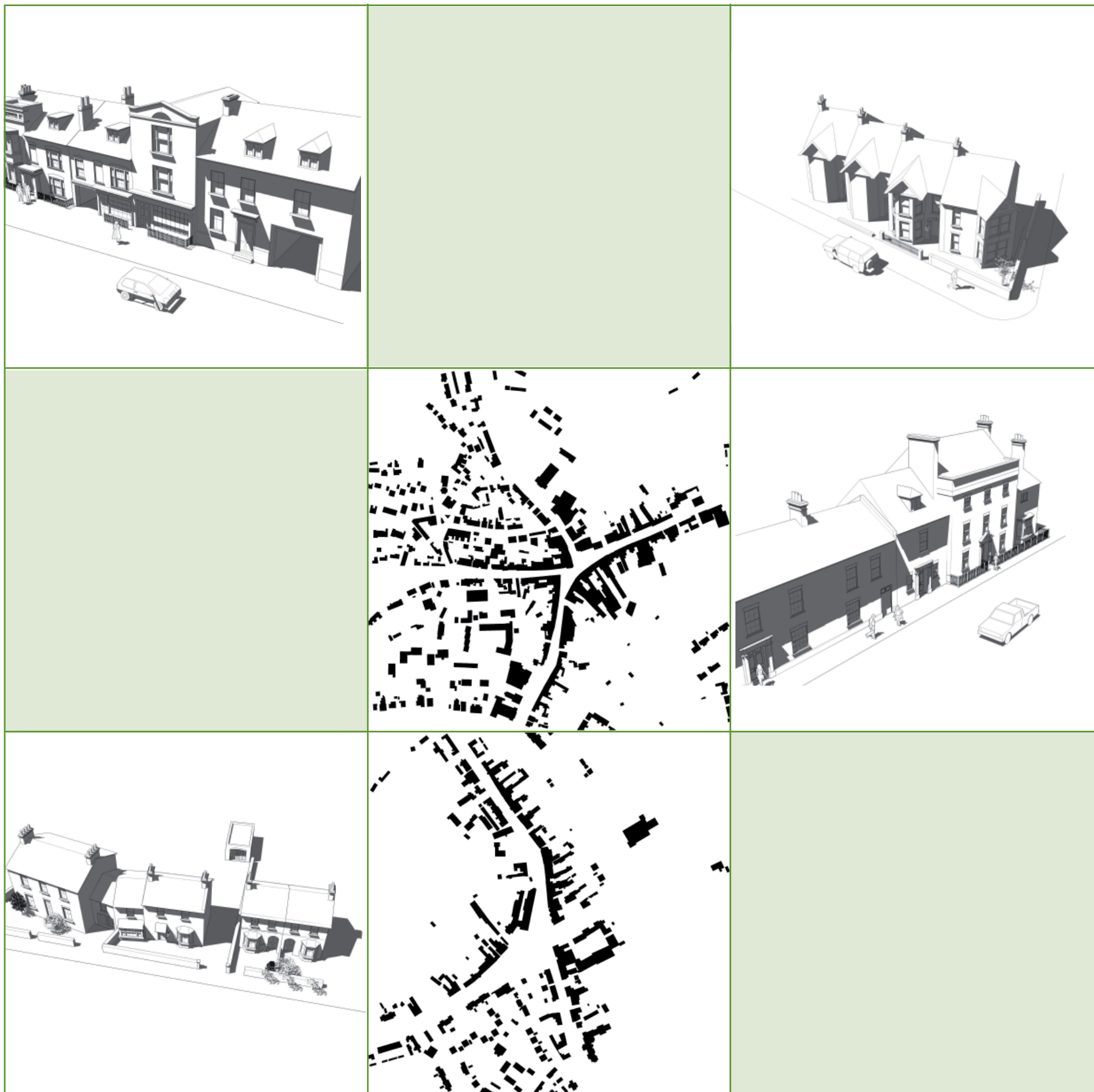


REFINED DEVELOPMENT INFLUENCES PLAN

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2.3Character Appraisal and Coding

- 2.3.1 The objective of a Design Code is to facilitate the delivery of higher quality development as an important part of creating sustainable communities for the future. A key component of delivering higher quality development is creating a typology that is locally distinct, reinforcing sense of place and character.
- 2.3.2 The Biddenham Loop Development Brief identifies a series of streets and places as the primary long established examples of appropriate building and street typologies with which to inform the new development. This Supplementary Planning Guidance identifies in broad terms the characteristics of these places. The purpose of the Character Appraisal in this Design Guide is to analyse the essence or defining qualities of these places. The typology parameters derived from this analysis will form the basis of the coding instructions for each character area.
- 2.3.3 It is important to reiterate that the typology parameters from this character appraisal will only form the basis of the coding instructions for each character area. Current policy, best practice guidance and commercial imperatives among other issues will dictate that it is neither possible nor desirable to ape the character references in every detail. In particular, the densities found in the local character references do not reflect the higher densities which are required to build up to 1507 dwellings in accordance with the outline planning permission.
- 2.3.4 Kempston High Street, Biddenham Village, Shaftesbury Avenue and Russell Avenue are good references from which to draw on in the development at Great Denham. These form the basis of the Character Appraisal.
- 2.3.5 Each of the following pages analyses one of the above character reference points in relation to a series of key parameters, including building height, plot width, set-back, carriageway width etc. Consistent recording and analysis of the same parameters allows for a direct comparison between character references and facilitates an assessment of the essence of place. The illustrative perspectives associated with each reference seek to articulate these key components in a readily understandable form.
- 2.3.6 The character references reflect good local vernacular. As such, the architectural idiom is traditional. Whilst it has been agreed between the Borough and David Wilson Homes that an architectural style embracing the local vernacular is preferred for the majority of the development, the focus of this Guide will be on the relationship between the urban form and the public realm. The following character appraisal therefore seeks to draw out issues surrounding form, massing, public/private interface, defensible space, plot widths and set backs with less emphasis on architectural details to avoid a `pattern book` approach and stifle creativity. This approach is consistent with Key Finding Sixteen of the June 2006 DCLG publication Design Coding in Practice: An Evaluation, namely that whilst coding for architectural design is both possible and popular, character areas are typically defined by urban design controls rather than on the basis of architectural styles (paragraph 1.55).



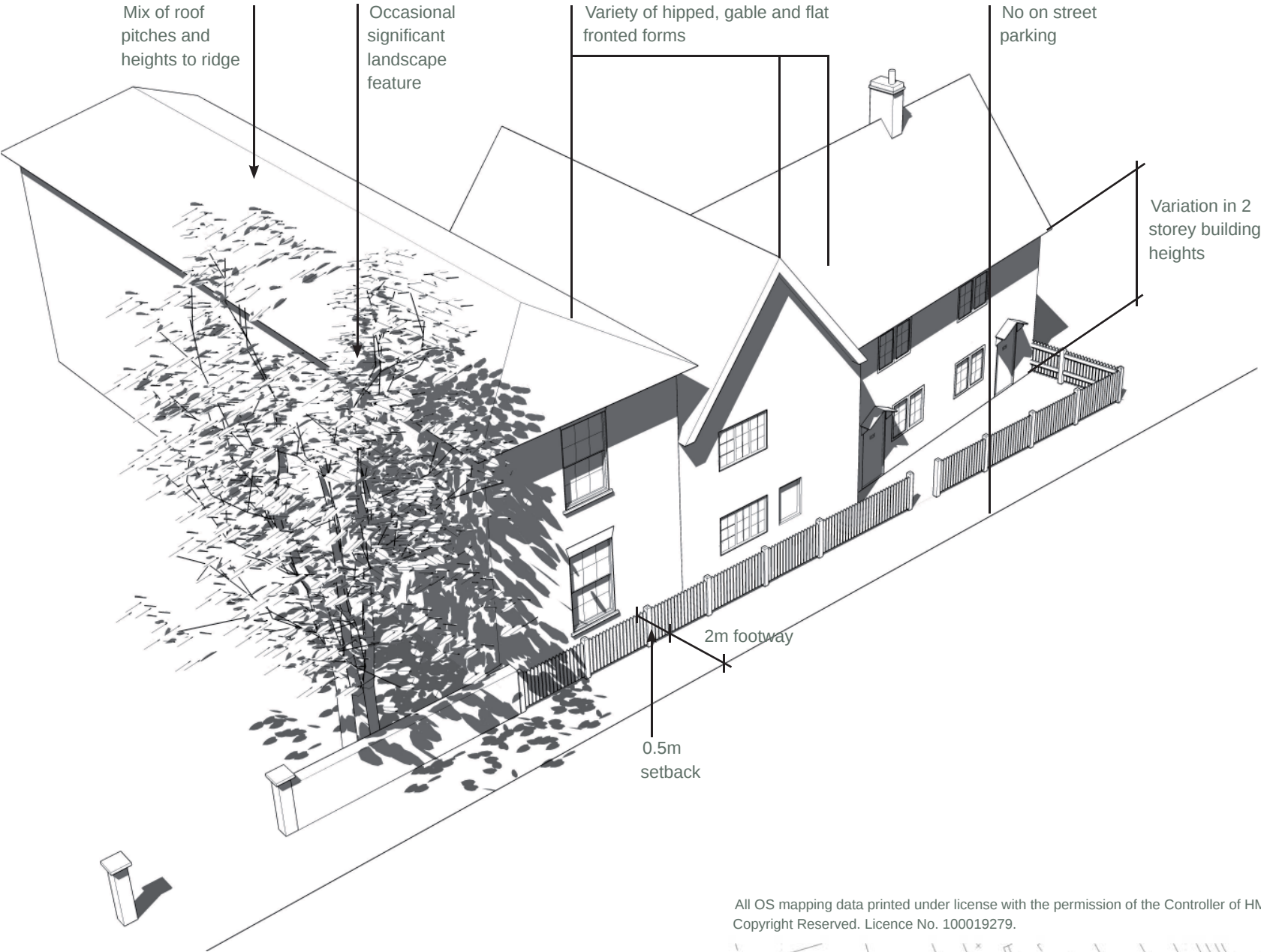
LOCALLY DISTINCT URBAN TYPOLOGIES

Parameter	No.	%	Notes
DENSITY (no dwellings in 0.34ha sample)	12 (35dph)		
BUILDING TYPE			
Detached	6		
Semi-detached	2		
Terraced	4		
PLOT WIDTH	6-19m		
HEIGHT			
1 Storey	1		Detached bungalow
1.5 Storey			
2 Storey	11		
2.5 Storey			
SET BACK (front gardens)	0.5-15m		0.5-4m (8); 4+m (4)
CARRIAGEWAY WIDTH	6.5-7m		
FOOTWAYS	2m		Consistent width
CYCLEWAYS			None
KERBS			Standard highway
SURFACES			Blacktop to pavement and road
FRONTAGE ACCESS	6		
PARKING			
On street			
Off street (garage)	4		
Forecourt	3		
Courtyard			
ENCLOSURE			
Fence	3		1 metre high timber
Wall	7		5 with 1.5 stone walls with occ brick piers

Parameter	No.	%	Notes
Hedge/Wall	1		1m high red brick
Open			
Railings/Wall			
Hedge/Fence			
Hedge			
Building on edge of Public Realm			
DOMINANT MATERIAL ON BUILDING			
Orange/Brown Brick	4		Stone cill and arches
Buff Brick	4		Stone quoins to windows
Brick and Render			
Render	4		1 pebble dash (grey), 3 white
Stone			
ROOF MATERIALS			
Thatch			
Clay Tile	8		4 plaintile, 8 pantile
Slate Tile			
WINDOWS			
Bay	4		Ground floor
Dorma			
VELUX			
PROJECTING GABLES			None
GABLE END TO HIGHWAY	2		
DOORS AND PORCHES	6		Varied styles
SEPARATION (Between building frontages)	30-36m		OS/Suburban typology opposite
SOFT LANDSCAPE			



Kempston High Street A



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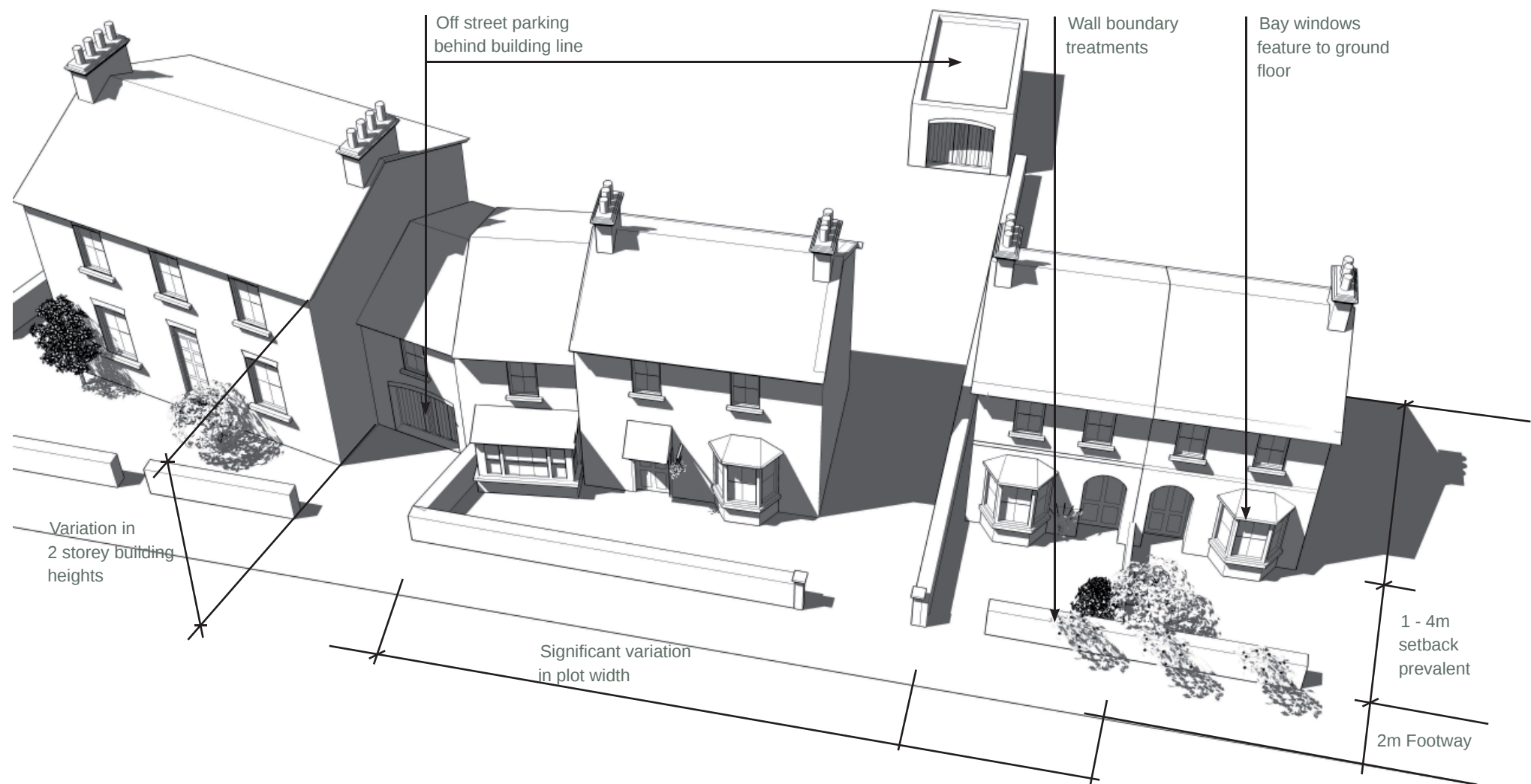


Parameter	No.		Notes
DENSITY (no dwellings in 0.39ha sample)	12 (35dph)		
BUILDING TYPE			
Detached	6		
Semi-detached	2		
Terraced	4		
PLOT WIDTH	6-19m		
HEIGHT			
1 Storey	1		Detached bungalow
1.5 Storey			
2 Storey	11		
2.5 Storey			
SET BACK (front gardens)	0.5-15m		0.5-4m (7); 4+m (4)
CARRIAGEWAY WIDTH	6.5-7m		
FOOTWAYS	2m		Consistent width
CYCLEWAYS			None
KERBS			Standard highway
SURFACES			Blacktop to pavement and road
FRONTAGE ACCESS	6		
PARKING			
On street			
Off street (garage)	4		
Forecourt	3		
Courtyard			
ENCLOSURE			
Fence	3		1 metre high timber
Wall	7		5 with 1.5 stone walls with occ brick piers

Parameter	No.	%	Notes
Hedge/Wall	1		1m high red brick
Open			
Railings/Wall			
Hedge/Fence			
Hedge			
Building on edge of Public Realm			
DOMINANT MATERIAL ON BUILDING			
Orange/Brown Brick	4		Stone cill and arches
Buff Brick	4		Stone quoins to windows
Brick and Render			
Render	4		1 pebble dash (grey), 3 white
Stone			
ROOF MATERIALS			
Thatch			
Clay Tile	8		4 plaintile, 8 pantile
Slate Tile			
WINDOWS			
Bay	4		Ground floor
Dorma			
VELUX			
PROJECTING GABLES			None
GABLE END TO HIGHWAY	2		
DOORS AND PORCHES	6		Varied styles
SEPARATION (Between building frontages)	30-36m		OS/Suburban typology opposite
SOFT LANDSCAPE			



Kempston High Street B



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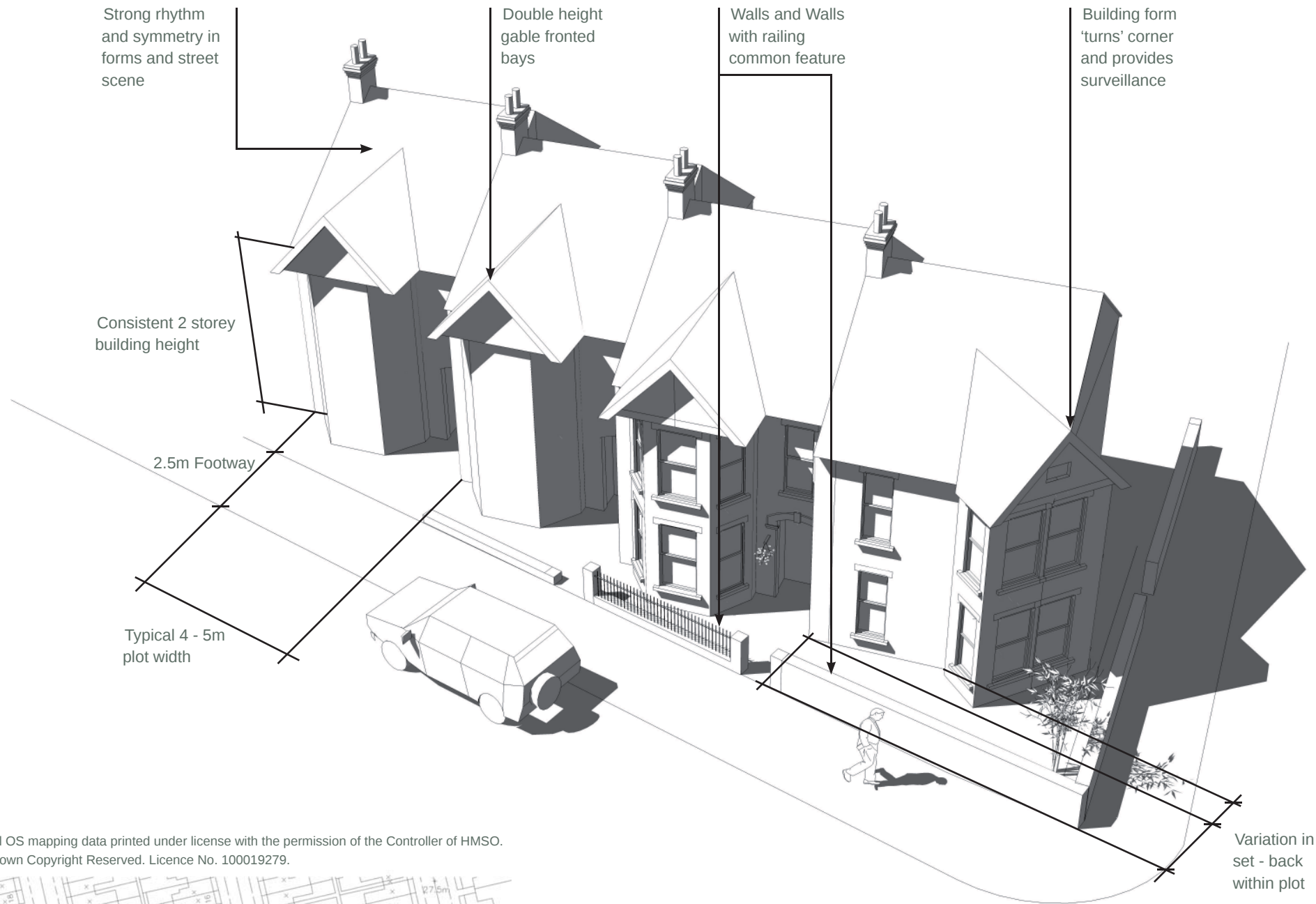


Parameter	No.	%	Notes
DENSITY (no dwellings in 0.33ha sample)	14 (42dph)		
BUILDING TYPE			
Detached			
Semi-detached	8		
Terraced	6		
PLOT WIDTH	4.5-12m		4.5-6m (13)
HEIGHT			
1 Storey			
1.5 Storey			
2 Storey	14		Typically common height to eaves and ridge
2.5 Storey			
SET BACK (front gardens)	2-3.5m		At closest point (frontages at angle to road.
CARRIAGEWAY WIDTH	7m		Consistent width
FOOTWAYS	2.5m		Consistent width
CYCLEWAYS			None
KERBS			Original wide granite kerb with low upstand
SURFACES			Paving slabs to pavement. Granite sett
			Detail to gutter and blacktop to road.
FRONTAGE ACCESS			Yes
PARKING			
On street	13		
Off street (garage)	1		Garage off side street at back of plot
Forecourt			
Courtyard			
ENCLOSURE			
Fence			
Wall	10		Typically 1 metre high

Parameter	No.	%	Notes
Hedge/Wall	1		
Open			
Railings/Wall	2		
Hedge/Fence			
Hedge	1		2 metre box
Building on edge of Public Realm			
DOMINANT MATERIAL ON BUILDING			
Orange/Brown Brick	13		White painted surrounds to bays and arches a consistent feature
Soft Red/Pink Brick			
Brick and Render	1		Render to left side
Render			
Stone			
ROOF MATERIALS			
Thatch			
Clay Tile	14		3 Plaintile; 11 pantile (square profile)
Slate Tile			
WINDOWS			
Bay	13		10 double heights bays as part of projecting gable, 2 square and 1 occular bay turning corner
Dorma			
VELUX			
PROJECTING GABLES	13		
GABLE END TO HIGHWAY			
DOORS AND PORCHES			13 recessed within curved arch porch
SEPARATION (Between building frontages)	13-16m		Distance to park edge
SOFT LANDSCAPE			Small ornamental tree planting feature within front garden



Russell Avenue



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Parameter	No.	%	Notes
DENSITY (no dwellings in 0.31ha sample)	10 (32dph)		
BUILDING TYPE			
Detached			
Semi-detached	10		
Terraced			
PLOT WIDTH	6-17m		6-9m (8); 9+m (2)
HEIGHT			
1 Storey			
1.5 Storey			
2 Storey	9		
2.5 Storey	1		
SET BACK (front gardens)	2-3m		3m (8); 2m (2)
CARRIAGEWAY WIDTH	6.5m		Consistent width
FOOTWAYS	2.5m		Consistent width
CYCLEWAYS			None
KERBS			Original wide granite kerb
SURFACES			Paving slabs to pavement, granite
			sett detail to gutter and blacktop to road
FRONTAGE ACCESS			Yes
PARKING			
On street	7		
Off street (garage)	3		Single garages on plot. 2 accessed from parallel street behind with 1 off road space with each
Forecourt			
Courtyard			
ENCLOSURE			
Fence			
Wall	1		

Parameter	No.	%	Notes
Hedge/Wall	8		Hedges and walls vary in height. Hedges range 1-2m, walls range 0.2-1m
Open	1		
Railings/Wall			
Hedge/Fence			
Hedge			
Building on edge of Public Realm			
DOMINANT MATERIAL ON BUILDING			
Orange/Brown Brick	10		8 have render treatment as part of the composition (3 grey, 4 buff, 1 white)
Soft Red/Pink Brick			
Brick and Render			
Render			
Stone			
ROOF MATERIALS			
Thatch			
Clay Tile	10		7 plain tile, 3 pantile
Slate Tile			
WINDOWS			
Bay	10		3 double height square bay within gable
Dorma			5 double height half hexagonal bay within gable
VELUX	1		
PROJECTING GABLES	7		
GABLE END TO HIGHWAY			
DOORS AND PORCHES			7 doors recessed within entrance arch
SEPARATION (Between building frontages)	15-17m		15m to park boundary (8)
SOFT LANDSCAPE			



Shaftesbury Avenue

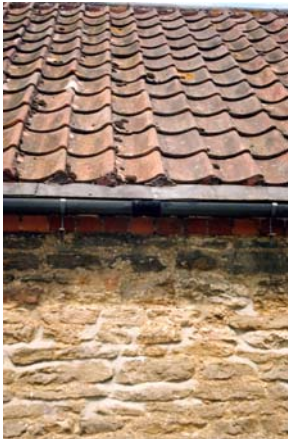


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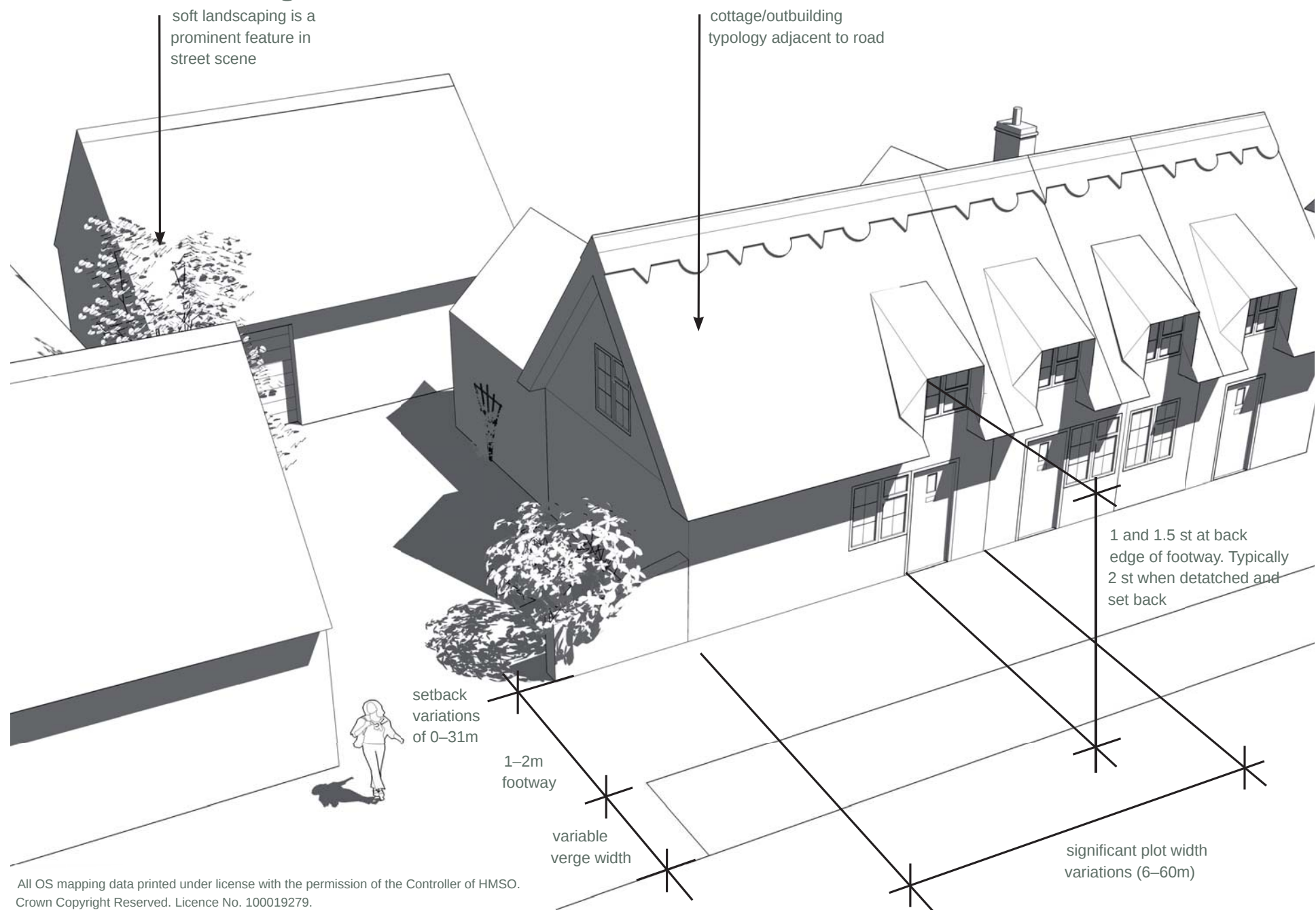


Parameter	No.	%	Notes
DENSITY (no dwellings in 1ha sample)	19		
BUILDING TYPE			
Detached	6		
Semi-detached	5		
Terraced	8		
PLOT WIDTH	6-60m		5-7m (6), 12-22m (12), 35-60m (1)
HEIGHT			
1 Storey	2		One dwelling combines 2 st and 1st parts and another combines 2.5 and 1 storey
1.5 Storey	8		
2 Storey	6		
2.5 Storey	1		
SET BACK (front gardens)	1-31m		None (8), 1-3m (2), 8-15 (7), 16-31m (2)
CARRIAGEWAY WIDTH	5.5-6.5m		Widened in places for parking bays
FOOTWAYS	1-2m		One side of road
CYCLEWAYS			None
KERBS			Raised kerb or no kerb
SURFACES			Blacktop paths, granite or conservation kerbs, bitmac road, gravel/granite drive
FRONTAGE ACCESS	14		Some parking accessed from side lane
PARKING			
On street	1		Where there are garages there is space to park in driveway too. Garages to terraces often grouped behind. 2 on-street bays by terraces
Off street (garage)	11		
Forecourt	7		
Courtyard			
ENCLOSURE			
Fence			
Wall	3		Limestone and approx 80cm high

Parameter	No.	%	Notes
Hedge/Wall	3		1 low brick, 1 low and 1 high limestone
Open			
Railings/Wall			
Hedge/Fence			
Hedge	7		
Building on edge of Public Realm	6		1 with 1m gravel privacy strip
DOMINANT MATERIAL ON BUILDING			
Orange/Brown Brick	1		2 have limestone and brick, with each material on a separate part of the building Render is mustard, terracotta red and white Brick always with tile. Render commonly with thatch, but also some tile. Stone commonly with tile, but some thatch
Buff Brick	2		
Brick and Render	2		
Render	9		
Stone	3		
ROOF MATERIALS			
Thatch	10		1 thatch and clay tile. 1 thatch has a clay
Clay Tile	8		tile porch, 1 thatch has a slate tile porch.
Slate Tile			Pitches 45-50 degrees. Thatch always 50 degrees
WINDOWS			
Bay			
Dorma	5		
VELUX	1		
PROJECTING GABLES	4		
GABLE END TO HIGHWAY	2		
DOORS AND PORCHES	6		7 porches, others recessed or flush
SEPARATION (Between building frontages)	22-40m		4:1 to 7:1for sample area
SOFT LANDSCAPE			Grass verge to one or both sides. Where verge and pavement combine the grass is adjacent to the road and pavement by building



Biddenham Village



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Parameter	No.	%	Notes
DENSITY (no dwellings in 0.48ha sample)	16+3* (40dph)		Including significant undeveloped landholdings To rear of properties
BUILDING TYPE			
Detached			
Semi-detached			
Terraced	16		Carriageway arches (4) are a commonfeature of street scene
PLOT WIDTH	5-12m		5-8m (4), 9-12m (12)
HEIGHT			
1 Storey			
1.5 Storey			
2 Storey	1		
2.5 Storey	9		
3 Storey	5		
4 Storey	1		
SET BACK (front gardens)	1-5m		With the exception of 3 properties, set backs only defined by cobbles and occasionally granite slabs
CARRIAGEWAY WIDTH	8.0-11.0m		Wide carriageway facilitates on street parking on one side only
FOOTWAYS	2m		Both sides. Consistent width
CYCLEWAYS			None
KERBS			Raised kerb
SURFACES			Stone block kerbs, bitmac road and blacktop to paths
FRONTAGE ACCESS			Limited frontage access. Where this occurs, typically provides access to courtyard parking
PARKING			
On street	6		On street parking commonplace
Off street (garage)	2		1 through carriageway arch
Forecourt			Courtyard parking provision for 5 properties identified. Restricted public
Courtyard	7		Accessed through carriageway arch
ENCLOSURE			
Fence			
Wall			

Parameter	No.	%	Notes
Hedge/Wall			
Open			
Railings/Wall	3		1-1.5m black painted
Hedge/Fence			
Hedge			
Building on edge of Public Realm	15		Typically no privacy strip or equivalent
DOMINANT MATERIAL ON BUILDING			
Gault Brick	2		
Soft Red Brick	13		1 painted white
Brick and Render			
Render	1		1 painted cream
Stone			
ROOF MATERIALS			
Thatch			
Clay Tile	9		9 plaintile
Slate Tile	7		
WINDOWS			
Bay			
Dorma	9		6 flat roofed. 3 hipped
VELUX			
PROJECTING GABLES			1 half hipped gable
GABLE END TO HIGHWAY			
DOORS AND PORCHES			
SEPARATION (Between building frontages)	7-21m		
SOFT LANDSCAPE			
* 3 properties within Rawlings Court could not be assessed from public realm			
Note: 6 units have non residential uses to ground floor			



Woburn High Street



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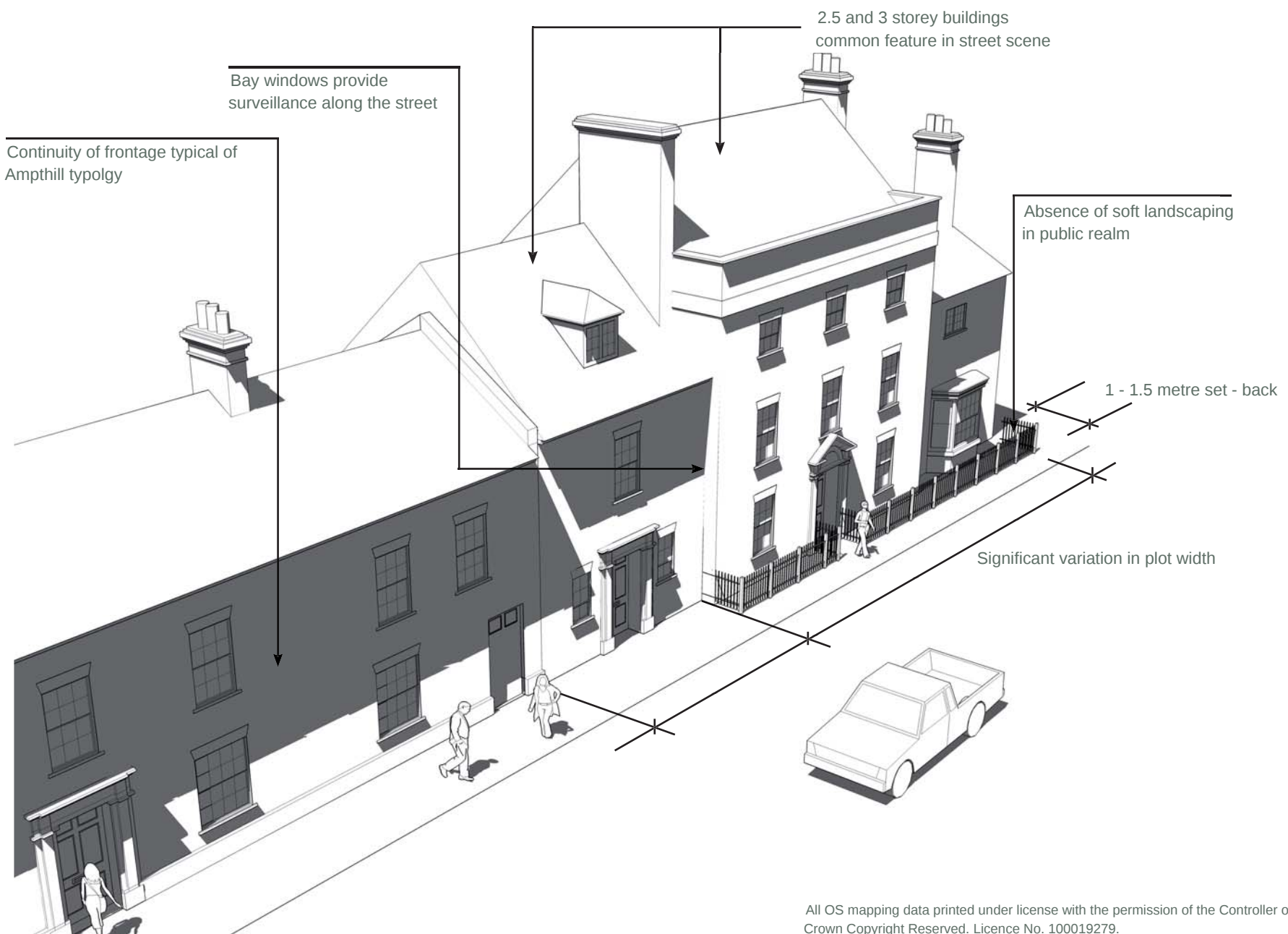
Consistent 2 metre footway.
Semi private curtilage to dwellings varies in width and denoted by change in surface material.

Parameter	No.	%	Notes
DENSITY (no dwellings in 1.09ha sample)	18 (18dph)		Including significant undeveloped landholdings to rear of properties
BUILDING TYPE			
Detached			
Semi-detached			
Terraced	18		Including end of terrace and properties linked by virtue of carriageway arches (2)
PLOT WIDTH	6-17m		6-9m (6), 10-17m (12)
HEIGHT			
1 Storey			
1.5 Storey	2		
2 Storey	9		Significant variation in ridge height due, in part, to topographical variations
2.5 Storey	2		
3 Storey	5		Three of the 3 storey units are within one building
SET BACK (front gardens)	1-1.5m		None (15), 1-1.5m (3)
CARRIAGEWAY WIDTH	4.0-8.0m		Subtle variations in width facilitate ‘on-line’ bus stop
FOOTWAYS	1-4m		Both sides with varying width
CYCLEWAYS			None
KERBS			Raised kerb
SURFACES			Stone and replacement granite kerbs, bitmac road and bound aggregate to paths
FRONTAGE ACCESS	5		Limited frontage access. Where this occurs, typically provides access to courtyard parking
PARKING			
On street			On street parking prohibited
Off street (garage)			
Forecourt			Courtyard parking provision for 5 properties identified. Restricted public access to rear prevents certainty, but OS plan suggests this could be significantly higher.
Courtyard	5		
ENCLOSURE			
Fence			
Wall			

Parameter	No.	%	Notes
Hedge/Wall			
Open			
Railings/Wall	3		1 set of railing set directly into ground
Hedge/Fence			
Hedge			
Building on edge of Public Realm	15		Typically no privacy strip or equivalent
DOMINANT MATERIAL ON BUILDING			
Orange/Brown Brick	3		
Soft Red Brick	7		Including 1 with stone to ground floor and 1 with rendered addition
Brick and Render			
Render	7		Rendered facade often fronting timber and brick construction visible in gable
Stone			
ROOF MATERIALS			
Thatch			
Clay Tile	12		
Slate Tile	3		
WINDOWS			
Bay			
Dorma	4		
VELUX			
PROJECTING GABLES	1		Within part of 1.5 storey building
GABLE END TO HIGHWAY			
DOORS AND PORCHES			7 porches, others recessed or flush
SEPARATION (Between building frontages)	7-21m		
SOFT LANDSCAPE			Attractive but austere streetscape without any soft landscaping
Note: 12 of 18 units have non residential uses to ground floor			



Amphill - Dunstable Street

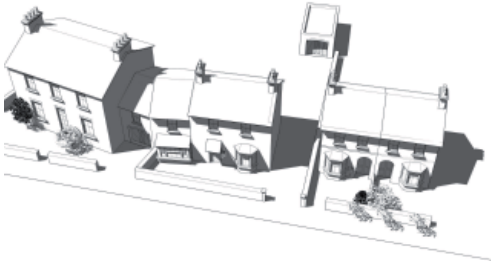


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Local Character Appraisal Summary

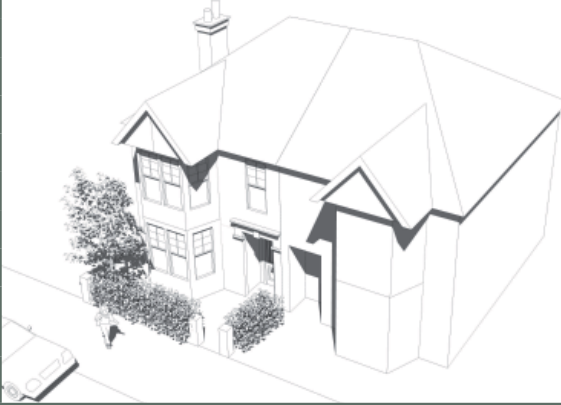
Kempston High Street A & B

Building Typology	Mix of Detached, Semi Detached, Terraced	
Building Height	1 to 2 Storey	
Use	Residential	
Frontage Type	Irregular and varied building line	
Set-back	Significant variation but typically facilitating small front gardens	
Plot Width	Significant variation	
Parking Form	Off street within garage or on forecourt	
Boundary Treatment	Strong definition of public realm, typically with wall or to a lesser extent wall with hedge or fence	
Walling Material	2/3 brick (split equally between buff and orange/brown) to 1/3 render (typically white)	
Roofing Material	Predominantly clay tile (orange/brown)	

Russell Avenue

Building Typology	Predominantly terraced with some semi detached	
Building Height	2 Storey	
Use	Residential	
Frontage Type	Strong parallel building line	
Set-back	Consistent set-back facilitating small front gardens	
Plot Width	Typically narrow plot width	
Parking Form	Predominantly on street with occasional off street within garage	
Boundary Treatment	Strong definition of public realm, typically with low wall or low wall with railings	
Walling Material	Orange/brown brick	
Roofing Material	Brown clay tile	

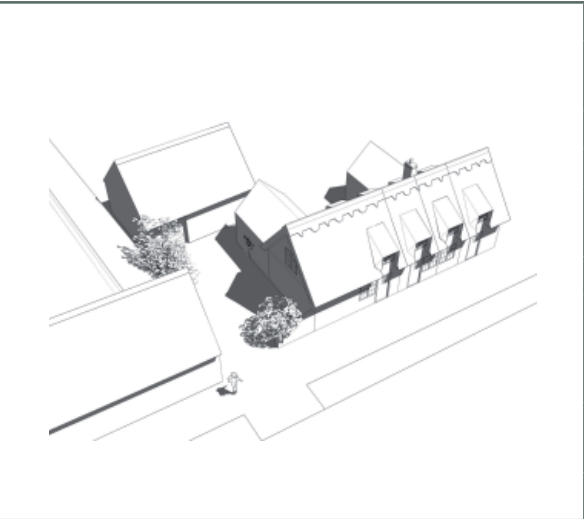
Shaftesbury Avenue

Building Typology	Predominantly semi detached, occasional detached	
Building Height	2 Storey	
Use	Residential	
Frontage Type	Consistent building line with gaps	
Set-back	Consistent set-back facilitating small front gardens	
Plot Width	Characterised by relatively wide frontages	
Parking Form	Predominantly on street with occasional off street within garage	
Boundary Treatment	Strong definition of public realm, typically with low wall and hedge	
Walling Material	Orange/brown brick but most have render treatments as part of the elevational composition	
Roofing Material	Brown clay tile	

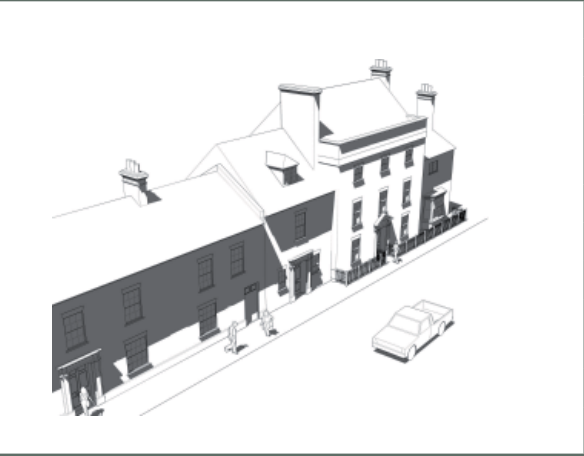
Woburn High Street

Building Typology	Terraced typology	
Building Height	Typically 2.5 and 3 storey	
Use	Residential, retail and office	
Frontage Type	Strong building line with non parallel frontages	
Set-back	Subtle variation in building setbacks, often small	
Plot Width	2/3 to 1/3 wide frontage to narrow frontage ratio	
Parking Form	Equal split between on street and courtyard parking provision	
Boundary Treatment	Often no vertical definition, but privacy strip defined by material change	
Walling Material	Red brick is the defining material	
Roofing Material	Equal split between clay tile and slate	

Biddenham Village

Building Typology	Equal split between detached, semi detached and terraced	
Building Height	Variation from 1 to 2.5 storeys but with 1.5 and 2 storey forming the greatest proportion	
Use	Residential	
Frontage Type	Irregular building line with gaps and occasional strong frontages	
Set-back	Significant variation in building setbacks, often varying between no setback and large front gardens	
Plot Width	Characterised by wide frontages	
Parking Form	Off street within garage and on forecourt	
Boundary Treatment	Strong definition of public realm. Hedges and to a lesser extent, hedges with wall prevailing	
Walling Material	Significant variation. Render and brick with render form the dominant part of the elevational composition	
Roofing Material	Typically clay tile and thatch with some slate	

Dunstable Street, Ampthill

Building Typology	Terraced typology	
Building Height	Mix of 2, 2.5 and 3 storey	
Use	Residential, retail and office	
Frontage Type	Strong building line with some parallel and some non parallel frontages	
Set-back	No set-back or small set-backs typical	
Plot Width	Mix of wide and narrow fronted plots	
Parking Form	Courtyard parking prevalent	
Boundary Treatment	Typically restricted to small privacy strip. Occasionally wall with railings	
Walling Material	Equal split between red brick and render (variable colouration)	
Roofing Material	Predominantly clay tile with some slate	

2.4 Master Plan

- 2.4.1
- Section 2.2 above identifies those development influences that have refined the Master Plan since the Development Brief was adopted and the Master Plan assessed by Chris Blandford Associates. However, the Master Plan concept and detail remains little changed, with the basic pattern of circulation, strategic open space, local centre location and development parcels all still closely resembling the early incarnations.
- 2.4.2
- Great Denham is a predominantly mixed use development with significant areas devoted to open space and to non residential uses within the Local Centre, including a Middle and a Lower School. Land is also provided for a Park and Ride site. Efficient use is made of the available land with densities ranging from 40 to 65 dwellings per hectare. Including the dwellings that will be provided within the Local Centre, up to 1507 dwellings will be provided at Great Denham. Densities will vary across the site and will be responsive to site factors such as prominent edges and public transport routes. Further information is provided in the Density Strategy in Section 2.6 of this document. A summary of the different land use components is set out below:

- Residential
- Middle School
- Lower School
- Local Centre (Non Residential uses)
- Play Facilities

Legend													
	Residential		Western Bypass		Lower School Reserve		Balancing Ponds		Proposed Footpath		Proposed Dedicated and Unsegregated Footpath/Cycleway Adjacent to Highway		Key Linkage Points to and from Open Space
	Local Centre		Bus Gates		Housing Reserve Site		Existing Footpath		Safe Route to School		Proposed Closure of Existing Public Rights of Way		NEAP
	Squares		Middle School		Open Space		Existing Footpath / Cycleway		Proposed Footpath / Cycleway		Replacement Footpath to Follow Street Layout		LEAP
	Main Street		Lower School		Formal Playing Pitches		Proposed Footpath /Cycleway Upgrade				National Cycle Network Route 51		



MASTER PLAN

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2.5Place Making (Character Areas)

- 2.5.1

The adopted Development Brief identifies a District Centre and three character areas within Great Denham – Semi Rural, Urban Character and Semi Formal. These related to the Country Park/Western Bypass edges, the central residential area and Golf Course edge areas respectively. The Refined Master Plan has embraced the opportunity arising from having undertaken a detailed appraisal of local character for this Guide (see Section 2.3) and amendments to the Master Plan itself to review the character areas. The aim of this exercise has been for the character areas to more closely relate to local references whilst reflecting the increased densities associated with the Government's policy agenda.
- 2.5.2

Four character areas have subsequently been identified which share many common elements with those in the adopted Brief. These are termed Golf Course Edge, Country Park Edge, Village Core and Village Edge and are identified on the Character Areas Plan opposite.
- 2.5.3

The primary differences are:

 - development adjacent to the Western Bypass (Village Edge) has been designated a character area in its own right. This is a reflection of the particular characteristics of this edge
 - The Village Core (formerly urban character) has been redrawn to include the Local Centre as the urban morphology and character share many similarities.
- 2.5.4

The following paragraphs provide guidance on the general principles that will guide each character area with reference to the Urban Design Compendium's 'Attributes of Place' headings. These general principles are translated into specific instructions in Part III (Section 3.6).





CHARACTER AREAS PLAN

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Great Denham Village Core

Positive and Negative Space - The street and perimeter block structure will provide clear definition between the public and private realm and, in conjunction with the existing and proposed landscape structure, positive enclosure of spaces.

Building Lines and Set-Backs - Subtle variation in building lines will be a feature of this character area. Smaller set-backs will typify the main movement routes around the mixed use and highest density areas, providing a strong interface with the public realm and clearly defining streets and spaces. Set-backs will increase along the Main Street as the development extends towards Queen's Park and southwards to the Ouse.

Enclosure - Building heights will have regard to street width and landscape structure to create varied spatial definition of spaces appropriate to the context within Great Denham. Primary routes will have a high degree of enclosure through built form.

Active Frontage - Careful articulation of building frontages will be designed to engender active streets, with doors and windows fronting onto these spaces. Features such as bays, balconies and porches will also be used to add interest and variety. Within the Local Centre in particular, the potential for uses to spill out onto the street will be encouraged.

Richness and Beauty - The proposals will provide a strong contextual response to the quality of the existing building and landscape structure of Bedford. Exemplar design using local building materials which respect the existing landscape and townscape morphology will deliver a rich and attractive urban form with a strong sense of local identity.

Building Height - The Village Core will have a range of building heights, varying from 2 to 3.5 storeys with the occasional 4 storey in landmark locations. An increasing proportion of 2.5 and 3 storey properties will address the primary streets to provide a high degree of enclosure and facilitate legibility.

Multi-Use Buildings - Buildings will be designed to have an inherent degree of flexibility to facilitate changes in residential requirements over the lifetime of the building and changes to different use as the need requires, including home working.

Distinctive Places - the approach that will underpin the proposals for Great Denham will be based on an inherent understanding and appreciation of the value of existing buildings and landscape structure found in the surrounding area to deliver a locally distinct development. Ampthill and Woburn references are key drivers of the distinctiveness conveyed by this character area.

Build in Safety - The street and perimeter block structure provides for natural surveillance of the public realm and works with the defensible space principle to foster a sense of ownership and pride. A safe and permeable network of pedestrian and cycle linkages minimises potential conflicts with other users. The potential ease of movement facilitated by the perimeter block structure will be tempered with the need for proposals to conform to the Bedfordshire Community Safety Design Guide.

Materials - The back-cloth to the Village Core materials palette will be red brick, orange brick, plain tile and imitation slate. These will be prevalent in increasing proportions the closer the proximity of development to the Local Centre. Conversely, the closer development is to the edges of this character area, the greater the proportion of other materials in the street scene, particularly render and brick of different hues. Stone may be appropriate on landmark buildings.

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Specific instructions guiding the character of the Village Core are contained in Sections 3.3 and 3.6

Country Park Edge

Positive and Negative Space - The interface between the new development and the Country Park will be one of the defining features of Great Denham. The street and perimeter block structure will positively address this important area of open space. A clear distinction between public and private realm will be delivered within a framework that facilitates a 'soft' design response to this edge.

Building Lines and Set-Backs - Variation will occur between building lines and set-backs within this character area, reflecting the distinctive morphology of Biddenham Village to the north. Careful articulation of the streetscene will balance the occasional key building(s) at the back edge of the footway with set-backs to facilitate a good proportion of soft landscaping within the development envelope.

Enclosure - The Country Park represents the most significant area of open space within the line of the new Western Bypass and, as such, will incorporate a variety of formal and informal uses and different landscape treatments. In this context, the built form will not define or enclose the space in the way that buildings elsewhere will define streets and squares but provide a positive and subtle edge to the Country Park.

Active Frontage - The Country Park Edge will be one of the least trafficked areas within Great Denham but potentially one of the most active given the routing of the Sustrans National Cycle Network through the Park and the opportunities for informal and formal play. The buildings fronting onto this space have a key role to play in providing natural surveillance and informal policing of this space. As such, vehicular access to properties should generally be from the park edge and doors and windows should front this space.

Richness and Beauty - The interest of this character area will stem in large part from the relationship between the built form and the open space which it addresses. The landscape structure associated with the River Ouse and Biddenham Village will provide cues for a strong contextual response. Exemplar design using local building materials which respect the local vernacular will deliver a rich and attractive urban form with a strong sense of local identity.

Building Height - Building heights within this character area will range from 2 to 2.5 storeys with the occasional 3 storey landmark and will have a variety of depth profiles. This variation is a key component in delivering a mixed and attractive response to context. Consistent ridge lines along the Country Park Edge should be avoided.

Multi-Use Buildings - Variety in building heights, depths and sizes will provide a mix of buildings that are able to adapt over time and serve a number of different uses.

Distinctive Places - The Country Park, enclosed by the River Great Ouse to the south and east, provides a unique setting for the development at Great Denham. It is crucial that the development within this character area and fronting this edge fully embraces and contributes to this sense of place. A best practice design response that considers the qualities and functions of the Country Park and development parcels as an entity, together with an understanding of the local character of Biddenham Village will deliver a distinct place.

Build in Safety - Building orientation and window openings will be designed to maximise surveillance of the public realm. The urban form and materials will be used to reinforce messages about public realm and private space. The public realm will give priority to pedestrians without undue separation.

Materials - The Country Park Edge will display the greatest range of materials within Great Denham, drawing upon the variety found in the village to the north. Street elevations will have an organic character, imparted, by a mix of brick, render and timber.

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Specific instructions guiding the character of the Country Park Edge are contained in Sections 3.3 and 3.6

Golf Course Edge

Positive and Negative Space - In accordance with best practice, a street and perimeter block structure has been developed that provides a positive interface with the strong landscape structure associated with the Golf Course to the north.

Building Lines and Set-Backs - Consistency in building line will be a strong feature of the character area. A 2-3 metre set back will provide space for small front gardens and soft landscape elements between detached and semi detached forms fronting the Golf Course. Occasionally, localised variation in the set-back may occur between 0.5 and 5.0m for specific design reasons, such as the closure of vistas.

Enclosure - The primary edge to this character area will have a distinct spatial quality. The Golf Course has an open, soft landscape quality. Planting associated with this facility has yet to mature. Development on this edge will primarily reinforce enclosure through augmentation of the existing landscape structure.

Active Frontage - Careful articulation of building frontages will engender active streets, with doors and windows fronting onto the public realm. Adjacent to the Golf Course, on plot parking will be accessed from the street to contribute to this aim.

Richness and Beauty - The Golf Course Edge character area will have a distinct and legible identity which draws inspiration from the urban form of Shaftesbury Avenue. The beauty of this reference is the simple rhythm and pattern produced by a consistent application of solid to void with richness and interest found in the detailing.

Building Height - A consistent 2 to 2.5 storey building height will be a defining feature of the frontage addressing the Golf Course.

Multi-Use Buildings - A mix of buildings will be provided that allows for adaption over time and different room functions. In particular they will be designed to have an inherent degree of flexibility.

Distinctive Places - The settlement form of the Golf Course Edge will be distinct, responding to the landscape structure to the north and drawing inspiration from the local character reference of Shaftesbury Avenue.

Build in Safety - The street and perimeter block structure provides for natural surveillance of the public realm. Building treatments will contribute to clear distinctions between public and private realm. With the exception of open spaces, pedestrian and cycle paths will not be separated from vehicular traffic routes to maximise opportunities for surveillance and activity.

Materials – In common with Village Edge, consistency of materials between individual buildings will be a key component in creating a distinct character to this part of the development. Red brick and orange brick to the façade and plain tiles to the roof will be the primary building materials, with timber, hung tiles and render all appropriate at the first floor level.

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Specific instructions guiding the character of the Golf Course Edge are contained in Sections 3.3 and 3.6

Biddenham Edge

Positive and Negative Space – In common with the rest of Great Denham, the street and perimeter block structure will provide clear definition between the public and private realm. This attribute is particularly important at Biddenham Edge, however, with a positive relationship to the Bypass, the vehicular gateway to the south and the existing development at Great Denham a prerequisite for successful integration. Typically dwellings will face the Bypass but some side on and backing on elements may be appropriate to add interest and variety.

Building Lines and Set-Backs – Consistent building lines and set-backs will typify the predominantly formal design response at Biddenham Edge. Modest front gardens with a high degree of enclosure to distinguish between public and private space will prevail.

Enclosure – Streets will be well defined through strong boundary treatments as set out above and reinforced by consistent building lines and heights. Frontages will be continuous to key spaces and movement routes.

Active Frontage – Buildings will be carefully articulated to maximise activity on streets. Primary entrances and habitable rooms will front onto these routes and spaces. Parking provision will contribute to an active public realm by provision being made on the street or from the street to which the built form relates.

Richness and Beauty – Open spaces make a strong contribution to the character of Biddenham Edge. The urban typology will provide a strong contextual response to the interface commonly found between built form and open space in Bedford. The typologies richness will be derived from consistency of form and rhythm with interest and variety derived from subtle changes in materials and detailing.

Building Height – Biddenham Edge will have a high proportion of 2 and 2.5 storey buildings with judicious use of 3 storey buildings to enclose key spaces and at landmark locations. Buildings fronting the Bypass will be restricted to a maximum of 2.5 storeys.

Multi-Use Buildings - Buildings will be designed to have an inherent degree of flexibility to facilitate changes in residential requirements over the lifetime of the building and changes to different uses as the need requires, including home working.

Distinctive Places – The relationship between the Russell Avenue and Shaftesbury Avenue character reference to open space and their strong street and building typologies will be the inspiration for the Biddenham Edge character area. These references will engender a distinct urban form in the context of development at Great Denham whilst clearly displaying a strong Bedford influence.

Build in Safety - The street and perimeter block structure provides for natural surveillance of the public realm and works with the defensible space principle to foster a sense of ownership and pride. A safe and permeable network of pedestrian and cycle linkages minimises potential conflicts with other users. The potential ease of movement facilitated by the perimeter block structure will be tempered with the need for proposals to conform with the Bedfordshire Community Safety Design Guide.

Materials – A common and simple palette of facing and roofing materials will be much in evidence at Biddenham Edge. Red brick, orange brick and plain tiles will prevail and contribute to a distinctive identity. Timber, stucco and white painted stone or concrete can be incidental elements in the façade.

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Specific instructions guiding the character of Biddenham Edge are contained in Sections 3.3 and 3.6

2.6Density Strategy

2.6.1 PPS1 and PPS3 support making more efficient use of land through higher density development. The proposals for Great Denham embrace this approach whilst sensitively responding to the immediate and wider context. The general approach will be for higher density development in and around the mixed use Local Centre and along the primary routes with lower density development at the periphery, particularly to the Golf Course to the north and the Country Park to the south and east adjacent to the River Ouse. The consent permits up to 1507 units at Great Denham at an average density of 44.97 dph.

- 2.6.2 The following benefits stem from this approach:
- A range of different housing opportunities can be incorporated within the site aiding the development of a sustainable and balanced community
 - Lower densities at the periphery allow the strong landscape structure to become an increasingly prominent element in the development envelope facilitating a gradual and sensitive transition to the rural edge
 - A varied density profile helps facilitate an interesting and creative response to the site consistent with developments of the highest standards
 - Higher densities associated with the Village Core improves access to community and other facilities, supports public transport and, in conjunction with height and massing of buildings, provides a distinctive and legible focus to the site.

Character Area: Great Denham Village Core

2.6.3 The Village Core will range in density from 55 to 65 dwellings per hectare. It will respond to the central location of this character area within Great Denham and the confluence of key movement corridors around the Local Centre. Densities at the higher end of this range in particular will be focused along the public transport route and within the Local Centre. Densities at the lower end of this range will help provide a transition to the adjacent lower density character areas.

Character Area: Golf Course

2.6.4 The Golf Course character area is strongly influenced by character references from Bedford. As such there will be a simple mix of building typologies, with formally arranged detached and semi detached forms fronting the Golf Course edge. The density of this character area will be 40 dwellings per hectare and respond to the character of this distinct edge.

Character Area: Country Park

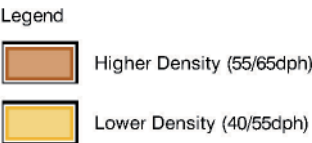
2.6.5 Densities in this character area will respond to the informal and soft landscape dominated character of the Country Park and the strong references provided by Biddenham Village to the north. Building typologies and layouts will seek to reflect the positive transition between rural and urban edges at this point within an overall density spectrum of 40 to 50 dwellings per hectare.

Character Area: Biddenham Edge

2.6.6 Biddenham Edge will have a density ranging from 40 to 50 dwellings per hectare. This will reflect the distinctive formal typology of Bedford and facilitate the provision of a range of housing opportunities. The density profile will increase towards the centre of the development and drop towards the bypass to help avoid a hard edge.

Design Quality

2.6.7 Density standards should not be achieved at the expense of garden sizes or general residential amenity. If development proposals do not comply with these requirements, the applicant should seek to adjust the size and composition of the housing units in their parcels.





DENSITY PLAN

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2.7 Movement Strategy

2.7.1 Part I of this document reaffirms that ease of movement to and through a place is central to good urban design. The development of streets that give priority to pedestrians, cyclists and public transport is to be guided with reference to four key objectives, including: a cohesive network of streets; connectivity into the existing rights of way network; that routes are connected, comfortable, convenient, convivial and conspicuous and; that streets are designed as an integral part of the design approach.

2.7.2 The Movement Strategy builds upon these objectives:

Access Points

2.7.3 Three points of vehicular access are identified on the Movement Plan. These will link Great Denham with the new and existing infrastructure to the west of Bedford. The points of access are as follows:

- a primary access will be from the new Western Bypass to the north west via an existing spur (Green Keepers Road and Kingswood Way) that currently serves the existing enclave and the medical facility
- a second primary point of access is also from the Western Bypass (Junction 3) to the south of the proposed built up area
- a third secondary access for public transport, cycle and pedestrian access only is provided to the east linking the development with Queen’s Park.

2.7.4 These points of access have been dictated by the existing infrastructure provision, detailed design of the Western Bypass and the need for connectivity with the surrounding area. Pedestrian, cycle and bus routes form an integral part of these access points.

Access Equality

2.7.5 In keeping with best practice advice and ‘Planning for Access and Disabled People’ (ODPM 2003) the benefits of an inclusive design will be embraced in the Great Denham proposals. The approach will be to remove barriers that create undue separation or special treatment and enables everyone to participate equally in mainstream activities independently with choice and dignity. Although the principles of inclusive design have emerged from the disability movement, inclusive design is relevant to all members of society, including disabled people, older people, children and carers of young children. The design of the Great Denham proposals will respect the fundamentals of inclusive design. This approach will ensure:

- Accessible thresholds are applied to buildings in accordance with Part M of the building regulations
- Steeply sloping housing plots will be avoided so that all dwellings will have accessible entrances in accordance with building regulations
- Gradients will typically be at a maximum of 1 in 20 and no steeper than 1 in 12 for short stretches
- Good accessible public transport will be provided and dwellings will be within 400 metres of a bus stop
- Level pedestrian crossings will be provided at key locations throughout the development
- Footpaths and bridleways will be suitable for disabled people, wherever possible
- The inclusive approach to design will be carried forward through to reserved matters submissions
- All new bus stops will be designed with an appropriate length of high kerb or ‘docking’ kerbing to facilitate disabled access, and have dropped kerb crossing facilities with tactile paving
- Wider footways will be provided at bus stop locations to facilitate waiting and shelters at key stops.

Walking and Cycling

2.7.6 A key component of the sustainable ethos that underpins the development at Great Denham is the ability for walking and cycling to be an attractive alternative to the private motor vehicle. The Great Denham site benefits from a strong, mature and high quality existing landscape structure associated with the River Ouse. Retention of this structure with the existing network of routes north to Biddenham Village and east to Queen’s Park provides a pedestrian movement network that reinforces sense of place and local identity. This will be supplemented by a new network of routes, including connections to existing public footpaths, linkages to the National Cycle Network Route 51 and Safer Routes to School for children and parents. The mixed use components associated with the Local Centre will provide walkable neighbourhoods, reinforcing the sense of community and discouraging car use.

The existing footpath which is aligned on a broadly north/south axis between the River Ouse to the south and the Golf Course to the north will be kept on its present alignment through the Country Park either by moving the balancing features shown on the Master Plan or by provision of a boardwalk or similar feature to facilitate safe passage across these depressions.

Safer Routes to School

2.7.7 Within Great Denham, Safer Routes to School will be provided by a network of safe, direct and convenient footpaths and crossing points. These will accord with the principles of the Community Safety Design Guide as set out within Section 1.7 of this document. Beyond the site, this will include the provision of lighting to the existing footpath linking Ford End Road to Biddenham Upper School. A commuted sum has been identified for the temporary busing of children to St James (Biddenham) Lower School.

Legend



Proposed Bus Route



400m Walking Distance



Proposed Bus Stop



Bus Gates



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Public Transport

2.7.8 PPG13 requires that in order to maximise the potential for public transport usage, high quality, safe, secure and reliable network of routes are established that match the pattern of travel demand. The approach to the provision of public transport at Great Denham has been developed to accord with this advice and reflects the provisions of the adopted Development Brief. It provides a viable and attractive alternative mode of transport for the new community, extending and enhancing the existing services for people working and living in the locality with bus priority measures and bus gates to facilitate this. A priority bus route will link the Park and Ride site north of the existing residential enclave to the town centre via Queen's Park to the east along one of the principal streets. The introduction of this service will occur early in the build out of Great Denham. A bus route will also extend from Junction 3 of the Western Bypass through the Local Centre to the town centre via Queen's Park. The implementation of services along this route will be governed by the phasing of the development and discussions with bus operators. Bus stops will be located at regular intervals along this route to ensure easy access to these services.

Street Hierarchy

2.7.9 Delivering a development of the highest environmental quality at Great Denham requires a sensitive and sustainable approach to the design of the street hierarchy. The access and circulation proposals have responded to the structure set out in the Development Brief to develop an integrated movement network. This respects existing constraints and desire lines to provide a movement pattern that is locally distinct.

Main Street

2.7.10 The Main Street is the primary pedestrian, cyclist and vehicular movement route through the development, linking each of the character areas and the Local Centre. The Main Street will carry the bus route from the Western Bypass to Queen's Park providing a bus stop every 300 to 400m. The location of the bus stops have been chosen to locate all development within 400m of a bus stop.

Side Streets

2.7.11 Side Streets will link the residential parcels to the Main Street and provide a secondary level of movement around the site. Side Streets will often be aligned with strategic pedestrian and cycle routes through Great Denham to ensure that cycle and footways are not unduly separated from vehicular traffic in accordance with the Bedfordshire Community Safety Design Guide.

Lanes

2.7.12 Lanes will typically provide an interface between the development parcels and adjacent open space. Lanes will be single sided adoptable roads that allow for direct access to plots fronting onto areas such as the Golf Course Edge and Country Park.

Private Drives

2.7.13 Private Drives will form an extension of Lanes within Great Denham. These non adoptable movement routes will be typically no longer than 40 metres from an adoptable highway to ensure that all properties are within a distance that allows for waste and recycling collections.

Mews and Courtyards

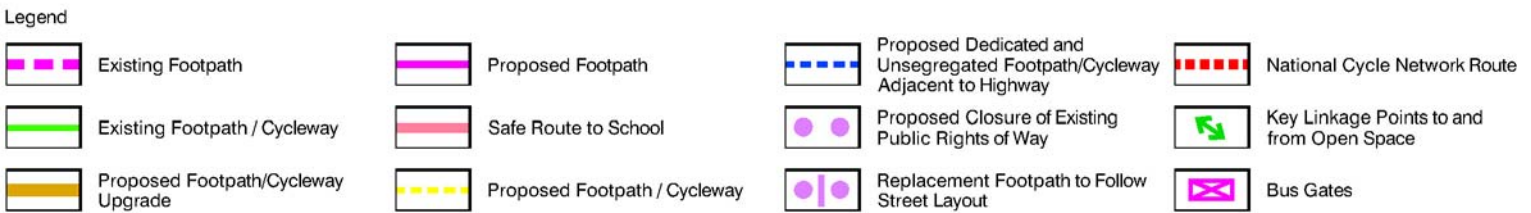
2.7.14 Mews and courtyards will be located within perimeter blocks and will provide small shared surface spaces for pedestrians and vehicles. Natural surveillance from adjacent properties and restriction of vehicle numbers is a key component of their successful function.

Quiet Streets

2.7.15 Opportunities will exist for Quiet Street principles to be applied within each of the character areas. Quiet Streets will significantly alter the perception and function of the street. Streets will become a valued public space for social interaction and play, fostering a sense of community. Landscaping will play a key role within the street and help to incorporate limited on street parking in a discrete way.

Open Space

2.7.16 The pedestrian and cycle linkage points from the housing parcels into the country park and areas of structural landscaping shall be restricted in the interests of community safety and residential amenity.





PEDESTRIAN AND CYCLE MOVEMENT PLAN

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2.8Legibility Strategy

- 2.8.1
- By Design identifies legibility as one of the seven objectives of urban design. Legibility provides recognisable routes, intersections and landmarks that help people navigate their way around a place. This can make an important contribution to the attractiveness, safety and quality of an environment and a sustainable community.
- 2.8.2
- The following principles will help shape a legible environment:
- enhance existing views and vistas and establish new
 - views will focus on important routes, buildings and landscape features
 - public realm detailing should reinforce sense of place and reflect function
 - concentrate the most active uses on main routes and at focal points to engender vitality in the public realm
 - civic and community buildings will be located around public spaces
 - that the function of the building is easily identifiable
 - landmark buildings that are differentiated from their surroundings by virtue of their height, detailing or materials, particularly on corner plots
 - use locally distinctive materials and details
 - provide a richness of detail at the ground floor level
 - judicious use of public art (a commuted sum only will be provided by the developer).

Key Edges

Great Denham has three sensitive edges – Golf Course, Country Park and Village Edge. The landscape and physical character of each of these edges is distinct. It is important that the proposed development fronting these edges is responsive to this character and reinforces sense of place (see Section 2.5)

Significant Movement Routes

The Master Plan for Great Denham has been designed to provide a permeable and integrated network of routes that link with existing and proposed movement corridors. The distinctiveness and identity of these routes is key to their attractiveness, utilisation and safety.

Key Nodes

The public realm nodes within the development will be primarily focused on the alignment of the Main Street, particularly where this intersects with other significant movement routes and the Local Centre. In these locations, nodes will be differentiated by virtue of the adjacent urban form, typically opening out to form a square or public space that has a static element in contrast to the dynamic quality of the adjacent streets.

Gateways

Three main gateways points occur within Great Denham. Two relate to points of access from the Western Bypass and the third (bus and pedestrian only) from Queen’s Park to the east. In part, these gateways will be obvious as they occur at the transition between open space and the built up area. However, for these key points to be legible and distinct, the built form should be designed in conjunction with the surrounding public realm and landscape infrastructure. Particular consideration should also be given to the use of landmark features (see below) in gateway compositions.

Landmark Features

Landmark features may constitute buildings or landscape elements. These will typically be located at prominent points within the development to close vistas or provide a distinctive point of reference. Landmark features will frequently coincide with nodes and gateways as a means of reinforcing legibility.

‘a place that has a clear image and is easy to move through’. (By Design. 2000.)

Legend



Key Movement Routes



Gateways



Landmarks



Nodes



Key Edges



LEGIBILITY PLAN

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2.9Open Space Strategy

Biddenham Edge and Biddenham Gateway

- 2.9.1
- For the most part, the open space that defines the edge of the development with the Bypass to the west will fall within highway land and lies beyond the extent of the area covered by this Guide. The way in which the built development will respond to this proposed landscape structure (as part of the Bypass works) is set out in Section 2.5. Notwithstanding this, there will be some variation in the built form alignment along this edge. Where this occurs, the strategy is for these incidental areas of open space to provide a subtle continuation of the approach set out for the Bypass. In particular, amenity grassland with groups of structural planting and semi mature trees will be characteristic of these spaces.
- 2.9.2
- The Biddenham Gateway is located at the interface between the Country Park, and the new development adjacent to Junction 3 and; sandwiched between the existing built up area of Queen's Park and the proposed development to the north east. The design approach to these spaces will be to blend the characteristics of the surrounding open space with formal avenue planting to create a prestigious gateway of the highest quality that sets a benchmark for future development.

Country Park

- 2.9.3
- The Country Park is the largest single area of open space within Great Denham and will serve a variety of different amenity, recreational and ecological functions. As such the character and qualities of different parts of the Park will vary considerably. The strategy for the Country Park is to enhance the naturally occurring character and qualities whilst positively embracing the amenity and recreational expectations of the new community.

The south eastern reaches of the Country Park between the existing watercourses will be typified by wetland and grassland meadows with an emphasis on promoting the ecological, wildlife and nature conservation qualities of the area. It is envisaged that this area will have a relatively low public impact with a limited network of informal paths and the potential for annual hay cropping.

The main body of the Country Park closer to the proposed built up area of Great Denham will primarily consist of amenity grassland with areas of wildflower grassland, a structured network of mown paths and groups of semi mature tree planting, parkland tree planting and structural planting. This recreational park will have formal pitch provision in proximity to the built up area and interpretation and outdoor learning potential, particularly associated with the balancing features.

Golf Course Edge

- 2.9.4
- The Golf Course Edge is a linear open space providing an informal amenity corridor along the northern reaches of the development. The strategy for this space is to utilise the natural widening and narrowing of the corridor to subdivide the space into a series of pocket parks, bounded by hedge and tree planting. An informal public footpath will link these spaces via a series of 'kissing gates' or similar device to stop usage by motorised vehicles. Access points to this area of open space will be limited in number to conform with the requirements of the Bedfordshire Community Safety Design Guide.

Play and Recreation

- 2.9.5
- Open space associated with the Great Denham proposals will take a variety of forms, including provision for informal/amenity, formal and equipped play space. The amount of space for these functions is provided in excess of Bedford Borough Council's adopted standards.
- 2.9.6
- In addition to the open space and landscape structure set out above, the flood plain has largely influenced the positioning of areas for formal and equipped play space. However, given the importance of distribution and accessibility to the quality and usefulness of the provision, the play and recreational proposals have been carefully located to maximise their relationship to local need.

Equipped Play Areas

- 2.9.7
- Equipped play areas have been located in accordance with the following criteria:
 - Super Local Areas for Play (SLAP) will be located within 2 minute's walking time of dwellings (120 metres)
 - Local Equipped Areas for Play (LEAP) will be located within 5 minute's walking time of dwellings (400 metres)
 - Neighbourhood Equipped Areas for Play (NEAP) will be located within 15 minutes walking time of the dwellings (1200 metres)
 - youth facility is located as an integral part of the Local Centre.
- 2.9.8
- The aim will be for play excellence for children and young people. Access to, and equipment for, play will take into account best practice guidance - including the need for inclusive play for all age groups and for those with special needs.





OPEN SPACE PLAN

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Formal Open Space Areas

2.9.9 Formal open space provision within Great Denham is to be located within the Country Park. The following criteria will guide its precise location:

- pitches will be located outside the extent of the 100 year floodplain
- pitches will be overlooked by adjacent properties
- landscaping will reduce the impact of the formal provision on the more natural landscape of the Country Park
- formal play provision will be serviced by changing facilities and ancillary parking designed to Sport England standards
- formal provision should allow for 4 senior, 2 junior and 1 minor pitch to be marked out and used concurrently unless other combinations of pitch provision meet local needs.

Informal Open Space Areas

2.9.10 A substantial proportion of the Great Denham development will be informal open space, with green corridors adjacent to the Golf Course and Western Bypass edges and a substantial area associated with the Country Park. Informal open space within the development will be traversed by a network of footpath and cycle routes, that both facilitates movement in and around the site and to the wider rural and urban landscape. In addition to serving an important movement and amenity function, informal open space will be designed to promote the following:

- local distinctiveness that responds to the unique character of the various edges and landscapes in the site, including the Golf Course, Country Park and Western Bypass
- improve existing and create new planting and habitats
- promote biodiversity
- introduce predominantly new native tree and shrub species
- blocks of woodland used to screen new housing edges
- a variety of spaces that provide varying degrees of enclosure
- maintenance of existing watercourses that provide habitat for wildlife.

Public Art

- 2.9.11

The contribution that public art can make to the identity and distinctiveness of Great Denham is recognised. Public art has an important role to play in creating a stimulating and legible environment which, in conjunction with other measures can significantly improve the quality, attractiveness and sustainability of the site.
- 2.9.12

The Section 106 Agreement requires David Wilson Homes to pay a sum towards public art provision at Great Denham. It is expected that the commissioning body, Happen, and the appointed craftsmen will work with the parcel designers to deliver innovative and appropriate public art that makes a real contribution to the quality and character of an area. The opportunities for public art can therefore be fully embraced as an integral part of the proposals for the Great Denham.
- 2.9.13

Public art within Great Denham will be expected to meet the following criteria:

Location: The locations for public art installations will be identified by the commissioning body. Works of art should normally be restricted to these areas.

Natural Surveillance: Public art should be positioned so that it is visible to passing people and overlooked by dwellings or places of work.

Functional Feature: The art work should ideally be functional and fit for purpose.

Appropriate Scale: The art work should be of a scale appropriate to its setting.

Robustness: Works of art should be able to withstand natural wear and tear and be resistant to vandalism.

Sense of Place: Public art should draw upon local features, themes and characteristics to reinforce identity and sense of place.

Interaction: Public art that informs, provokes thought or with which the public can engage will provide a more stimulating and varied environment.

Noise Mitigation

- 2.9.14
- The Environmental Statement considered the environmental impact of noise and vibration associated with the development proposals at Great Denham. A key element of this assessment was the impact of traffic associated with the Western Bypass and if this would have a constraint on the development. The assessment of traffic noise was conducted in accordance with the requirements of PPG24 and used a noise mapping computer model, assuming that a noise reducing surface would be utilised in accordance with standard new road construction procedure. The Bypass has been designed with a noise reductions surface and, for the most part, the road is separated from the development areas by a noise bund or is set within a cutting.
- 2.9.15
- Paragraph 10.5.2 of the Environmental Statement concluded:

‘The Site does not appear to be significantly constrained by the effects of traffic noise from the Bedford Western Bypass. The noise predictions show that residential development could be placed within 15m of the kerb of the bypass. This assumes that, as a minimum, a noise reducing surface is applied and that a high quality proprietary double glazed window system is installed in façades of habitable rooms facing the road.’
- 2.9.16
- David Wilson Homes have also commissioned the Acoustical Investigation & Research Organisation Ltd (AIRO) to assess the reliability of the information in the Environmental Statement and advise of any potential noise problems that could effect the viability of project. AIRO concluded that whilst it has not been possible to reproduce exactly the setback distances for development without additional mitigation, the calculations that have been undertaken have given rise to larger distances but these are still below the actual setbacks that are shown on the Master Plan drawing.
- 2.9.17
- The design of the Western Bypass has required a series of balancing features to be incorporated along its length. Between Junctions 2 and 3, a balancing pond and a flood compensation area are located to the east of the carriageway and, for part of this length, are separated from the highway by an earth bund. With the exception of a sliver of land adjacent to the existing housing development, the Great Denham development area lies beyond these features and is approximately 80 metres from the carriageway. At its closest point, the residential land is approximately 16 metres from the highway.
- 2.9.18
- Given the significant physical separation between the new development area and the Western Bypass for the majority of the distance between Junctions 2 and 3, there is no need for special noise mitigation measures beyond those being proposed as part of the Bypass scheme. This factor, in conjunction with a potentially attractive outlook over the balancing features and structural planting represents an opportunity for development to positively address this edge. The primary consideration in the design and layout of the residential parcels in this area will therefore be to reflect the qualities of the Biddenham Edge character area (see Section 2.5). However, building orientation, garden depths, parking court configuration and frontage roads are design tools that can be used in localised areas to mitigate noise sources at the reserved matters stage.



WESTERN BYPASS PLAN

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2.10 Sustainability Strategy

- 2.10.1 A Sustainability Strategy, independent of this Design Guide, has been prepared for Great Denham. The Sustainability Strategy has been structured to respond to the Sustainability Objectives set out in Part I of this Guide. The Strategy sets out the proposed response to the Objectives and details of how they will be achieved, including stipulating a series of binding targets.
- 2.10.2 The conclusions from the Sustainability Strategy Report have been reproduced here in the Guide and are set out below:

Form and Layout Design Requirements

BRE design guidance documents “Site Layout Planning for Daylight and Sunlight” and “Environmental Site Layout Planning” will be considered during building layout design (while allowing for creation of local, urban character)

Building layout will introduce variation and shelter belts and avoid long, unbroken facades to avoid wind channelling and pedestrian discomfort

Courtyards, where present, will not exceed a height to width ratio of 1:1 to ensure local pollution removal

80% of kitchens and living rooms will have a 25° sky view angle or less

All houses (apartments excluded) will have at least one wall exposed to solar gains

1/3 of all dwellings will have a living room or kitchen with 50% or more of its glazing facing within 30° of due south

1/3 of houses (apartments excluded) will have a roof surface facing within 30° of due south

Openable window area will be 5% (of floor area) in living rooms, kitchens, bedrooms, dining rooms and studies

Single aspect rooms will be limited to a depth of 7.5m. Double aspect rooms will be limited to a depth of 13m

Energy Efficiency Design Requirements

All dwellings will achieve SAP ratings of 85 or higher (the Standard Assessment Procedure is the government approved methodology for calculating energy use in dwellings and compliance with Part L of the building regulations. A rating of 1–100 is possible. See <http://projects.bre.co.uk/sap2005/pdf/SAP2005.pdf> for more details)

At least 40% of internal lights will be dedicated low energy bulb fittings

External space and security lighting will be limited to 150W bulbs and be fitted with daylight or motion sensors or timers as appropriate

At least 75% of dwellings will achieve a daylight factor of 2% in kitchens

At least 75% of dwellings will achieve a daylight factor of 1.5% in living rooms, studies and dining rooms

Under EcoHomes assessment (see Section 11), at least 2 credits will be achieved in the Hea 1 credit area (Daylighting)

All dwellings will have access to an area for natural drying of clothes. This should be a private or communal (and secure) garden or a suitable internal space

All dwellings will have A rated boilers, with NOx emissions below 70mg/kWh (Class 5 or better)

The following U-values will be achieved or improved upon on in all dwellings:

- Walls: 0.25 W/m2/K
- Roof: 0.2 W/m2/K
- Windows 1.9 W/m2/K
- Floor: 0.2 W/m2/K

Low-e double glazing will be specified for all windows

Appliances (White Goods), where provided, will be A rated

Mechanical ventilation or air extraction will only be installed in kitchens, utility rooms and WCs/bathrooms

No air conditioning systems will be installed

Natural ventilation: see Section 3 for requirements

The following minimum scores will be obtained under EcoHomes assessment criteria:

- Ene 1 - Dwelling Emission Rate: 4 credits
- Ene 2 - Building Fabric: 1 credit
- Ene 3 - Drying Space: 1 credit
- Ene 4 - EcoLabelled Goods: 1 credit
- Ene 5 - Internal Lighting: 1 credit
- Ene 6 - External Lighting: 2 credits
- Pol 2 - NOx Emissions: 2 credits
- Hea 1 - Daylighting: 2 credits (daylighting or sky view)

Energy Provision: Design Requirements
All homes to achieve, at least, a 10% reduction in carbon emissions (below the Building Regulations) as required by Bedford Borough Council's Core Strategy and Rural Issues Plan Policy CP 27. In addition, David Wilson Homes have allocated a budget, £2million overall for Great Denham and West of Kempston, towards achieving a target of 10% renewable energy generated on site that is to be spent in a manner to be agreed with the Local Planning Authority. (All applicants will also be expected to meet the requirements of those Building Regulations in force at the time of construction).
All show houses to incorporate solar hot water systems, sized to a minimum of 40% of domestic hot water use
Solar hot water will be offered as an optional item to all houses in the development with an appropriate, rear, south facing roof
Micro Combined Heat and Power (CHP) units will be offered as an optional item to purchasers (on properties of sufficient size)
Roof mounted wind turbines will be offered as an optional feature on all houses and house buyers will be notified that these may require planning permission. These requirements will be reviewed after the completion of 900 units (and before the occupation of 1,000) to account for changes and advances in technology in the intervening period, as detailed in the S106 agreement
Provide grey water recycling of rain water for toilet flushing on the six show homes
All dwellings will be signed to a green electricity tariff before occupancy
A study will be conducted into construction of stand alone wind turbines on the site. If this proves not to be feasible (for technical or planning reasons), off site wind power contracts will be investigated
If wind power is proven not to be feasible, micro hydro schemes or biomass heating (district or for on-site public buildings) will be studied. ("micro hydro" covers low head, run of the river schemes, utilising the Great River Ouse, and are dependent on planning consent and ecological studies. See 'Sustainability Strategy' main text for details).
Developers will consider appropriate carbon offset schemes to offset a proportion of the site's annual carbon emissions
The following minimum scores will be obtained under EcoHomes assessment criteria: Pol 4 - Renewable and Low Emission Energy Source: 1 credit

See Sustainability Strategy main text for details.

Water Strategy: Design Requirements
The development will incorporate balancing ponds which will accept all storm water from the Great Denham site (for events below 1 in 100 years severity)
All dwellings with private gardens, terraces or patios to have rain water collection butts with a minimum capacity of 200 litres per dwelling. Pumps will be offered as an optional feature
All communal gardens (e.g. for apartments) will have a rain water collection butt with a minimum capacity of 200 litres
All dwellings will demonstrate water use of less than 37m3/bedspace/yr (using the EcoHomes 2006 calculator)
Dual flush WCs will be provided in all dwellings (except where WCs have maximum flush volumes of 4 litres or less)
Main bathrooms will have baths smaller than 200 litres and en suites will have baths smaller than 150 litres, where provided
Where washing machines or dishwashers are provided, they will be A-rated
No power showers will be installed
The following minimum scores will be obtained under EcoHomes assessment criteria: - Wat 1 - Internal Potable Water Use: 4 credits - Wat 2 - External Potable Water Use: 1 credit

Construction Processes and Materials: Design Requirements

All developers on site will commit to achieving a score of 24 or more under the considerate constructors scheme

Developers will submit details (To the relevant Local Authority prior to use on site) of how they intend to maximise usage of local and recycled materials on site including:

- 25% (by weight) of all high grade aggregates will be recycled or locally sourced (within 30km)
- Conducting a study into the availability of “heavy” construction materials (bricks, tiles, stones etc) from within a 50km radius of the site

All developers will submit waste management strategies for the site, including waste minimisation measures, waste stream separation and possibilities for material reuse and recycling. Wilson Bowden PLC’s “Site Waste Management Policy 2006/2007” will act as a benchmark. All waste management strategies will comply with the Bedfordshire and Luton Mineral and Waste Local Plan.

At least 50% of timber used will be accredited by one of the following organisations: CSA, FSC, MTCC, PEFC or SFI

Roof, wall, floor and hot water system insulation will have an ODP of zero and GWP of less than 5

Construction waste will be separated into at least 4 streams

One community recycling point will be offered at Great Denham. At least 6 streams will be offered

All dwellings will have 3 dedicated recycling bins internally (minimum total capacity 30l). Bedford Borough Council have confirmed that a kerb side collection scheme, covering at least 3 waste streams, will be available to all residents

All gardens, private or communal, will contain dedicated space for a composting unit

The following minimum scores will be obtained under EcoHomes assessment criteria:

- Pol 1 - Insulant GWP: 1 credit
- Mat 1 - Environmental Impact of Materials: 13 credits (including all credits for roofs, external and internal walls, upper and lower floors and boundary protection)
- Mat 2 - Responsible sourcing of Materials: Basic Building Elements: 2 credits
- Mat 3 - Responsible sourcing of Materials: Finishing Elements: 1 credit
- Mat 4 - Recycling Facilities: 6 credits
- Man 2 - Considerate Constructors: 1 credit
- Man 3 - Construction Site Impacts: 3 credits

Green Space: Design Requirements

Provision of a Country Park in the flood plain area of the River Ouse. The park will be managed, improve the ecological importance of the land relative to arable land and protect river bank habitat. A “No Dogs” area will be incorporated

A community planting area will be provided in the Great Denham site

Important species, such as bats, badgers, water vole, otters, and relevant species of reptiles and birds will be studied further and all legislative requirements followed for their protection and/or relocation

Mature trees and hedgerows of ecological significance will be protected wherever possible

Important ecological features will be retained and enhanced

Formal playing fields will be provided at Great Denham with appropriate pavilion facilities

An additional ecology survey will be commissioned with a registered ecological consultant and the recommendations implemented

The following minimum scores will be obtained under EcoHomes assessment criteria (unless it is stated in an official report by a registered ecological consultant (who is accredited by the AWTC, CIWEM, IEEM, IEMA or LI) that these credits cannot be obtained for the site):

- Eco 2 - Ecological Enhancement: 1 credit
- Eco 3 - Protection of Ecological Features: 1 credit

Transport: Design Requirements

The development will include cycle routes to allow for the Sustrans route 51 to traverse the site and fully comply with the requirements of the Safer Routes to School Scheme

The design speed shall be 20mph and additional traffic calming measures employed locally to reduce speeds further

2 bus gates will be incorporated in the development and buses will be catered for on a priority route

All dwellings will be within 400m of a bus stop

A 500 capacity Park and Ride Scheme will be included, offering a sheltered waiting area and WCs

The following local amenities will be provided:

- 1 Community Hall
- 1 or more Local Shops
- 1 Community Recycling Facility
- 1 Middle School
- 1 Lower School
- 1 Nursery School
- 1 Library
- 1 Ecumenical Centre
- 1 Public House
- 1 Meeting Place
- Formal and Informal Playing Facilities

95% of dwellings to have access to secure cycle storage

All dwellings will be designed to allow a “home office” in the dwelling, including adequate electrical and phone connections and space for a desk

The following minimum scores will be obtained under EcoHomes assessment criteria:

- Tra 2 - Cycle Storage: 2 credits
- Tra 4 - Home Office: 1 credit

Sustainability Information and Show Homes: Design Requirements

All show homes will incorporate the following:

- Water efficient products (to achieve 37m3/bedspace/yr water use)
- A-rated boilers
- A grade construction materials (except windows and hard surfacing)
- A-rated white goods (fridge/freezer and washing machine as minimum)
- Enhanced insulation (see Section 4)
- Functioning Solar hot water systems
- Utility meters in visible locations
- A composting box
- Roof mounted wind turbines (as a purchaser option)
- Provision of grey water recycling

An information pack will be provided to all houses explaining the features of the development/dwellings and how to utilise them and general sustainability advice in at least the following areas:

- Transport
- Water use
- Energy efficiency
- Appliances
- Renewable power
- Recycling
- Green spaces and natural habitats
- Composting

The following minimum scores will be obtained under EcoHomes assessment criteria:

- Man 1 - Home User Guide: 3 credits

EcoHome Rating: Design Requirements

All development areas or sites will achieve an EcoHomes rating of “Very Good”

Any commercial office spaces will achieve a BREEAM rating of “Good”

The following minimum scores will be obtained under EcoHomes assessment criteria:

- Hea 2 - Sound Insulation: 2 credits
- Hea 3 - Private Space: 1 credit
- Man 4 - Security: 1 credit (for window and door security standards)

