



AECOM

SUTTON

Design Guidelines and Codes

Final Report

October 2021

Quality information

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Revision History

Revision	Revision date	Details	Name	Position
4	210906	Review	Ian Poole	for Sutton Parish Council
3	210821	Review	Ben Castell	Director
1	210821	Report, review	Giuseppe Verdone	Principal Urban Designer
0	210821	Research, site visit, drawings	Stela Kontogianni	Graduate Urban Designer

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Introduction

01

1. Introduction

This section provides context and general information to introduce the project and the area of study.

1.1 Background

Through the Ministry of Housing, Communities and Local Government (MHCLG) Neighbourhood Planning Programme led by Locality, AECOM has been commissioned to provide design support to Sutton Parish Council.

The Sutton Parish Council (Cambs) has requested to access professional advice on design codes to ensure that new developments complement a highly distinctive Neighbourhood Plan Area.

The objective is to ensure that they remain sympathetic to the area's existing built environment and historic character while

leaving room for architectural innovation and retaining open space.

This document provides advice to address the Parish Council's concerns on the aforementioned design elements. It also supports Neighbourhood Plan policies that guide the design of any future development proposals in order to create distinctive places that are well-integrated with the existing settlement and to promote high-quality built forms.

1.2 Objectives

The main objective of this report is to develop design codes for the Neighbourhood Plan that will inform the design of future planning applications and residential developments in the Neighbourhood Plan Area.

1.3 Process

Following an inception meeting and a site visit with members of the Neighbourhood Plan Working Group, AECOM carried out a high-level assessment of the Neighbourhood Plan Area.

- 1** Initial meeting between AECOM and the Sutton-in-the-Isle Neighbourhood Planning Group. As this was during the national Covid 19 lockdown, a joint virtual site visit was carried out via Microsoft Teams and Google Streetview.
- 2** Site visit and following urban design and local character analysis.
- 3** Preparation of design guidelines and codes to be used to inform the design of the Neighbourhood Plan Area and future developments.
- 4** Draft report with design guidelines and codes.
- 5** Submission of a final report.

1.4 Area of study

Sutton-in-the-Isle is a village and civil parish in the county of Cambridgeshire in England, near the city of Ely.

The Neighbourhood Area comprises the village of Sutton, the outlying hamlet of Sutton Gault, farmland on the 'Isle' and low lying 'Fen' to the south and west, including a section of the Ouse Washes.

Sutton is a relatively large village settlement with good road links to nearby towns of Cambridge, Ely, Kings Lynn and Newmarket. As result of its expansion to north and south from the High Street, several areas to the north and west of the historic village core have been developed and the settlement edge now consists of predominantly modern housing estates.

The topography varies; the highest point is along Sutton's main road, The Brook street. To the south, the land drops to 5m above sea level at the edge of the village, while to the north is fen island, between 20-25m contours.

The area surrounding the village is generally comprised of open fields and woodland and the natural interaction between land and water, as result of regular flooding during the winter. However, today flood prevention measures keep the water at bay and the farmland safe from flooding.

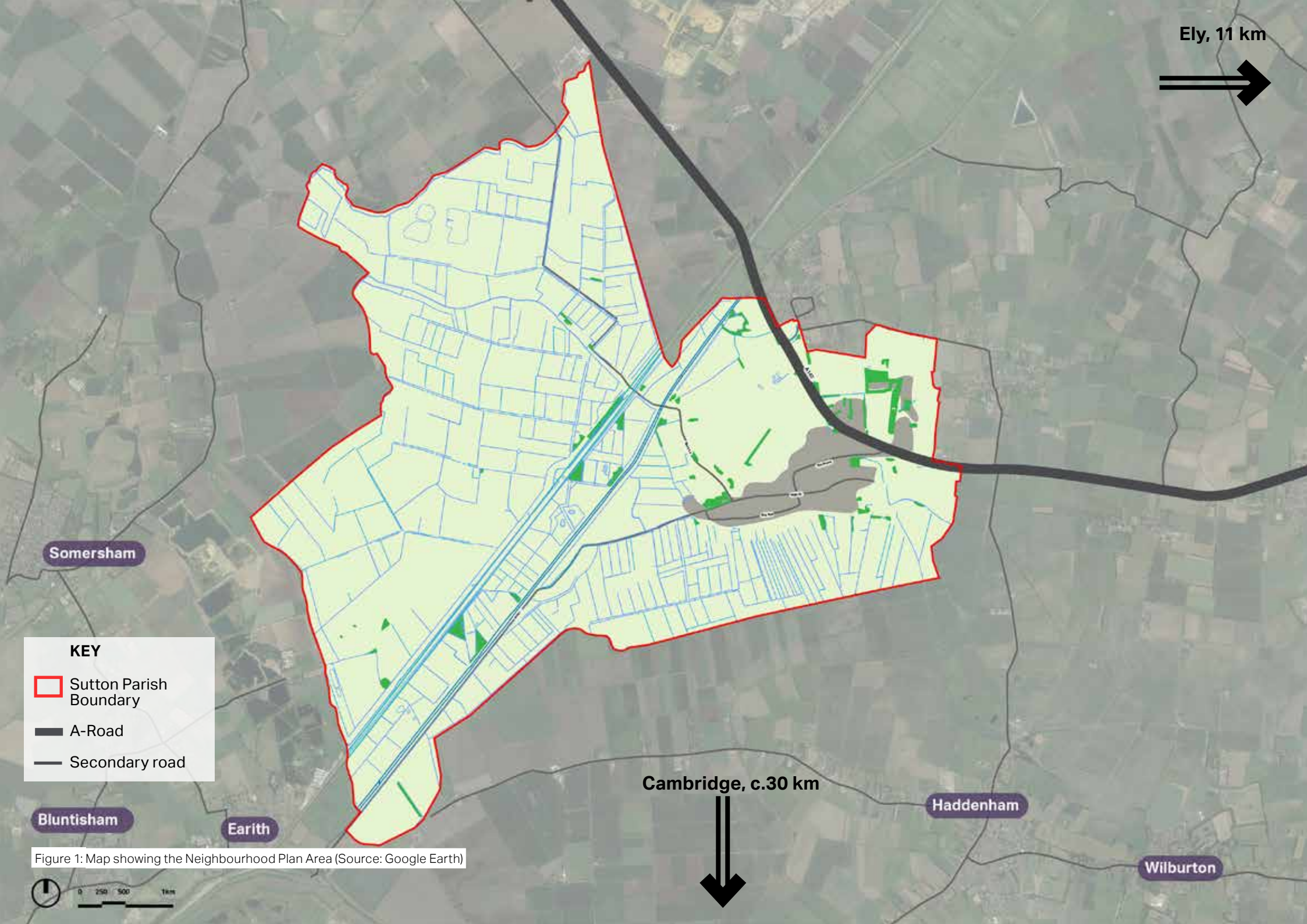
The historic village centre is designated as a conservation area and contains most of the 17 listed buildings of the parish.

The village is served by few facilities, including one general shop, a pharmacy, a post office and few restaurant / cafés such as an Indian restaurant, Chinese take-away/ fish and chips shop and 2 pubs. There is also a doctor's surgery and a primary school.

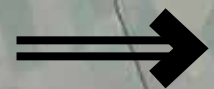
In terms of public transport, the closest railway station is in Ely with very good connections south to Cambridge and London, East Anglia and west to Peterborough, Birmingham, Nottingham and Liverpool.

The bus service to Ely and Cambridge however is irregular with services during the

day up to two hours apart with no service on Sunday. As a result of limited public transport provision there is high vehicle ownership within the households in the village.






Ely, 11 km



Somersham

KEY

-  Sutton Parish Boundary
-  A-Road
-  Secondary road

Bluntisham

Earith

Cambridge, c.30 km



Haddenham

Wilburton

Figure 1: Map showing the Neighbourhood Plan Area (Source: Google Earth)





2. Context analysis

02



2. Context analysis

This section analyses the local context of the village, the key constraints and opportunities, as well as the special characteristics.

2.3 Parish structure

The village settlement has developed over the years following a simple structure which has the High Street at the centre, on which several amenities are located, and several lanes which run north and south.

The area surrounding, as shown in Figure 2, is predominately rural, with open fields, woodland and water courses to the north and south.

The New and Old Bedford rivers, which are very important for the drainage of the Fens, frame The Ouse Washes which are an internationally important wetland designated as a Special Area of Conservation and international Ramsar wetland .

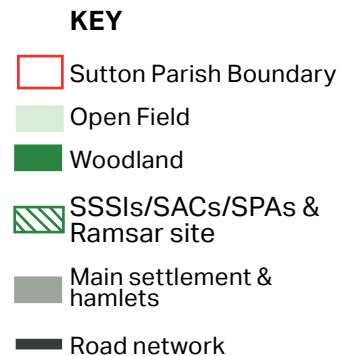
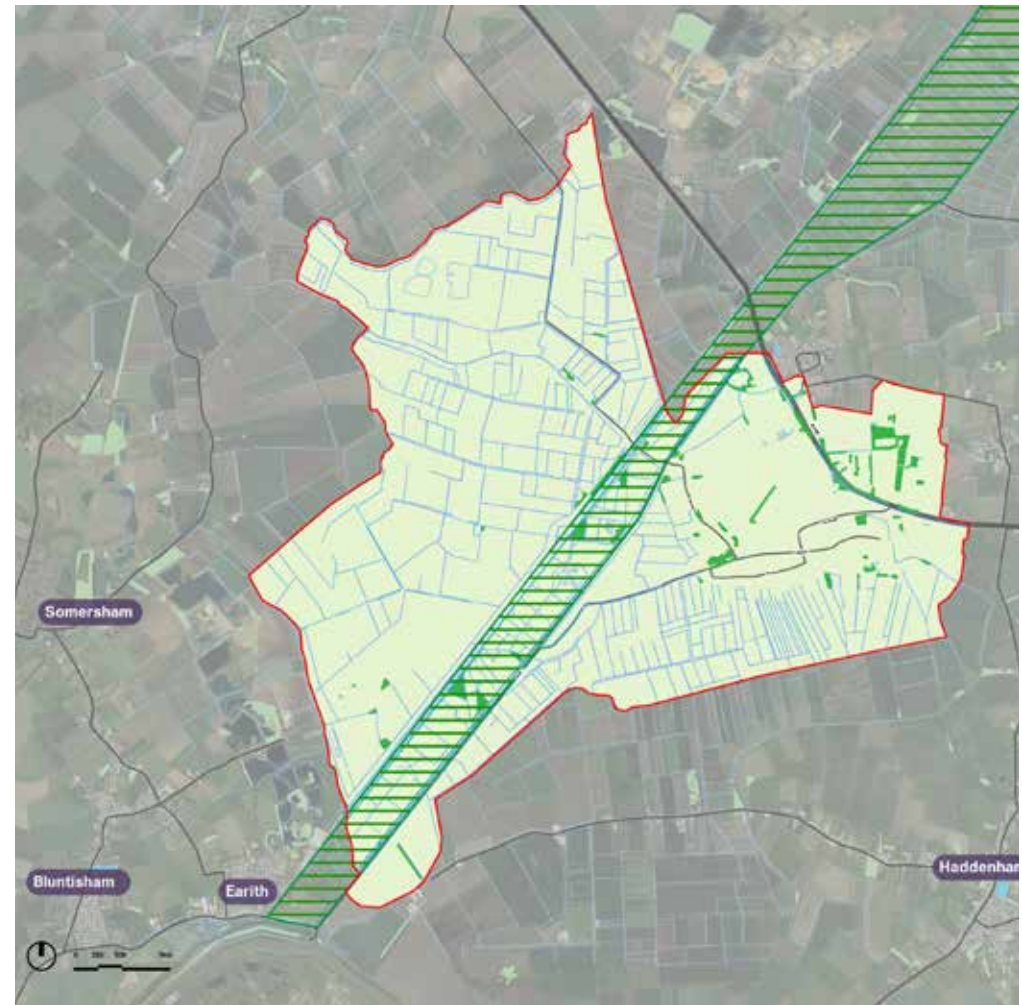


Figure 2: Diagram showing the structure of Sutton Neighbourhood Plan Area



2.4 Land uses & facilities

There is a range of facilities in the parish which are mainly located along The Brook and the High Street. These are:

- **Community Facilities:** The Glebe Arts and Community Centre which is a focus for local community activities and events. In addition, the Brooklands Centre offers rooms for training, meetings and networking events throughout the year.
- **Sutton C of E (VC) Primary School:** It is located on The Brook and has a capacity for approximately 210 children.
- **Post Office & Shops:** The post office is included in the One Stop convenience store, which together with the local pharmacy, is located along the High Street.
- **Food & Drink:** The main restaurant / cafés are located on High Street, an

Indian restaurant, Chinese takeaway and the main village pub, The Chequers.

- **Religion:** St Andrew's Church is located on the eastern side of the village, along Church Lane.



KEY

- ▭ Sutton Parish Boundary
- Education
- Religion
- Community Facility
- Shop
- Food & Drink
- Farm
- ▬ A-Road
- ▬ Secondary road
- Woodland

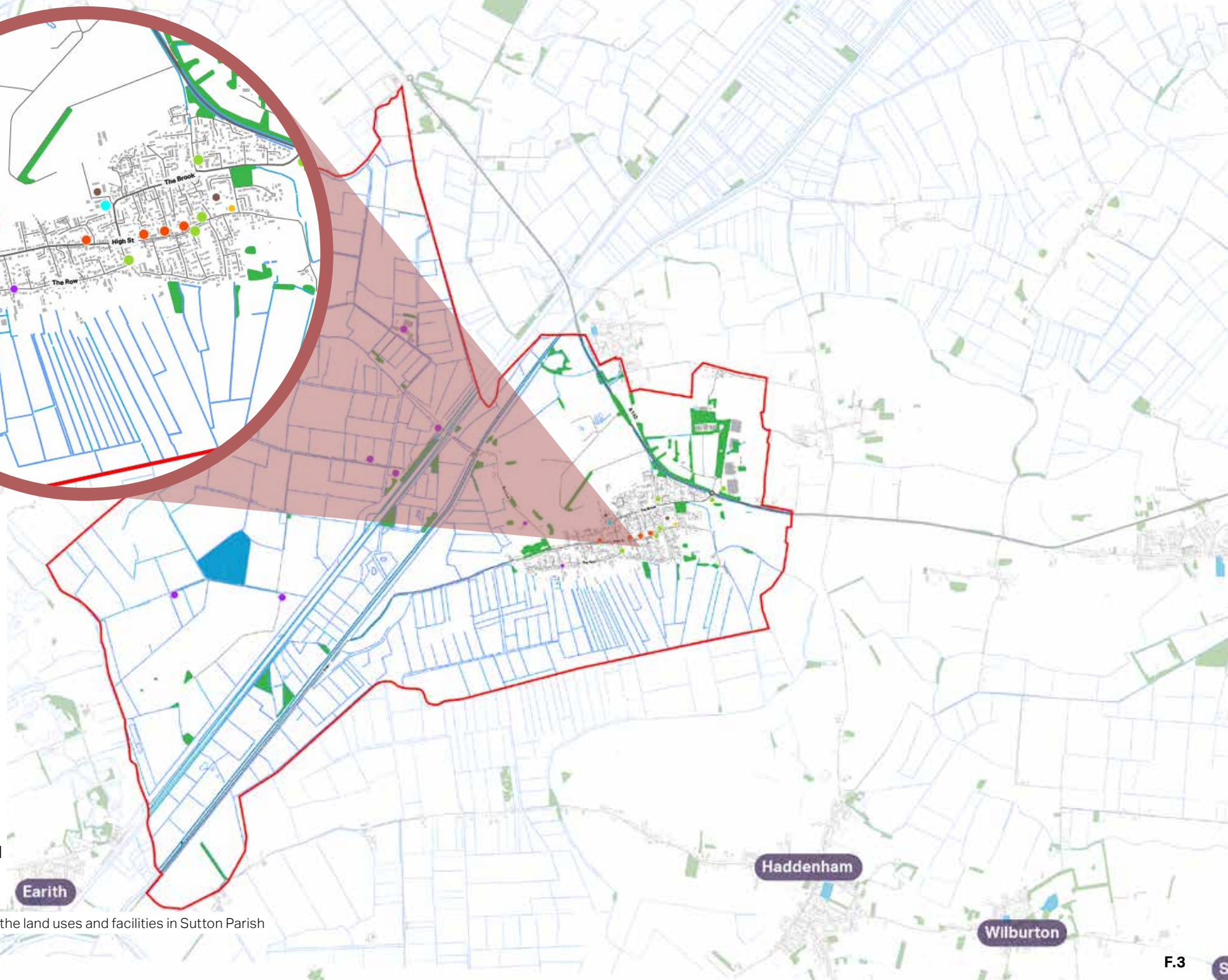
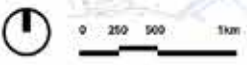


Figure 3: Map showing the land uses and facilities in Sutton Parish



2.5 Heritage

There is plenty of history in the parish. In particular, there are more than 20 buildings of architectural and historic interest, most of them located within the village conservation area. Outside the conservation area, in a few remote location of the parish there are three burial mounds (barrows) that are designated Scheduled Monuments.

The church of St Andrew's, grade I listed, dates from the mid 14th century, and is considered a landmark in the parish. Along the High Street there is a pleasant mix of traditional cottages with some modern, low-key development throughout.

The historic village centre is designated as a conservation area since February 1973.

In addition, there are buildings, like the Grove Barn and the Anchor, which are classified as Buildings of Local Interest by the East Cambridgeshire District Council.

Figure 4: St Andrew's Church – Grade I

Figure 5: 20-22 High Street – Grade II

Figure 6: 31, High Street – Grade II

Figure 7: The Granary – Grade II



F.4



F.5



F.6



F.7

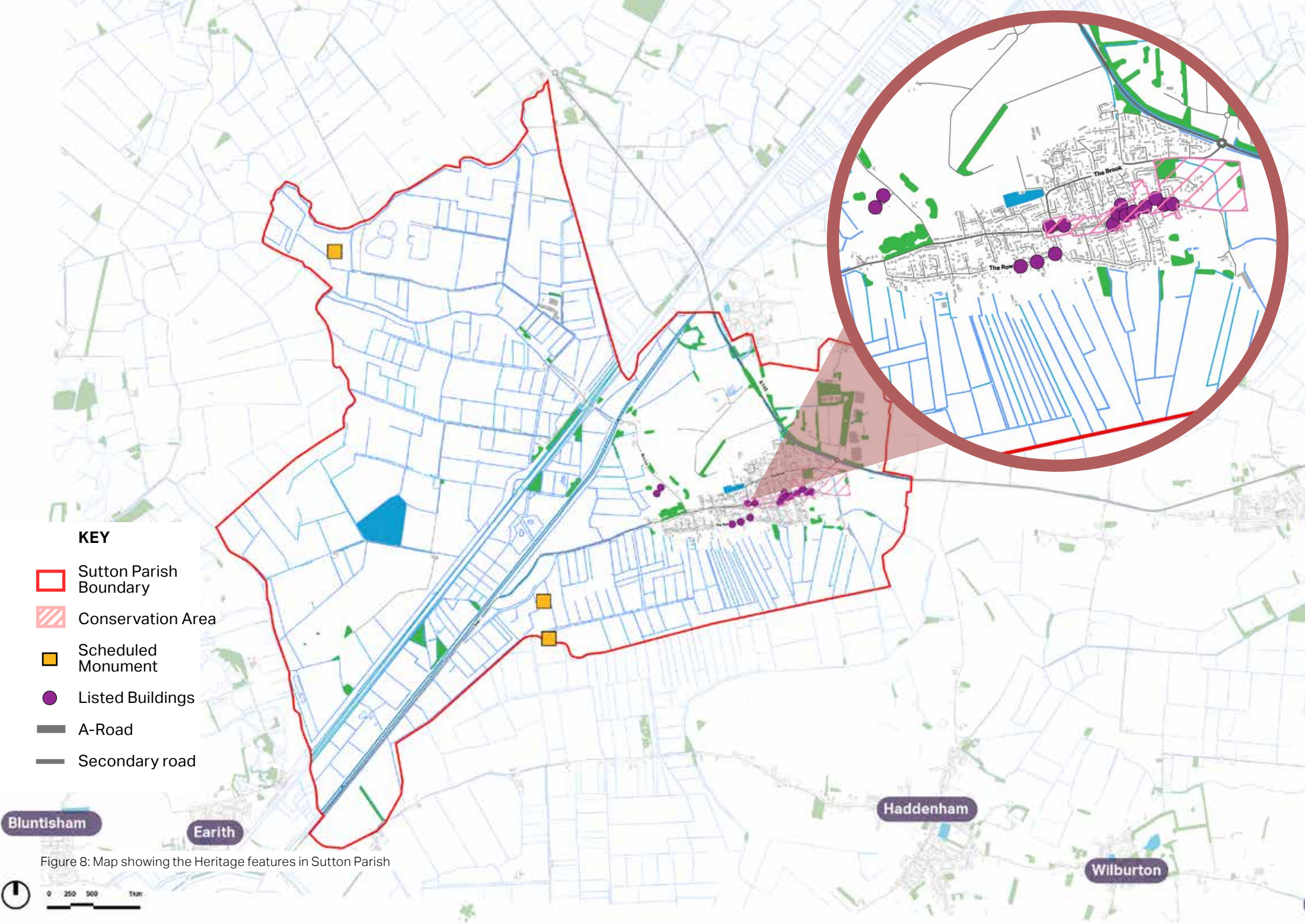


Figure 8: Map showing the Heritage features in Sutton Parish

2.6 Architectural details & local vernacular

Sutton parish has an important architectural interest and therefore, its local vernacular should be preserved and used as reference for future developments in the area.

The parish contains heritage assets that date from prehistoric times. This evidence is mostly found to the north of the main village in neighbouring Sutton Gault. There have been Saxon and later remains found in various locations throughout the village. These range from the remains of a chapel, burials, tools and pottery all of which contribute to the understanding of the development of the village.

The following pages showcase some examples of architectural details and styles that are found within the parish. The focus is not only on the listed heritage assets, but also on other notable buildings of architectural and historic interest. These could act as local landmarks in the parish.



F.9



F.10



F.11

Figure 9: Traditional cottages on High Street
 Figure 10: Front garden treatment
 Figure 11: Hedgerow treatment



F.12



F.15



F.13



F.14

Figure 12: Modernised historical cottages
Figure 13: Typical red brick example
Figure 14: Typical gambrel roofs
Figure 15: Traditional cottages

2.7 Green infrastructure & footpaths

Sutton parish has a rich heritage of plant, wildlife and river courses.

The Ouse Washes are an internationally important wetland also designated as a Special Area of Conservation and Ramsar wetland.

In addition, there are several areas of Deciduous woodland and a number of 'local Green spaces', but most of the parish is Fen farmland with a network of drainage ditches.

The village has a relatively modest network of footpath and byways network, with the main paths running along the banks of the Ouse Washes.

2.8 Other environmental & landscape designations

The whole Parish of Sutton benefits from the flood defence measures implemented between the rivers Delph and the New Bedford River. Known as the Ouse Washes, this area is 20 miles long and almost a mile wide, and acts as a flood storage reservoir in the winter (and increasingly in summer).

The Ouse Washes are the largest area of frequently flooded grazing marsh in the UK. This makes them attractive to certain bird species (including breeding waders and overwintering birds).



F.16

Figure 16: View of the New Bedford River.



F.17

Figure 17: View of the Causeway footpath, which during flooding is the only pedestrian connection with the River Delph area.

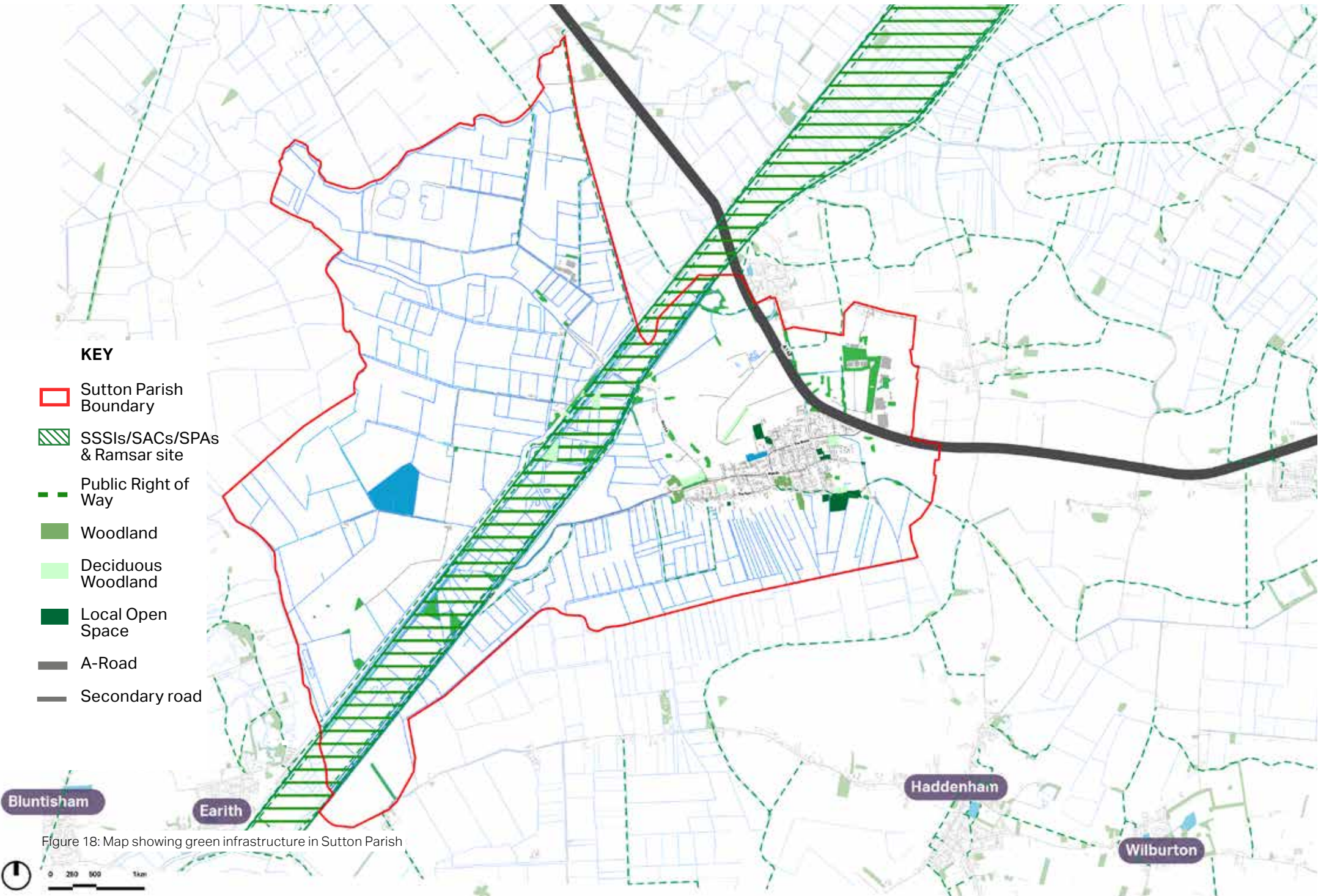


Figure 18: Map showing green infrastructure in Sutton Parish

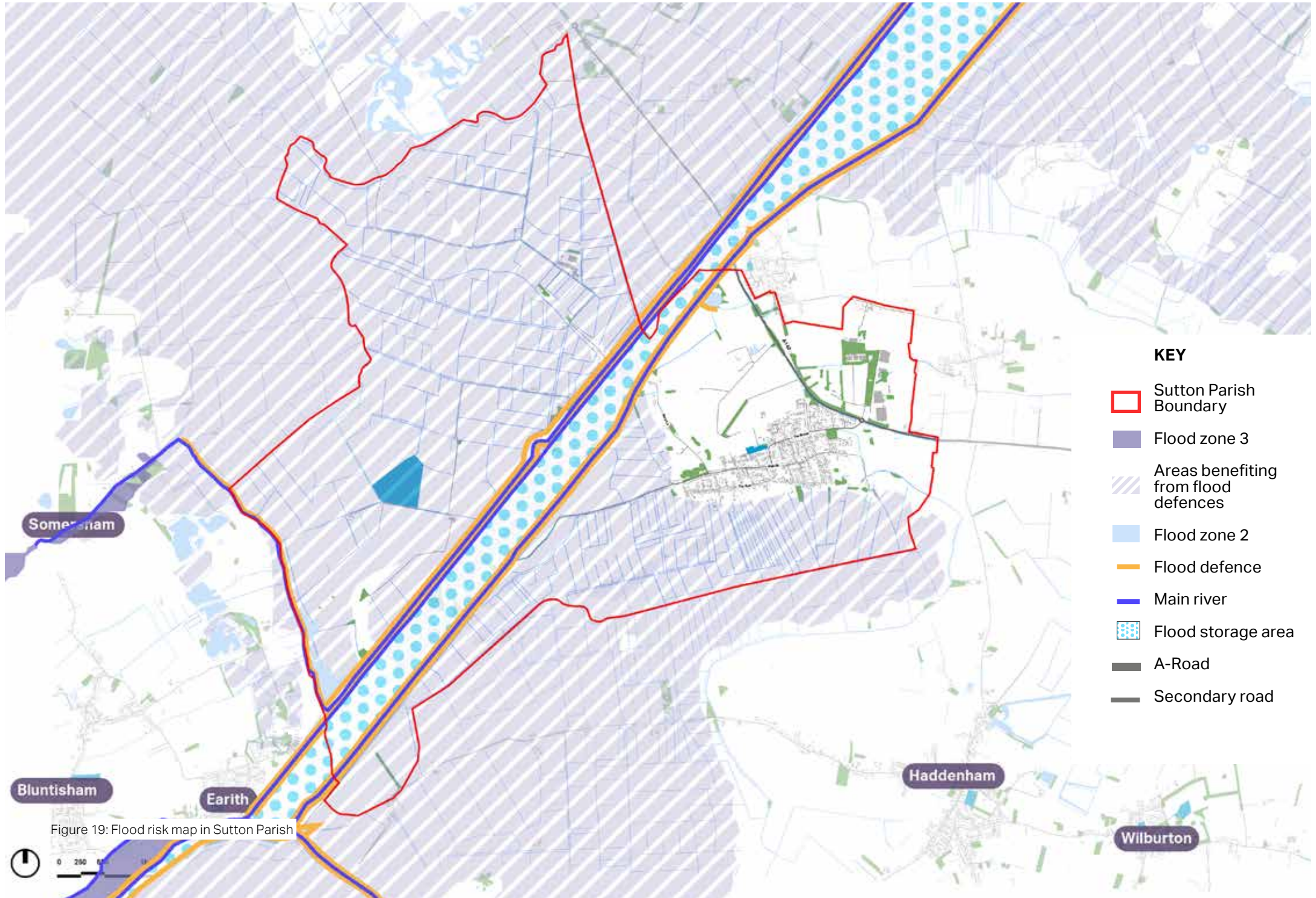


Figure 19: Flood risk map in Sutton Parish



**National and local
guidance**

03



3. National and local guidance

3.1 National Design Guide

National Design Guide
 Planning practice guidance for beautiful, enduring and successful places



Ministry of Housing,
 Communities &
 Local Government

The National Design Guide illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice. It introduces 10 characteristics and 29 related principles that are common to well-designed places.

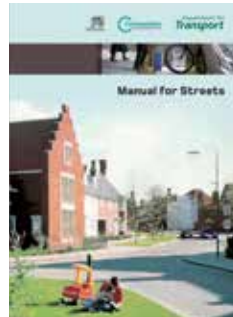
3.2 Building for a Healthy Life



Building for a Healthy Life (BHL) is the new (2020) name for Building for Life, the government-endorsed industry standard for

The BHL toolkit sets out 12 questions to help guide discussions on planning applications and to help local planning authorities to assess the quality of proposed (and completed) developments, but can also provide useful prompts and questions for planning applicants to consider during the different stages of the design process.

3.3 Manual for Streets



Major development is expected to respond positively to the Manual for Streets, the Government's guidance on how to design, construct, adopt and maintain new and existing residential streets. It promotes streets and wider development that avoid car dominated layouts and place the needs of pedestrians and cyclists first.

3.4 National Model Design Code - Ministry of Housing, Communities and Local Government



The National Model Design Code provides guidance on the production of design codes, guides and policies to promote well-designed places. It sets out the key design parameters that need to be considered when producing design guides and recommends a methodology for capturing and reflecting views of the local community. It forms part of the government's planning practice guidance.

3.6 East Cambridgeshire Local Plan



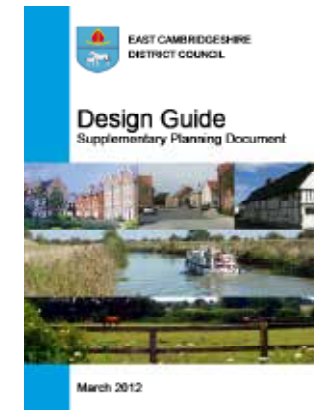
The Local Plan sets out a blueprint for the future growth of East Cambridgeshire. It looks at how much, where and when development should take place. It seeks to ensure that development in the district is 'sustainable' and meets the needs of the local area.

3.7 Sutton Conservation Area Appraisal Supplementary Planning Document



The document sets out the historical and architectural context and provides clear guidance on what should be considered to be of historic or architectural significance and worthy of preservation.

3.8 East Cambridgeshire District Council Design Guide Supplementary Planning Document



The document sets out requirements and aspirations for development within East Cambridgeshire. It is not intended to be a potted guide to architecture, landscaping, archaeology, etc. All design solutions should attempt to achieve development that is attractive, functional and sustainable.



Design guidance and codes

04

4. Design guidance and codes

This chapter introduces design guidelines and codes for future development that consider the local character and can enhance local distinctiveness.

4.1 General principles

As a first step, there are a number of design principles that should be present in any proposal. In particular, new development should:

- **Respect the existing settlement pattern** in order to preserve the character.
 - **Integrate** with existing paths, streets, circulation networks.
 - Reinforce or enhance the **established character** of streets, greens and other spaces.
 - Harmonise and enhance existing settlement in terms of **physical form, architecture and land use**.
 - Retain and **incorporate important existing features** into the development.
 - **Respect surrounding buildings** in terms of scale, height, form and massing.
- Adopt **contextually appropriate** materials and details.
 - Incorporate necessary **services and drainage infrastructure** without causing unacceptable harm to retained features.
 - Ensure all components e.g. buildings, landscapes, access routes, parking and open space are **well related to each other**.
 - Aim for **innovative design and eco-friendly buildings** while respecting the architectural heritage and tradition of the area.

4.2 Specific principles for Sutton

This section provides guidance on the design of future development, setting out the expectations that applicants for planning permission in this very distinctive and sensitive Neighbourhood Plan Area will be expected to follow.

The guidelines developed in this part focus on residential environments. However, new housing development should not be viewed in isolation. Considerations of design and layout must be informed by the wider context, considering not only the immediate neighbouring buildings, but also the villagescape and landscape of the wider locality.

The local pattern of streets and spaces, building traditions, materials and the natural environment should all help to determine the character and identity of a development, recognising that new building technologies

are capable of delivering acceptable built forms and may sometimes be more efficient. It is important that any proposal takes full account of the local context and that the new design embodies the 'sense of place' while meeting the aspirations of people already living in that area.

There are a set of design principles and codes that are specific to Sutton. These are based on the analysis of village character presented in Chapter 2, on discussions with members of the neighbourhood plan

steering group on the village walkabout, as well as on the vision for the area as stated in the Neighbourhood Plan (version 2019).

These guidelines and codes are organised in themes:

1. STRATEGIC PRINCIPLES & BEST DESIGN PRACTICE

3. PEDESTRIAN, CYCLE CONNECTIVITY & PARKING

2. BUILT FORM

4. ENVIRONMENT & ENERGY EFFICIENCY

1. STRATEGIC PRINCIPLES & BEST DESIGN PRACTICE



Code 1. Consider the context



Code 2. Enhance biodiversity and natural environment



Code 3. Enhance social and community infrastructure



Code 4. Enable wayfinding

Code 1. Consider the context

Sutton parish has a rural farming character and a rich architectural and archaeological history. These qualities need to be preserved and enhanced in the future in order to retain existing attributes as well as to become a better version of the place it is today. Some guidelines for future development are:

- New development must demonstrate an understanding of the landscape sensitivities and designations of the area, presented in [Section 2.5-2.7](#). Woodlands, flood risk zones, Special Areas of

Conservation, Ramsar sites and priority habitats, should all be protected and respected in future development.

- New development should respect and retain the existing green assets of any form; trees, green spaces, woodlands, hedges, hedgerows, to preserve the rural character of the parish.
- New development should be well integrated into the existing settlement pattern and avoid any kind of fragmentation. For that reason, pedestrian, cycle and road connectivity is

important to create accessible places and a more cohesive social tissue.

- New development should prioritise creating a well-connected green system and promote alternative ways of transportation. There is an abundance of existing green assets and public rights of way in Sutton presented in [Section 2.5](#), that could provide pleasant walking routes and improve connectivity and therefore, walking and cycling activity.
- New development should respect the historic character of Sutton. Heritage designations and architectural details, presented in [Section 2.3](#), as well as local materials and techniques, presented later in the report, should be used as references for new development. Any new design should be a good fit to its surroundings in order to preserve the unique characteristics that are found in the parishes. This does not rule out contemporary design. High quality contemporary buildings which, in time, will be recognised as heritage assets are encouraged. This approach is particularly

Strategic principles & best design practice

encouraged for publically accessible community buildings.

- The existing typologies should be reflected in the new development. In particular, there is a variety of building typologies in the parish; terraced housing, cottages, farmhouses, semi-detached and bungalows. It is important that this mixture of typologies is retained and promoted in new development in order to create variety and interest in the streetscape.

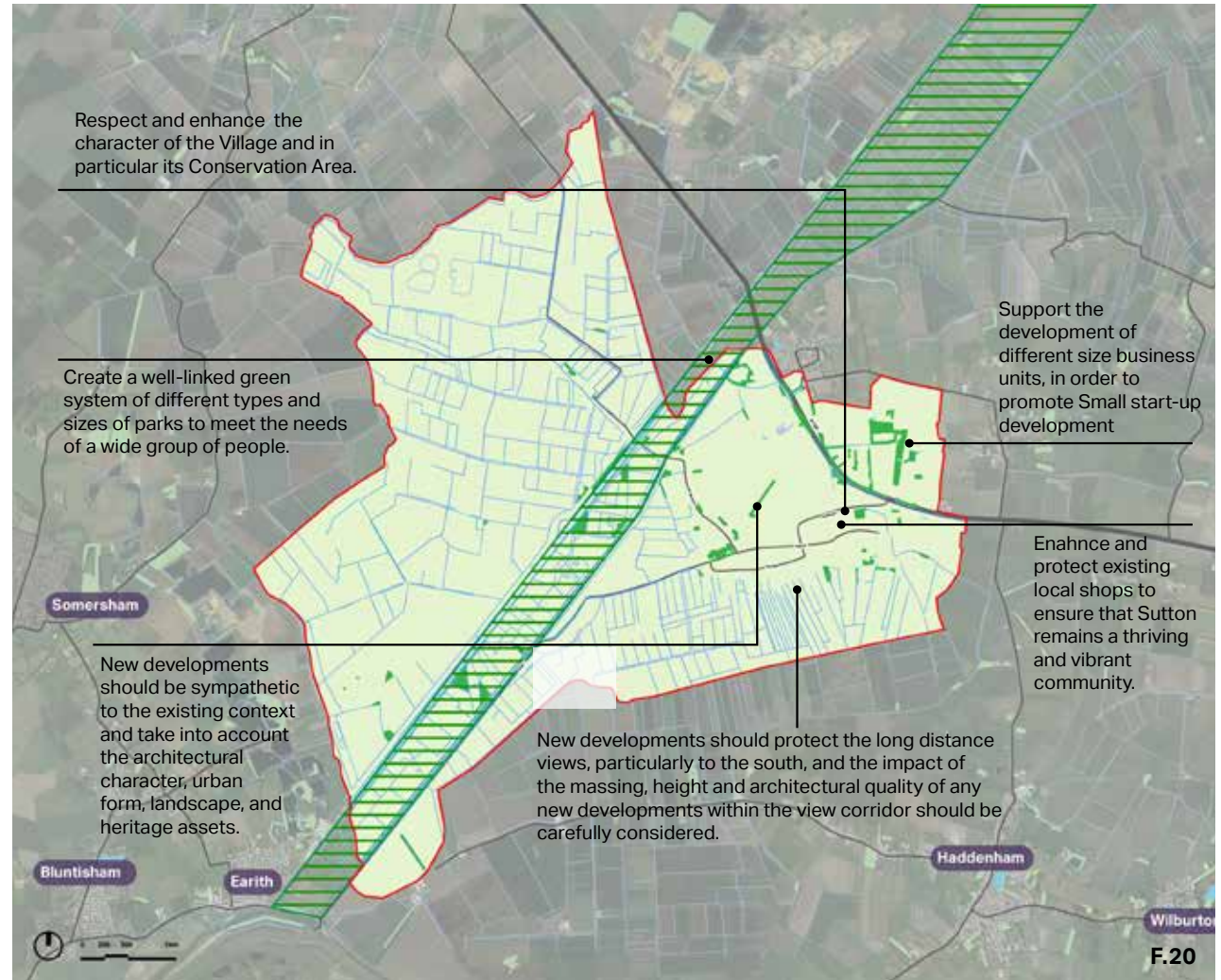


Figure 20: New development should gain a good understanding of the existing structure of the parish, the important assets in the area and aim to preserve and enhance them.

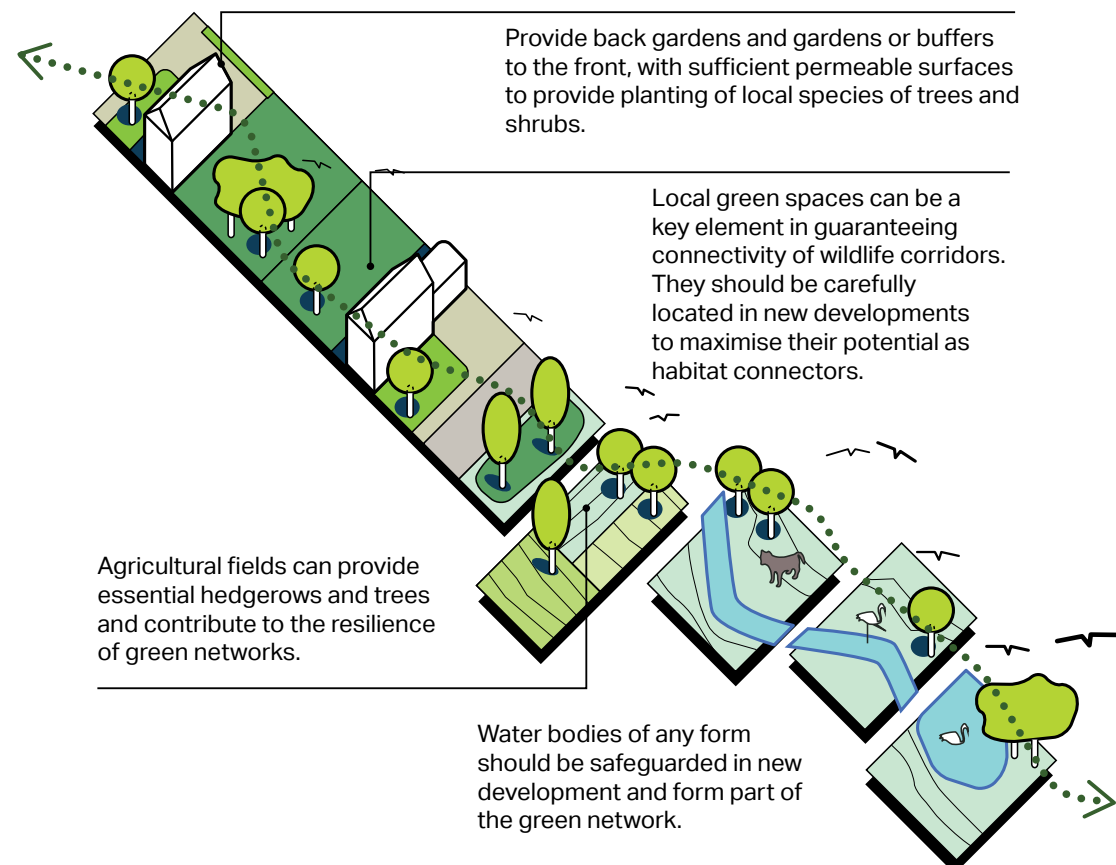
Strategic principles & best design practice

Code 2. Enhance biodiversity and natural environment

There are many green assets within the Parish like rich vegetation, trees, fen farmland, open fields, drainage ditches and green spaces that all together enhance biodiversity and the natural environment. Therefore, new development should:

- Incorporate all the existing green assets and avoid unnecessary loss of flora. Any trees or woodland lost to new development must be replaced. Particular emphasis should be given to the maintenance and improvement of existing hedgerows and the planting of the new ones.
- Retain existing open spaces and vegetation to respond to local character and encourage civic pride.
- Prioritise the creation of wildlife corridors that could be linked with existing and new footpaths and offer pleasant walking routes within the parish as well as create an environment for native species and plants.

- Offer a variety of open spaces that can host a diverse range of activities and accommodate different users.
- Make sure that development adjoining public open spaces and important gaps either faces onto them to improve natural surveillance or includes a soft landscaped edge.
- Propose new and existing landscapes and open spaces to be located within walking distance from their intended users. If appropriate, these should be linked to form connected green networks.



Strategic principles & best design practice



Figure 21: Example of SUDs in Sutton

Figure 22: Examples of a frog habitat decorating public green spaces.

Figure 23: Examples of a bughouse decorating rear gardens or public green spaces.

Strategic principles & best design practice

Code 3. Enhance social and community infrastructure

New development should contribute to enrich local infrastructure provision and to build better places for residents.

Sutton has a number of social and community facilities that contribute to the character of the village and offer a level of engagement for the local people. Those facilities need to be enhanced and new development should encourage the expansion of the existing social and community infrastructure to create places that cater for the needs of the community. Therefore, some guidelines for new development are:

- Proposed social and community infrastructures shall respond to the main place making principles identified in each character area as well as be sympathetic with the existing architectural style.
- Public houses represent a social focal point for communities and community activities and form part of the character and charm of the village.

- Similarly, places of worship like chapels, vestries and mission halls shall be carefully designed as part of the specific character area where they are located.
- Protect open spaces that have amenity value and can be used for community events.
- Improve pedestrian and cycle connection between the residential areas and the social and community facilities to reduce car dependency.
- In terms of parking provision, development shall not create additional congestion in the area and avoid parking dominance, whilst ideas of sharing parking areas with existing facilities in the village settlement should be considered.
- Signage and wayfinding must be used to highlight options for sustainable transport modes, promoting walking and cycling. This would potentially increase movement and activity along streets, enhancing natural surveillance and therefore minimising any possibility of antisocial behaviour.



F.24



F.25

Figure 24: Sutton Conservative Club

Figure 25: Sutton C Of E V C Primary School

Strategic principles & best design practice

Code 4. Enable wayfinding

When places are well signposted, they are easier for the public to comprehend. Some guidelines for new development are:

- Buildings which are located at corners, crossroads or along a main road could act as landmarks and play a significant role in navigation. At a local level, landmark elements could be a distinctive house, public art, or even an old and sizeable tree.
- New signage design should be easy to read. Elements like languages, fonts, text sizes, colours and symbols should be clear and concise, and avoid confusion.
- Signage elements and techniques should be appropriate to the character of the area and be a nice fit to the existing architectural style and details.
- Signage could also help highlight existing and newly proposed footpaths and cycle lanes encouraging people to use them more. Apart from signage techniques, location maps that show the walking routes in the parish, important landmarks or local facilities could also be useful in promoting walking.



F.27



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Figure 26: St Andrew's Church is the main landmark of the village.

Figure 27: Any element used for wayfinding purpose should respect the existing character of the village. Any proposal should be comprise local materials, aim to highlight key assets in the area (Nature sign design made from Forest Stewardship Council United Kingdom).

Figure 28: Any element used for wayfinding purpose should provide information about the green assets or the type of species that can be found in the area (Meadow garden Pennsylvania).

2. BUILT FORM



Code 5. Patterns of growth and layout of buildings



Code 6. Heritage



Code 7. Housing mix



Code 8. Extensions and infill development



Code 9. Building lines and boundary treatment



Code 10. Planting and vegetation



Code 11. Green and open spaces



Code 12. Building scale and massing



Code 13. Well defined public and private space



Code 14. Building heights



Code 15. Active frontages



Code 16. Views and vistas



Code 17. Materials and building



Code 18. Windows



Code 19. Doors



Code 20. Chimneys



Code 21. Roofscape

2. BUILT FORM

Code 5. Patterns of growth and layout of buildings

New developments should respect the built and open space patterns of the existing settlement to contribute positively to its character and create a consistent scene. Guidelines for the new development include:

- Any new development in Sutton should be carefully sited to minimise negative impacts on the landscape and existing views to the farmland.
 - New developments should promote civic pride by proposing open amenity spaces where possible.
 - New developments must demonstrate an understanding of the scale, building orientation, enclosure, and façade rhythm of the existing settlement to respect its character.
 - New properties should show a variety of types. The use of a repeating type of dwelling along the entirety of the street
- should be avoided to create variety and interest in the streetscape.
 - Boundaries such as walls or hedgerows, whichever is appropriate to the street, should enclose and define each street along the back edge of the pavement, adhering to a clear building line that can allow minor variations for each development group.
 - Any proposal that would adversely affect the physical appearance of the surrounding character area, or give rise to an unacceptable increase in the amount of traffic, noise, or disturbance would be inappropriate. Developments should avoid car-dependent layouts based on the monotonous repetition of a uniform building typology arranged along cul-de-sac and loop roads.
 - The layout of new development should optimise the benefits of daylight and passive solar gains as this can significantly reduce energy consumption.

- New developments should have regard to the future climate change implications, i.e. flooding and drought.



Figure 29: Fine grain on the High Street in the Conservation area
Figure 30: Medium/Large grain on The Row.

Built form

Code 6. Heritage

The conservation area in Sutton significantly contributes to the local vernacular of the village. However, there are also areas outside the conservation area that are of great architectural importance, like some groups of buildings in The Row, Pound Lane, Station Road and Sutton Gault.

Therefore any future development or any change to the built environment must:

- Respect the character of the conservation area, as well as the architectural styles outside of it, proposing designs that are a good fit in the local context.
- Appraise and document the attributes of the existing conservation area.
- Integrate green features, where possible, to screen and provide breaks between groups of new buildings.



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Figure 31: Example of traditional cottage in the High Street

Figure 32: Example of historic building in Pound Lane

Figure 33: The Granary, Grade II Listed Building in The Row

Built form

Code 7. Housing mix

The settlements of Sutton have a variety of houses, small and large, houses and apartments, ranging from one to two storeys.

It is important that all newly developed areas keep providing a mixture of housing to allow for a variety of options and bring a balance to the population profile. A mixed community is important for viability.

New development must ensure that new housing is targeted towards the needs of the local people and also responds to the need for affordable housing for the local population.



Figure 34: Example of local bungalows

Figure 35: Example of modern 2-storey houses

Figure 36: Example of traditional 2-storey houses

Figure 37: Example of traditional 3-storey houses

Built form

Code 8. Infill development and building extensions

Although infill development should be avoided in certain circumstances, and a more well-planned framework for housing delivery should be prioritised, some guidelines are:

- Infill development should complement the street scene and rural setting into which it will be inserted. It does not need to mimic existing styles but its scale, massing and layout need to be in keeping. These also need to be considered in relation to topography, views, vistas and landmarks.
- New building lines should be reasonably consistent along a street with existing buildings. Some places in the parish have linear or regular meandering arrangements of buildings whilst others have random and irregular patterns.
- The density of a scheme should reflect its context in terms of whether it is at

the centre or edge of a town or village, or in a smaller settlement in the rural area. The optimum density will respond to surrounding densities whilst making efficient use of land, meaning that new development will usually be more likely to be higher in density than neighbouring areas.

Figure 38: Infill development at appropriate scale.

Figure 39: Infill development respecting context scale and massing.

Figure 40: Infill development at appropriate scale.



F.38



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Built form

Extensions to dwellings can have a significant impact not only on the character and appearance of the building, but also on the street scene within which it sits.

A well-designed extension can enhance the appearance of its street, whereas an unsympathetic extension can have a harmful impact, create problems for neighbouring residents and affect the overall character of the area.

There are some good examples of building extensions and modifications within the parish that respect the existing properties, both in terms of scale and materials.

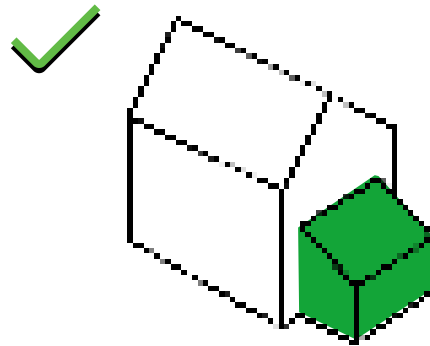
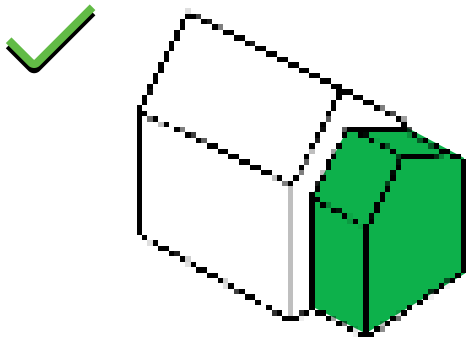
The Planning Portal¹ contains more detailed information on building modifications and extensions, setting out what is usually permitted without planning permission (permitted development) as well as what requires planning permission.

Some general principles of building modifications and extensions can be found below and are also illustrated in the form of diagrams and sketches in the next pages:

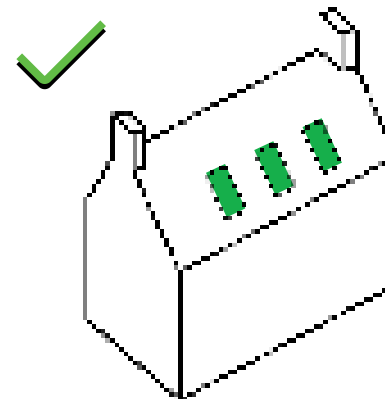
- Extensions must be appropriate to the scale, massing and design of the main building, and should complement both the streetscape and the rural setting.
- Alterations and extensions of historic buildings within a conservation area should preserve and where possible enhance the character of the two conservation areas.
- Extensions are more likely to be successful if they do not exceed the height of the original or adjacent buildings. Two-storey extensions, where appropriate, should be constructed with a pitch sympathetic to that of the existing roof.
- The design, materials and architectural detailing of extensions should be high-quality and respond to the host building and the local character of the Neighbourhood Plan area.
- The impact on the space around the building should avoid overlooking, overshadowing, or overbearing.

¹ Planning Portal. https://www.planningportal.co.uk/info/200234/home_improvement_projects

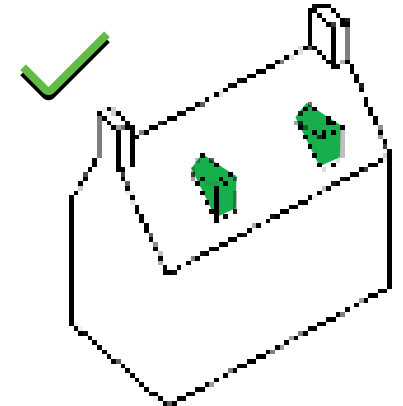
Built form



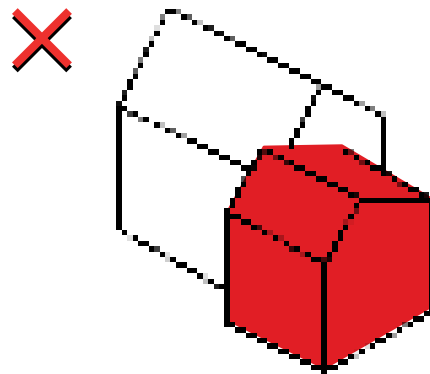
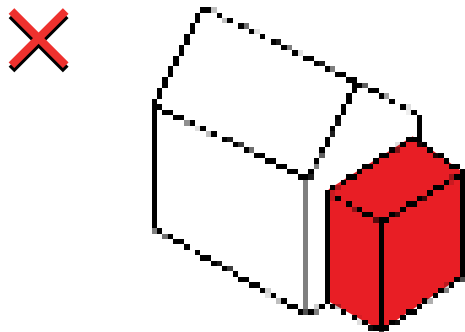
Good examples for side extensions, respecting existing building scale, massing and building line.



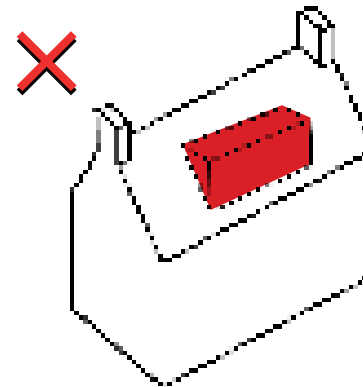
Loft conversion incorporating skylights.



Loft conversion incorporating gabled dormers.



Both extensions present a negative approach when considering how it fits to the existing buildings. Major issues regarding roofline and building line.



Loft conversion incorporating a long shed dormer which is out of scale with the original building.

Built form

Code 9. Building lines & boundary treatments

Building lines and boundary treatments vary greatly across the Parish. To respect the existing context, both the building and the boundary feature should be consistent with neighbouring properties whilst enabling enough variations for visual interest.

- Buildings should front onto streets. The building line should have subtle variations in the form of recesses and protrusions but should generally form a unified whole.
- Buildings should be designed to ensure that streets and/or public spaces have good levels of natural surveillance from buildings.
- Natural boundary treatments should reinforce the sense of continuity of the building line and help define the street, appropriate to the character of the area. They should be mainly continuous hedges and low walls, as appropriate, made of traditional materials found elsewhere in the town such as local bricks. The use of either panel fencing or metal or concrete

walls in these publicly visible boundaries should be avoided. Natural boundary treatments should still enable adequate natural surveillance.

- On residential streets where possible, front gardens should be provided. These should include some green elements, like flowers, hedges or trees if possible, and earthy paving materials.



Figure 41: Building with no set back on the High Street.

Figure 42: Building set back varied which provides interesting streetscape.



Built form

Code 10. Planting and vegetation

The rich vegetation apparent in front gardens, green verges, streets and open fields are green assets and their protection is important. Some guidelines for new development are:

- New planting and vegetation could help maintain the rural character in the villages. It is associated with better mental health and well-being by reducing stress and fewer heat islands.
- Flower beds, bushes and shrubs contribute to the liveliness of the streetscape. Normally planted within the curtilage boundary, ornamental species add interest and colour to their surroundings and become an identity and expressive feature of each dwelling.
- Hedgerows can be planted in front of bare boundary walls to ease their visual presence or they can be used to conceal on-plot car parking and driveways within curtilages.

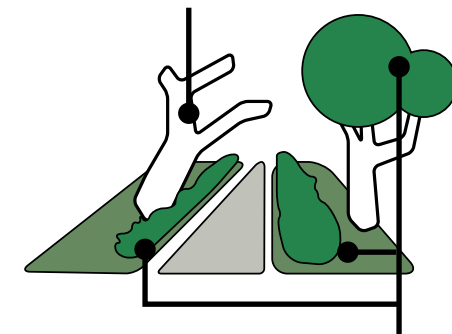
Trees

The abundance of trees is an important asset for a place and this is particularly important in Sutton in order to retain the natural environment that the village offers. Trees provide shading and cooling, absorb carbon dioxide, act as habitats and green chains for species, reduce air pollution and assist in water attenuation. For these reasons, new developments should:

- Preserve existing mature trees, incorporate them in the new landscape design, and use them as landmarks where appropriate.
- Existing tree root zones should be protected to ensure that existing trees can grow to their mature size. Root barriers must be installed where there is a risk of damaging foundations, walls, and underground utilities.
- The success of tree planting is more likely to be achieved when it has been carefully planned to work in conjunction with all parts of the new development, parking, buildings, street lights etc.

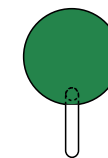
- New trees should be added to strengthen vistas, focal points, and movement corridors while retaining clear visibility of amenity spaces.

Loss of trees is only justifiable if they constitute hazards

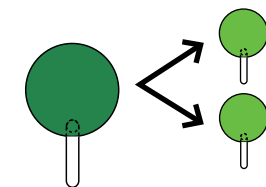


Protect veteran trees and hedgerows

Retain trees on development site



Justify the loss of trees, and replace each affected tree on a 2:1 ratio



Built form

Code 11. Green and open spaces

There is a variety of green spaces in the village which have different character, uses and scale. This creates the opportunity to develop a park system within the village where each green space serves a particular purpose and all together secure a connected green network within the village.

Therefore, existing open spaces should:

- Offer a variety of spaces that can host a diverse range of activities and accommodate different users.
- Be used by community and educational facilities for events and activities in order to enhance engagement and encourage civic pride.
- Be well maintained and monitored to preserve their high quality and continue to enhance the visual impact of an area.
- Be well-connected with green links and sustainable means of transport to facilitate access for all groups of people.

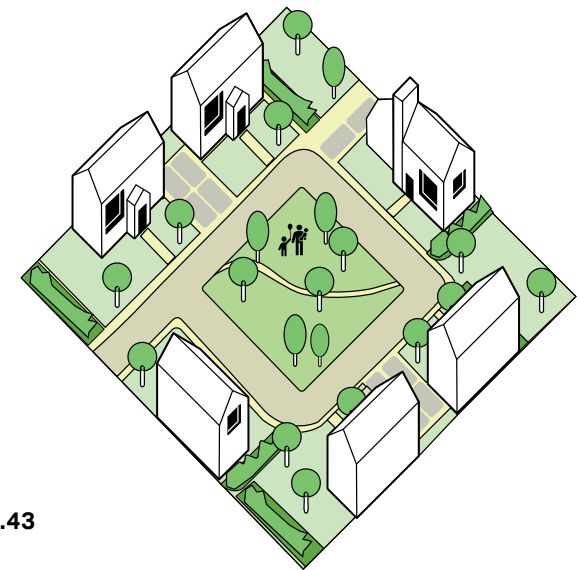
In addition, in the case of new developments the guidelines below must be taken into

account:

- Pre-existing heritage and landmark buildings or viewpoints and vistas in the area shall play an important role in defining the meaningful axes that can structure the composition of the formal open space.
- New open spaces must be well integrated into the existing park system by offering new facilities and uses.
- New open space must have a purpose and be of a size, location and form appropriate for the intended use, avoiding space left over after planning or pushing open space to the periphery of development.
- Open spaces must offer choices for the needs and desires of all users. For example, outdoor gym equipment, productive gardens, vertical gardens, allotments, etc. Offering choices will encourage a healthier lifestyle.
- New landscapes and open spaces must be located within walking distance from their intended users. If appropriate, these

should be linked to form connected green networks. The networks are often more useful to create visual amenity, for recreational use and wildlife corridors than isolated parks.

- Where direct links are not possible, it may be appropriate to link these together through green routes, shared surfaces and streets. Tree lined avenues should be used to achieve a visual and physical connection to open space.



F.43

Figure 43: Green space at the heart of a development.

Built form



F.44



F.45



F.46



F.47

Figure 44: Play area and open space, Stirling Way
Figure 45: The New Bedford River at The Gault
Figure 46: Alltments, lawn lane
Figure 47: Churchyard and burial ground

Built form

Code 12. Building scale and massing

The average building height in the village is two storeys, with some exception of three storey buildings in the High Street. Thus, new buildings must be sympathetic in mass, height, and scale to the existing context. Any new building or conversion above two storeys will only be supported in exceptional circumstances.

Subtle variation in height is encouraged to add visual interest. The bulk and pitch of roofs, however, must remain sympathetic to the tree canopy, the local vernacular, and the low-lying character of the village. Another way to achieve visual interest could be by varying frontage widths and plan forms.

The massing of new buildings must ensure a sufficient level of privacy and access to natural light for their occupants and avoid overshadowing existing buildings. New building and conversions must not significantly compromise existing property

Figure 48: Massing and building heights along the High Street

Figure 49: Massing and building heights along The Row

Figure 50: Massing and building heights along The Brook

Figure 51: Massing and building heights along Painters Lane



F.48



F.49



F.50



F.51

Built form

Code 13. Well defined public and private space

A clear definition between public and private space is a fundamental principle for good place-making. Buildings fronting the streets and open spaces give life to the public realm, primary access and principal frontages should therefore always face onto public spaces.

In residential areas, the distances between the backs of the properties need to be proportioned in consideration with privacy.

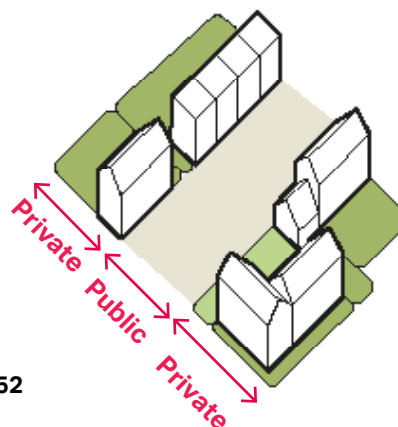
Setbacks from the street and front garden landscaping, together with more detailed architectural design should seek to balance privacy for front living rooms with natural surveillance of the streets, and the need for street enclosure.

The privacy distance between the backs of properties should be a minimum of 20m. When this is not possible, the layout should be a back to-side arrangement, or use single-aspect buildings (north facing single aspect units should be avoided) to avoid

creating overlooking issues.

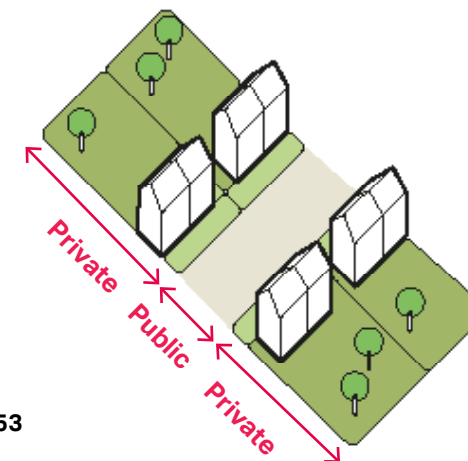
Appropriate boundary treatments including low walls, hedges and railings must be incorporated into design proposals to clearly distinguish public and private space.

Private open amenity space is important to wellbeing and is, in the form of back gardens, also part of the character of Sutton. All new houses will be expected to have usable outside amenity space.



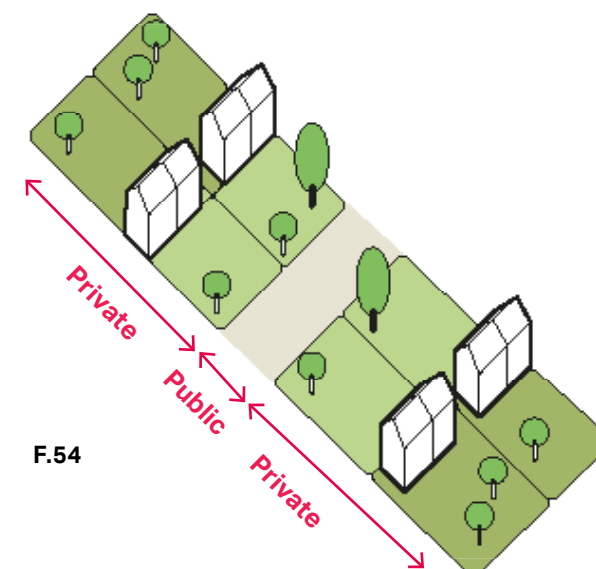
F.52

Figure 52: Public and private spaces in Village Conservation area.



F.53

Figure 53: Public and private spaces in Inner Zone.



F.54

Figure 54: Public and private spaces in Semi-Rural Zone

Built form

Code 14. Building heights

Creating variety in the roofline is a significant element of designing attractive places. There are certain elements that serve as guidelines in achieving a good variety of roofs:

- The scale and pitch of the roof must always be in proportion with the dimensions of the building itself.
- Monotonous building elevations shall be avoided, therefore subtle changes in roofline should be ensured during the design process. Roof shapes and pitches must however employ a restrained palette on a given building; overly complex roofs should be avoided.
- Locally traditional roof detailing elements such as roofing materials, edge treatments, and dormer styles shall be considered and implemented where possible in new developments.

- Dormers can be used as a design element to add variety and interest to roofs. They must be proportional to the mass of the building roof, be vertically aligned to the windows, and be of consistent style across an elevation.
- Future developments must follow the existing styles in rooflines and avoid long stretches of similar roof heights and monotonous rooflines.
- Development of one and two-storey buildings must be supported, above two storeys buildings shall only be permitted in exceptional circumstances.

Figure 55: Two to three storey buildings with variety of roof type in the village conservation area.

Figure 56: A mix of pitched roof with chimney stacks in The Row



Built form

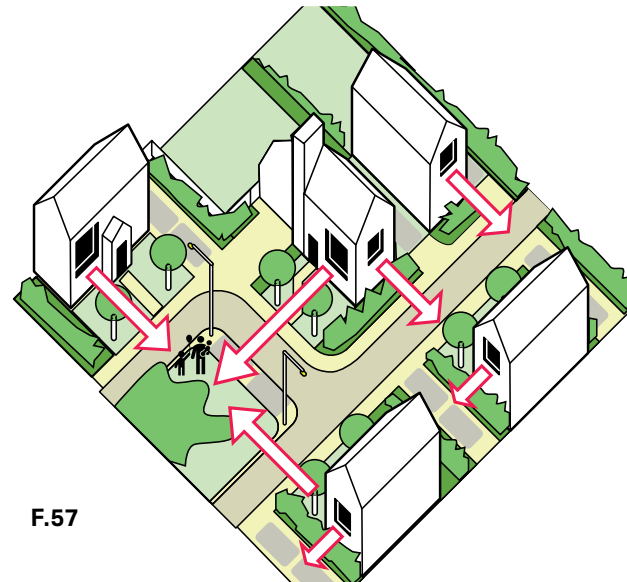
Code 15. Active frontages

Active frontages bring life and vitality to streets and public spaces.

Introducing regular doors, windows, front gardens and front parking, providing it does not dominate, can stimulate activity and social interactions.

Narrow frontages with a vertical rhythm can create a more attractive and interesting streetscape, while articulation on façades and use of bays and porches can create a welcoming feeling.

Exposed blank façades facing the public realm must be avoided. They should generally be fenestrated.



F.57



Figure 57: The active frontages with a well-supervised public realm.

Figure 58: Active frontage with the front garden and fenestration looking to the street.

Built form

Code 16. Views and vistas

Well-designed streets, open spaces, and public realm, together with building forms, are crucial for places to create their own stories in people’s minds.

Landmarks, views and focal points are the tools to achieve places that are easy to read and memorise, thus helping users to easily orientate themselves. Therefore, creating short-distance views broken by buildings, trees, or landmarks helps to create memorable routes.

On the other hand, it is also important to preserve long-distance views that offer pleasant sceneries along the footpaths and roads. This allows for a visual connection between places and encourages people to walk and cycle. For that reason, new houses should be appropriately oriented to maximise the opportunities for both short and long-distance views.

Figure 59: Preserve long distance views across the Fen

Figure 60: Allow long distance views across the Fen

Figure 61: View of the St Andrew’s Church

In addition, development should be located away from ridge tops, upper valley slopes or prominent locations.

Planning decisions should always attempt to maintain or where possible enhance key views and vistas.



F.59



F.60



F.61

Built form

Code 17. Materials and building details

The materials and architectural detailing used in the village contribute to the historic character of the area and the local vernacular.

It is therefore important that the materials used in proposed development are of a high quality and reinforce local distinctiveness. Any future development proposals should demonstrate that the palette of materials has been selected based on a solid knowledge of the local vernacular style and traditions.

In new developments and renovations, locally sourced bricks or bricks that match the buildings in the surrounding area would be the most appropriate.

Particular attention should be given to the bonding pattern, size, colour, and texture of bricks.

Generally, for inspiration and appropriate examples, the developers should look at the historic core of the settlement and the surrounding area. Each development should be designed with the specific location in mind and its immediate surroundings.

This section includes examples of building materials that contribute to the local vernacular of the village and that could be used to inform future development.

Additional information could be found also on the East Cambridgeshire District Council Design Guide Supplementary Planning Document.



PROTRUDING PORCH



FLOWER HANGING BASKETS



ENTRANCE RAILING GATE



MANSARD ROOFS



TUMBLER BRICKWORK



SLATE ROOF



YELLOW BRICK



THATCH ROOFING



CREAM/WHITE RENDER



PAINTED BRICK



GABLED DORMER



CLAY PANTILES



LANDSCAPED BOUNDARY HEDGE



TIMBER FENCING



RED BRICK

Code 18. Windows

The detailing, materials and fenestration of windows along building façades can inform the character of the street. Within Sutton, there are a variety of window styles which should be used as guidance for future windows in the town.

Windows should match the general orientation, proportion and alignment of other windows in the same building as well as those on adjacent properties, reinforcing the continuity of the streetscape.

Window subdivisions should be arranged symmetrically about the horizontal and vertical areas of the openings. Large panes of glass that are not subdivided should be avoided, as they can distort the visual scale of the building.

Windows in new developments should have consistent colour, thickness of frame and quality of windows across all elevations.

Figure 62: Bay window example in Sutton

Figure 63: Casement window example in Sutton

Figure 64: Multipane sash window in the Village Conservation area

Figure 65: Arched sash window example in the village conservation area

AECOM



Code 19. Doors

Different types of doors are used throughout Sutton contributing to an interesting and varied streetscape.

New development could use the existing architectural styles as inspiration.

Small porches at the entrance of buildings should respect the building line of the street, particularly where a strongly defined building line is an important characteristic of a street. The roof pitch should match that of the original building to ensure it blends in with the building.



Figure 66: A protruding porch example in Sutton

Figure 67: A rectangular Roman door style door example

Figure 68: A modern door style example in Sutton

Code 20. Chimneys

Chimneys can be seen across the village in all housing types, therefore they can be placed in several locations. A modern approach should be taken to chimney design and should only be incorporated where they serve a function.

Chimneys should match the primary elevation material and be placed symmetrically to the ridge line.

Chimneys should rise above the roof and when on an end elevation should connect to the ground.

Chimneys should be positioned on the roof ridges, centrally on a gable end or against an out scale wall and should have pots.

Particular attention should be given to the bonding pattern, size, colour, and texture of bricks.



Figure 69: Chimney stack with yellow brick in the conservation area

Figure 70: Chimney stack with red brick

Code 21. Roofscape

The scale of a roof should be designed in proportion to the height of the elevation. Subtle changes in angle of the roof pitch provides a variety of roofscapes, avoiding monotonous building compositions.

Roofs should have a simple form and avoid shallow pitches. Ridge heights should be limited by narrowing the plan depth rather than lowering the roof pitch.

Development shall use a common palette of locally distinctive vernacular building material, comprising of slate and red clay pantiles for gable and pitched roofs.

Roof renovation should consider any existing features of interest and ensure the use of matching details and materials.

Where plain clay tiles are used, roofs must have a pitch of 50°. Roofs with pitches in the range of 35°-40° should use slates.

Figure 71: Pitched roof with pitched dormers example in Sutton

Figure 72: Hipped roof example in Sutton

Figure 73: Mansard roof example in Sutton

Figure 74: Thatch roof example in Sutton



3. PEDESTRIAN, CYCLE CONNECTIVITY & PARKING



Code 16. Pedestrian and cycle connectivity



Code 17. Gateways and access features



Code 18. Car parking solutions



Code 19. Cycle parking solutions

Code 16. Pedestrian and cycle connectivity

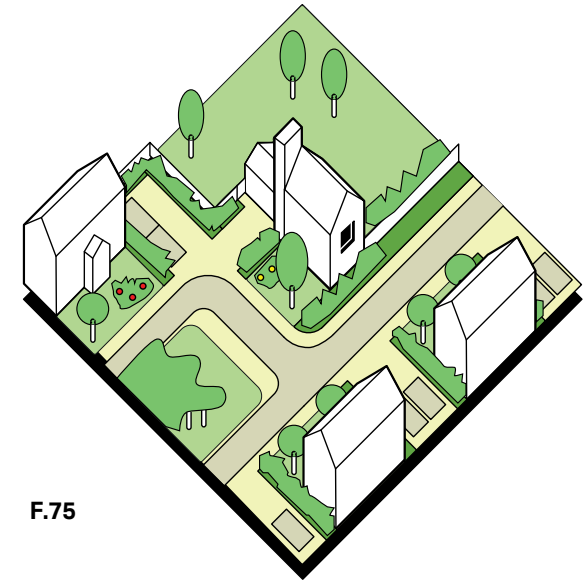
Good practice favours a connected street layout that makes it easier to travel by foot and cycle.

Even though the village settlement is in close proximity to the countryside and there are footpaths along the River Delph and New Bedford River, the existing network of footpath could be improved to allow for direct and safe pedestrian routes. This would encourage walking and cycling within the village as well as in the surrounding countryside. Some guidelines for future development are:

- Footways must be included in new developments and integrated with the existing pedestrian routes. New pedestrian connections between existing developments and blocks must also be sought where appropriate.
- All newly developed areas must provide direct and attractive footpaths between neighbouring streets and local facilities.

Pedestrian, cycle connectivity and parking

- A permeable street network at all levels provides people with a choice of different routes and allows traffic to be distributed, in general, more evenly across the network rather than concentrated along heavily trafficked roads.
 - Design features such as controlled gates to new developments or footpaths between high fences must be kept at a minimum and the later must be avoided.
 - On high-traffic and/or high-speed roads, cyclists must be kept away from moving traffic and parked vehicles as much as possible through the use of traffic calming, physical separation, and road markings and signage. On streets with lower traffic and speed limits no higher than 20 mph, the road can be shared between different modes.
 - New development should propose routes laid out in a permeable pattern, allowing for multiple connections and choice of routes, particularly on foot.
- de-sacs should be relatively short and provide onward pedestrian links.
 - New development should offer a variety of open spaces that can host a diverse range of activities and accommodate different users.
 - New development should enhance the character of the existing open spaces by either providing a positive interface (i.e. properties facing onto them to improve natural surveillance) or a soft landscaped edge.



F.75

Figure 75: Diagram showing the boundary treatment such as low wall and hedges in front of houses.

Pedestrian, cycle connectivity and parking

Code 17. Gateways and access features

The entrances to the Parish should be well highlighted and enhanced to help navigation around the area. In particular, Chain Causeway, Ely Road and Station Road are the main entrances to the Parish. Some examples to help signalise the main entrances to a place are the configuration of streets, the location of corner buildings, open spaces that act as welcome points, signage or welcome totems, or even large trees. All these elements create a gateway and a welcoming environment.

If new development is proposed along the edges of the main entrance roads, then, some guidelines for good design practice include:

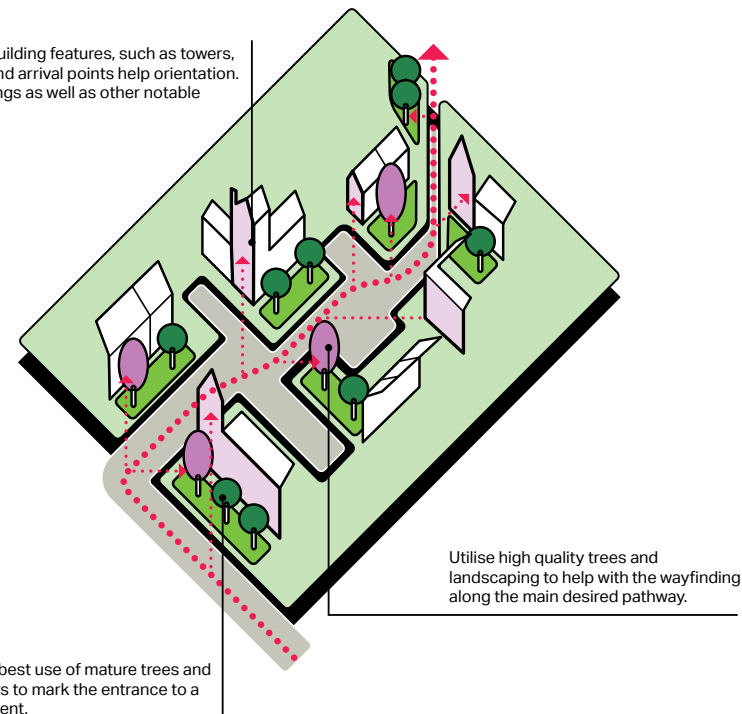
- Future design proposals should consider placing gateway elements to clearly mark the access or arrival to any potential developed site.
- The sense of departure and arrival can often be achieved by a noticeable change in scale, enclosure, or road configuration.

The gateway buildings or features should however reflect local character.

- Besides building elements acting as gateways, high-quality landscaping features could be considered appropriate to fulfil the same role, for example large street trees or open spaces with colourful flowers.

- It must be noted that gateway features should mainly be placed to mark a sense of arrival and departure and help with orientation, not to exclude non-residents either physically or symbolically. New developments should also be designed with an open and legible layout rather than an enclosed one.

Local landmark buildings or distinct building features, such as towers, chimneys, or porches, at key nodes and arrival points help orientation. Those buildings could be listed buildings as well as other notable buildings of architectural importance.



Pedestrian, cycle connectivity and parking

Code 18. Car parking solutions

The demand for private cars still remains high, at the time of writing, and therefore car parking has to be carefully integrated into neighbourhoods. There is no single best approach to domestic car parking. A good mix of parking typologies should be deployed, depending on, and influenced by location, topography and market demand.

The main types to be considered are shown on this page and the next ones:

- Vehicle parking should be mainly provided on-site. In general, the approach to the provision of parking should be flexible, not only with the types of parking solutions but also the use of parking spaces over time. For example, the use of off-site parking facilities may be adapted depending on the long-term evolution of parking demand to serve different mobility needs such as car clubs, scooters, or bicycle storage.
- Car parking design should be combined with landscaping to minimise the presence of vehicles. Parking areas and driveways should be designed to minimise impervious surfaces, for example through the use of permeable paving.
- For small pockets of housing a front or rear court is acceptable. For family homes, cars may be placed at the front or side of the property, however this parking typology should be minimised.
- When placing parking at the front, the area should be designed to minimise visual impact and to blend with the existing streetscape and materials. The aim is to keep a sense of enclosure and to break the potential of a continuous area of car parking in front of the dwellings by means of walls, hedging, planting, and use of differentiated quality paving materials.
- Cycle parking must be integrated into all new housing.
- A very useful website that helps define appropriate car parking solutions depending on the type of development is <http://www.spacetopark.org/>. This resource should be used as a design tool in new developments.

Pedestrian, cycle connectivity and parking

On-plot side or on front parking

There are many examples of on-plot side or on-front parking in the Parish. Some guidelines for future development are:

- On-plot parking can be visually attractive when it is combined with high quality and well designed soft landscaping. Front garden depth from pavement back must be sufficient for a large family car.
- Boundary treatment is the key element to help avoid a car-dominated character. This can be achieved by using elements such as hedges, trees, flower beds, low walls, and high quality paving materials between the private and public space.
- Hard standing and driveways must be constructed from porous materials to minimise surface water run-off.

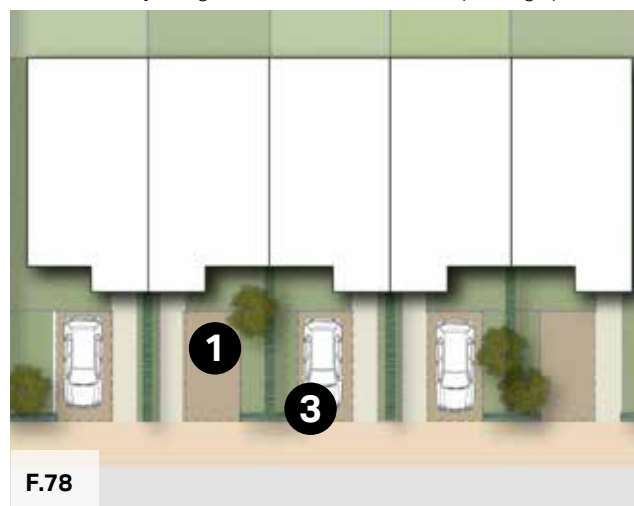


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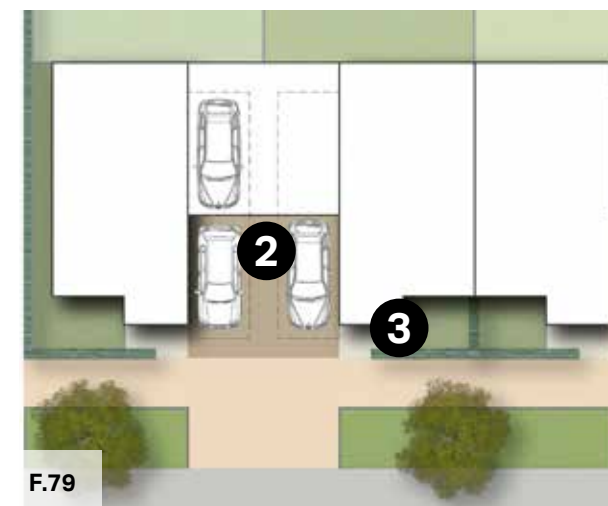


F.77

1. Front parking with part of the surface reserved for soft landscaping. Permeable pavement to be used whenever possible.
2. Side parking set back from the main building line. Permeable pavement to be used whenever possible.
3. Boundary hedges to screen vehicles and parking spaces.



F.78



F.79

Figure 76: On-plot parking example in Sutton

Figure 77: On-plot side parking example in Sutton

Figure 78: Illustrative diagram showing an indicative layout of on-plot front parking.

Figure 79: Illustrative diagram showing an indicative layout of on-plot side parking.

Pedestrian, cycle connectivity and parking

On-plot garages

On-plot garages parking typology is also found in the Parish. Some guidelines for future development are:

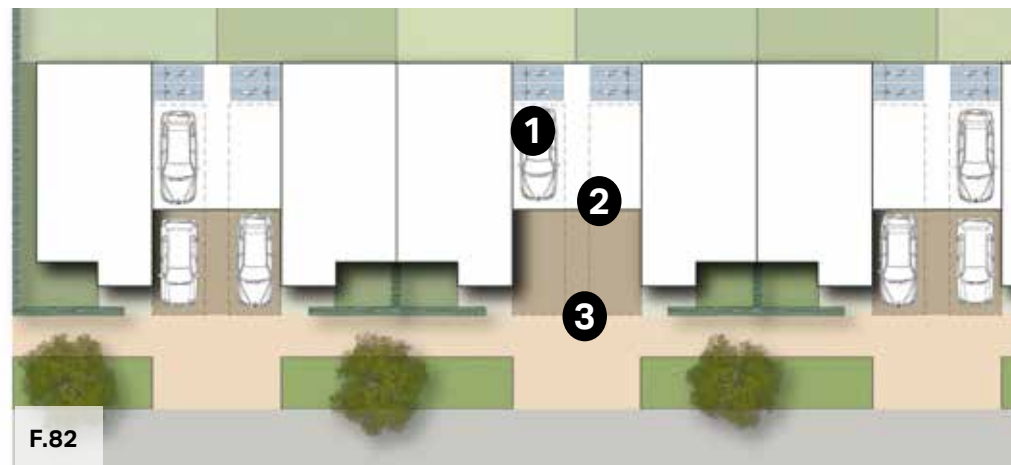
- Where provided, garages must be designed either as free standing structures or as additive form to the main building. In both situations, it must complement and harmonise with the architectural style of the main building rather than forming a mismatched unit.
- Often, garages can be used as a design element to create a link between buildings, ensuring continuity of the building line. However, it should be considered that garages are not prominent elements and they must be designed accordingly.
- Considerations must be given to the integration of bicycle parking, electric vehicle charging points, and/or waste storage into garages.



F.80



F.81



F.82

1. Side parking set back from the main building line. Permeable pavement to be used whenever possible.
2. Garage structure set back from main building line. Height to be no higher than the main roofline.
3. Boundary hedges to screen vehicles and parking spaces.

Figure 80: On-plot garages example in Sutton

Figure 81: On-plot garages example in Sutton

Figure 82: Illustrative diagram showing an indicative layout of on-plot parking with garages.

Pedestrian, cycle connectivity and parking

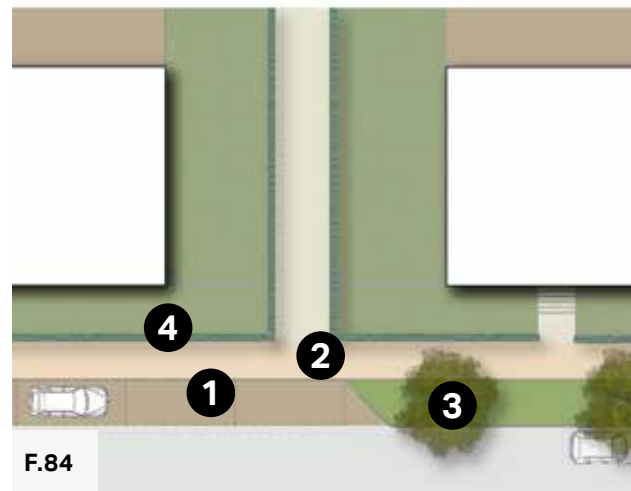
On street parking

On-street parking typology is also found in the village. Some guidelines for future development are:

- On-street parking should be allowed along main roads, where most of the facilities are located, in order to support delivery and emergency vehicles. In any other residential street or rural roads on-plot parking should be encouraged.
- The streetscape should not be dominated by continuous on-street parking spaces. Where possible, tree planting and other gaps between parking bays should be incorporated.
- On-street parking must be designed to avoid impeding the flow of pedestrians, cyclists, and other vehicles, and can serve a useful informal traffic calming function.
- Parking bays can be inset between kerb build outs or street trees. Kerb build outs between parking bays can shorten pedestrian crossing distances

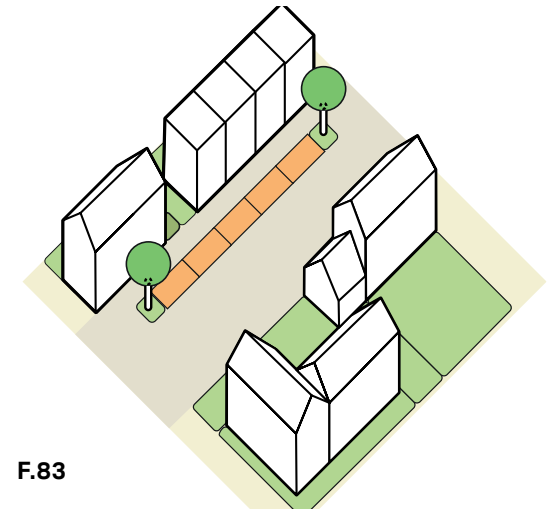
and can host street furniture or green infrastructure. They must be sufficiently wide to shelter the entire parking bay in order to avoid impeding traffic.

- Opportunities must be created for new public car parking spaces to include electric vehicle charging points. Such provision must be located conveniently throughout the town and designed to minimise street clutter.



F.84

1. On-street parking bay inset between kerb extensions.
2. Footway - additional green verge if street width permits.
3. Planted kerb extensions - width to be sufficient to fully shelter parking bay. Trees are optional but would be positive additions.
4. Boundary hedges.



F.83



F.85

Figure 83: Diagram showing on-street parking.

Figure 84: Illustrative diagram showing an indicative layout of on-street inset parking.

Figure 85: On-street parking on the High Street.

Pedestrian, cycle connectivity and parking

Code 19. Cycle parking solutions

A straightforward way to encourage cycling is to provide secured covered cycle parking within all new residential developments and publicly available cycle parking in the public realm.

Houses without garages

- Cycle storage must be provided at a convenient location with an easy access.
- When provided within the footprint of the dwelling or as a free standing shed, cycle parking should be accessed by means of a door at least 900mm and the structure should be at least 2m deep.
- Parking should be secure, covered and it should be well integrated into the streetscape if it is allocated at the front of the house.
- The use of planting and smaller trees alongside cycle parking can be used to mitigate any visual impact on adjacent spaces or buildings.

Houses with garages

- The minimum garage size should be 7mx3m to allow space for cycle storage.
- Where possible, cycle parking should be accessed from the front of the building either in a specially constructed enclosure or easily accessible garage.
- The design of any enclosure should integrate well with the surroundings.
- The bike must be removed easily without having to move the vehicle.

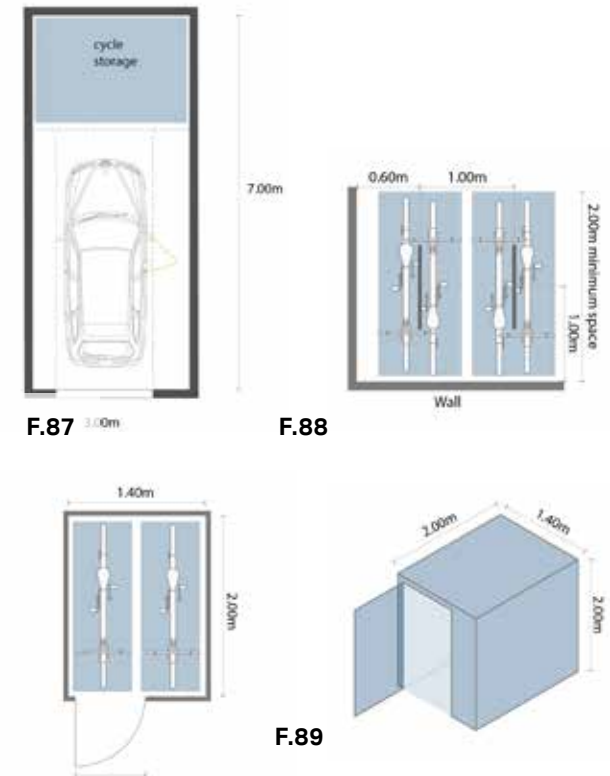
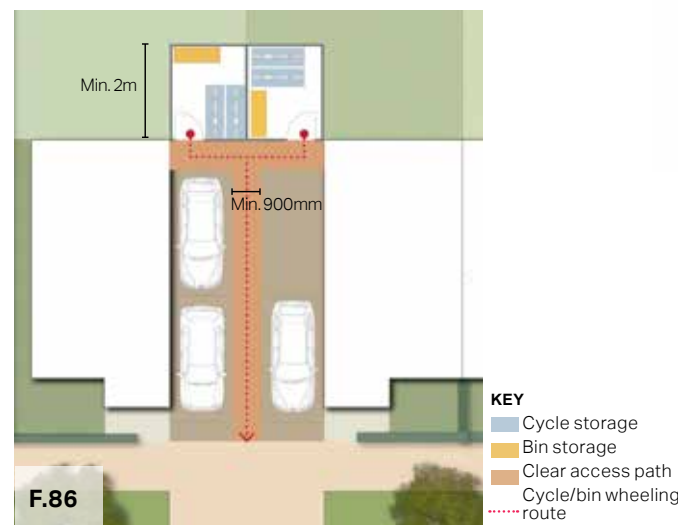


Figure 86: Indicative layout of a bicycle and bin storage areas at the back of semi-detached properties.

Figure 87: Indicative layout of a garage with a cycle storage area.

Figure 88: Sheffield cycle stands for visitors and cycle parking illustration.

Figure 89: Secure covered cycle store for two cycle storage illustration.

4. ENVIRONMENT & ENERGY EFFICIENCY



Code 20. Sustainable design



Code 21. Renewable/low carbon energy



Code 22. SuDs



Code 23. Permeable pavements



Code 24. Wildlife friendly environment



Code 25. Storage and slow release



Code 26. Servicing

Environment & energy efficiency

Code 20. Sustainable design

It is a general feeling amongst the residents that the focus should be on renewable sources that could improve the environment, the carbon footprint of each household and provide cost efficient solutions.

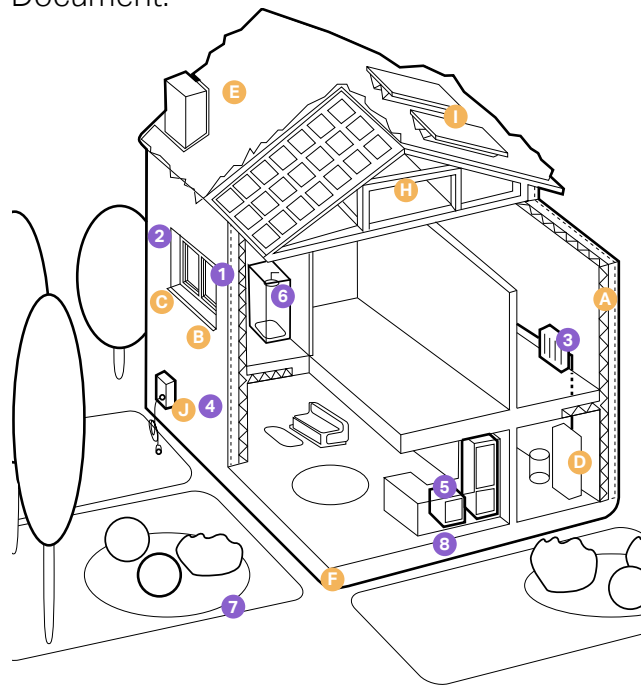
This section will elaborate on energy efficient technologies that could be incorporated in buildings. Use of such principles and design tools should be encouraged in order to contribute towards a more sustainable environment. Note that this document does not constitute policy. Energy efficient or eco design combines all round energy efficient appliances and lighting with commercially available renewable energy systems, such as solar electricity and/or solar/ water heating.

Starting from the design stage there are strategies that can be incorporated to include technologies such as passive solar heating, cooling and energy efficient landscaping which are determined by local climate and site conditions.

The diagram opposite features an array

of sustainable design features. Those on the left show the features that should be strongly encouraged in existing homes, while those on the right show additional features that new build homes should be encouraged to incorporate from the onset.

Additional guidance could also be found on the East Cambridgeshire District Council Climate Change – Supplementary Planning Document.



F.90

Existing homes

- 1  **Insulation** in lofts and walls (cavity and solid)
- 2  **Double or triple glazing with shading** (e.g. tinted window film, blinds, curtains and trees outside)
- 3  **Low-carbon heating** with heat pumps or connections to district heat network
- 4  **Draught proofing** of floors, windows and doors
- 5  **Highly energy-efficient appliances** (e.g. A++ and A+++ rating)
- 6  **Highly waste-efficient devices** with low-flow showers and taps, insulated tanks and hot water thermostats
- 7  **Green space (e.g. gardens and trees)** to help reduce the risks and impacts of flooding and overheating
- 8  **Flood resilience and resistance** with removable air back covers, relocated appliances (e.g. installing washing machines upstairs), treated wooden floors

Additional features for new build homes










- A  **High levels of airtightness**
- B  **More fresh air** with the mechanical ventilation and heat recovery, and passive cooling
- C  **Triple glazed windows and external shading** especially on south and west faces
- D  **Low-carbon heating** and no new homes on the gas grid by 2025 at the latest
- E  **Water management and cooling** more ambitious water efficiency standards, green roofs, rainwater harvesting and reflective walls
- F  **Flood resilience and resistance** e.g. raised electrical, concrete floors and greening your garden
- H  **Construction and site planning** timber frames, sustainable transport options (such as cycling)
- I  **Solar panel**
- J  **Electric car charging point**

Figure 90: Diagram showing low-carbon homes in both existing and new build conditions.

Environment & energy efficiency

Code 21. Renewable/low carbon energy

The use of renewable/low carbon energy solutions such as air and ground source heat pumps, district heating, and solar panels are strongly encouraged.

District heat networks may play an important role in the transition to low carbon energy. Centralised energy production systems are more efficient than individual heating systems and generate less carbon emissions.

The design and installation of solar panels should be done carefully considering potential implications within conservation areas. Preserving the character of the parish should be a priority.

Some solutions of sensitive implementation of solar roof panels are suggested as follows:

On new builds:

- Design solar panel features from the start, forming part of the design concept. Some attractive options are solar shingles and photovoltaic slates.

- Use the solar panels as a material in their own right.

On retrofits:

- Analyse the proportions of the building and roof surface in order to identify the best location and sizing of panels.
- Consider introducing other tile or slate colours to create a composition with the solar panel materials.
- Conversely, aim to introduce contrast and boldness with proportion. There has been increased interest in black panels due to their more attractive appearance. Black solar panels with black mounting systems and frames can be an appealing alternative to blue panels.
- Carefully consider the location of solar panels on buildings within the conservation area. It might be appropriate to introduce solar panels to areas of the building that are more concealed in order to preserve the character and appearance of the conservation area.

- Solar panels can be added to listed buildings, but they need to be carefully sited and consent will be required.



Figure 91: Use of shingle-like solar panels on a slate roof, with the design and colour of the solar panels matching those of the adjacent slate tiles.

Environment & energy efficiency

Code 22. Rainwater harvesting

SuDs

This section outlines a range of sustainable drainage solutions to potential drainage capacity and flooding problems in the parish. Although these design interventions can help improve drainage in the parish, other solutions might be needed to solve the main drainage issues.

The term SuDS stands for Sustainable Drainage Systems. It covers a range of approaches to managing surface water in a more sustainable way to reduce flood risk and improve water quality whilst improving amenity benefits.

SuDS work by reducing the amount and rate at which surface water reaches a waterway or combined sewer system. Usually, the most sustainable option is collecting this water for reuse, for example in a water butt or rainwater harvesting system, as this has the added benefit of reducing pressure on important water sources.

Where reuse is not possible there are two alternative approaches using SuDS:

- Infiltration, which allows water to percolate into the ground and eventually restore groundwater.
- Attenuation and controlled release, which holds back the water and slowly releases it into the sewer network. Although the overall volume entering the sewer system is the same, the peak flow is reduced. This reduces the risk of sewers overflowing. Attenuation and controlled release options are suitable when either infiltration is not possible (for example where the water table is high or soils are clay) or where infiltration could be polluting (such as on contaminated sites).

The most effective type or design of SuDS would depend on site-specific conditions such as underlying ground conditions, infiltration rate, slope, or presence of ground contamination. A number of overarching principles can however be applied:

- Manage surface water as close to where it originates as possible.
- Reduce runoff rates by facilitating infiltration into the ground or by providing attenuation that stores water to help slow its flow down so that it does not overwhelm water courses or the sewer network.
- Improve water quality by filtering pollutants to help avoid environmental contamination.
- Form a 'SuDS train' of two or three different surface water management approaches.
- Integrate into development and improve amenity through early consideration in the development process and good design practices.

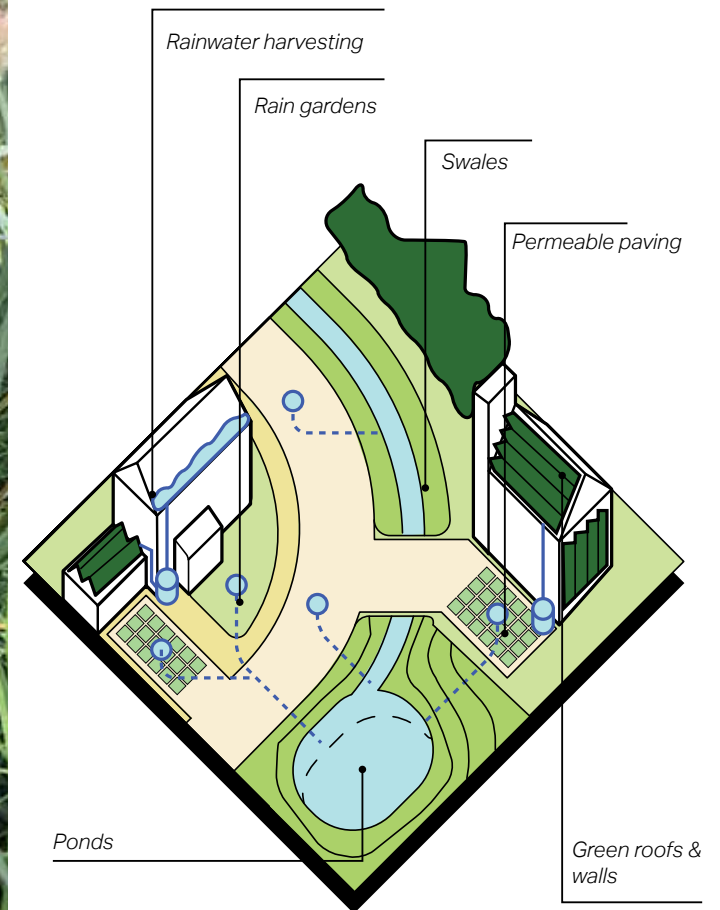
Environment & energy efficiency

- SuDS are often as important in areas that are not directly in an area of flood risk themselves, as they can help reduce downstream flood risk by storing water upstream.
- Some of the most effective SuDS are vegetated, using natural processes to slow and clean the water whilst increasing the biodiversity value of the area.
- Best practice SuDS schemes link the water cycle to make the most efficient use of water resources by reusing surface water.
- SuDS must be designed sensitively to augment the landscape and provide biodiversity and amenity benefits.



F.92

Figure 92: Examples of SuDS designed as a public amenity and fully integrated into the design of the public realm in Stockholm, Sweden



Environment & energy efficiency

Bioretention systems

Bioretention systems, including soak away and rain gardens, can be used within each development, along verges, and in semi-natural green spaces. They must be designed to sit cohesively with the surrounding landscape, reflecting the natural character of the parish. Vegetation must reflect that of the surrounding environment.

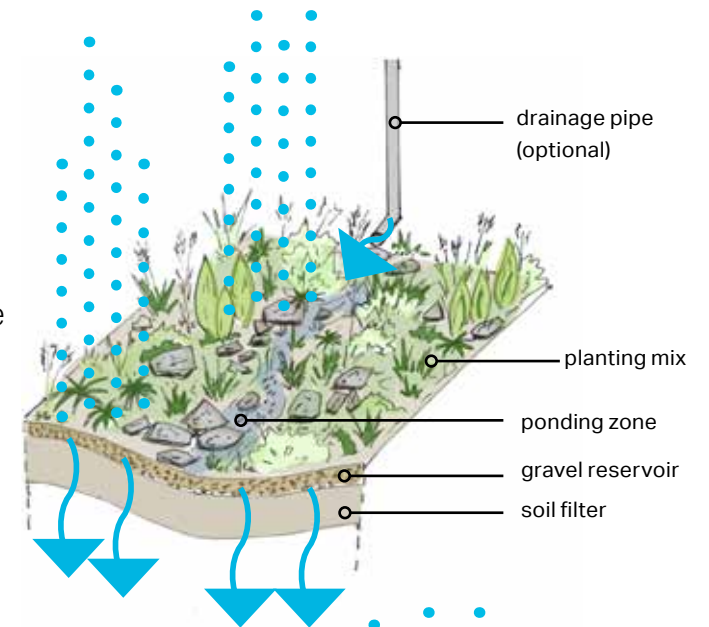
They can be used at varying scales, from small-scale rain gardens serving individual properties, to long green-blue corridors incorporating bioretention swales, tree pits and mini-wetlands, serving roads or extensive built-up areas.

These planted spaces are designed to enable water to infiltrate into the ground. Reducing downpipes and enabling roof water to flow into rain gardens can significantly reduce the runoff into the sewer system. The UK Rain Garden Design Guidelines provides more detailed guidance on their feasibility and suggests planting to help improve water quality as well as attract biodiversity.¹

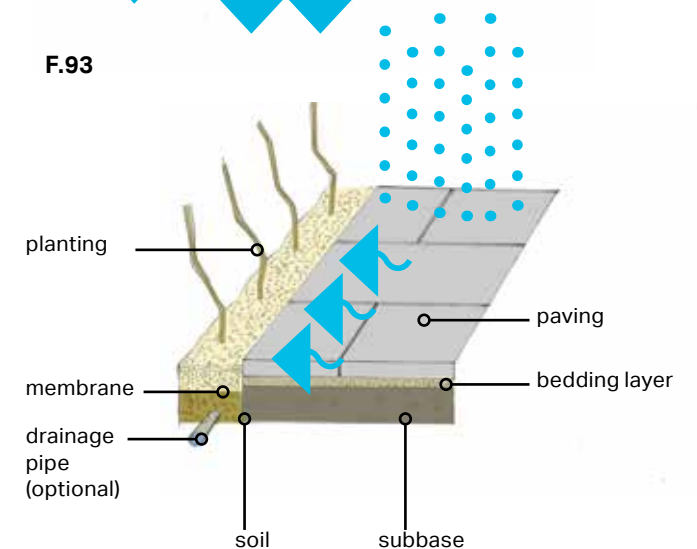
¹ UK Rain Gardens Guide. Available at: <https://raingardens.info/wp-content/uploads/2012/07/UKRainGarden-Guide.pdf>

Figure 93: Diagram illustrating the functioning of a rain garden

Figure 94: Diagram illustrating the functioning of a soak away garden



F.93



F.94

Code 23. Wildlife friendly environment

Maintaining and creating a wild-friendly environment is a top priority for the parish. The existing green and blue assets give the opportunity for wildlife sites which can be the home of native species and plants. Some guidelines for future development are:

- Biodiversity and woodlands should be protected and enhanced where possible. Hedges, trees, road verges along roads as well as natural tree buffers should be protected when planning for new developments.
- Abrupt edges to development with little vegetation or landscape on the edge of the settlement should be avoided and, instead, a comprehensive landscape buffering should be encouraged.
- New developments and building extensions should aim to strengthen biodiversity and the natural environment.
- Ensure habitats are buffered. Widths of buffer zones should be wide enough and based on specific ecological function.

- New development proposals should include the creation of new habitats and wildlife corridors. This could be accomplished by aligning back and front gardens or installing bird boxes or bricks in walls. Wildlife corridors should be included to enable wildlife to travel to and from foraging areas and their dwelling areas.



F.95



F.96

Figure 95: Example of a bughouse located in an outdoor playground facility.

Figure 96: Example of a structure used as a frog habitat corridor located in an outdoor green space.

Environment & energy efficiency

Code 24. Permeable paving

Most built-up areas, including roads and driveways, increase impervious surfaces and reduce the capacity of the ground to absorb runoff water. This in turn increases the risks of surface water flooding. Permeable pavements offer a solution to maintaining soil permeability while performing the function of conventional paving. The choice of permeable paving materials must be made depending on the local context; materials may take the form of unbound gravel, clay pavers, or stone setts.

Permeable paving can be used where appropriate on footpaths, public squares, private access roads, driveways, and private areas within the individual development boundaries. In addition, permeable pavement must also comply with the following:

- Flood and Water Management Act 2010, Schedule 3.¹
- The Building Regulations Part H – Drainage and Waste Disposal.²

¹ Great Britain (2010). *Flood and Water Management Act, Schedule 3*. Available at: <http://www.legislation.gov.uk/ukpga/2010/29/schedule/3>

² Great Britain (2010). *The Building Regulations Part H – Drainage and Waste Disposal*. Available at: <https://assets.publishing.service.gov.uk/>

- Town and Country Planning (General Permitted Development) (England) Order 2015.³

Regulations, standards, and guidelines relevant to permeable paving and sustainable drainage are listed below:

- Sustainable Drainage Systems - non-statutory technical standards for sustainable drainage systems.⁴
- The SuDS Manual (C753).⁵
- Guidance on the Permeable Surfacing of Front Gardens.⁶

[government/uploads/system/uploads/attachment_data/file/442889/BR_PDF_AD_H_2015.pdf](http://www.legislation.gov.uk/uploads/system/uploads/attachment_data/file/442889/BR_PDF_AD_H_2015.pdf)

³ Great Britain (2015). *Town and Country Planning (General Permitted Development) (England) Order 2015*. Available at: http://www.legislation.gov.uk/ukxi/2015/596/pdfs/ukxi_20150596_en.pdf

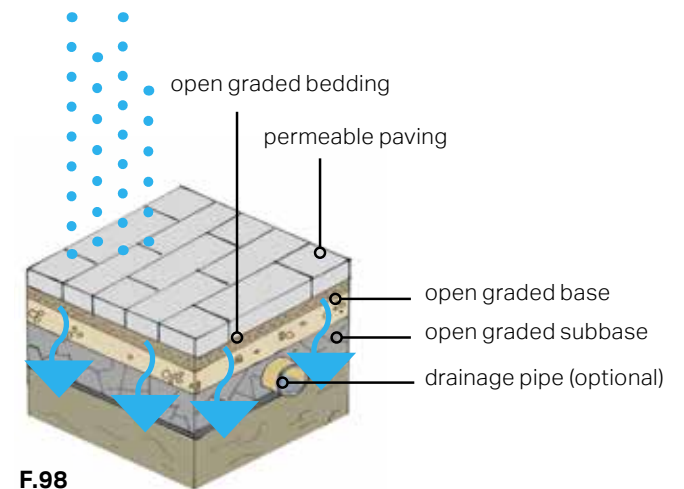
⁴ Great Britain. Department for Environment, Food and Rural Affairs (2015). *Sustainable drainage systems – non-statutory technical standards for sustainable drainage systems*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/415773/sustainable-drainage-technical-standards.pdf

⁵ CIRIA (2015). *The SuDS Manual (C753)*.

⁶ Great Britain. Ministry of Housing, Communities & Local Government (2008). *Guidance on the Permeable Surfacing of Front Gardens*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7728/pavingfrontgardens.pdf



F.97



F.98

Figure 97: Example of a permeable paving option.

Figure 98: Diagram illustrating the functioning of a soak away.

Environment & energy efficiency

Code 25. Storage and slow release

Rainwater harvesting refers to the systems allowing the capture and storage of rainwater as well as those enabling the reuse in-site of grey water.

Simple storage solutions, such as water butts, can help provide significant attenuation. To be able to continue to provide benefits, there has to be some headroom within the storage solution.

If water is not reused, a slow release valve allows water from the storage to trickle out, recreating capacity for future rainfall events. New digital technologies that predict rainfall events can enable stored water to be released when the sewer has greatest capacity to accept it.

These systems involve pipes and storage devices that could be unsightly if added without an integral vision for design. Therefore, some design recommendations would be to:

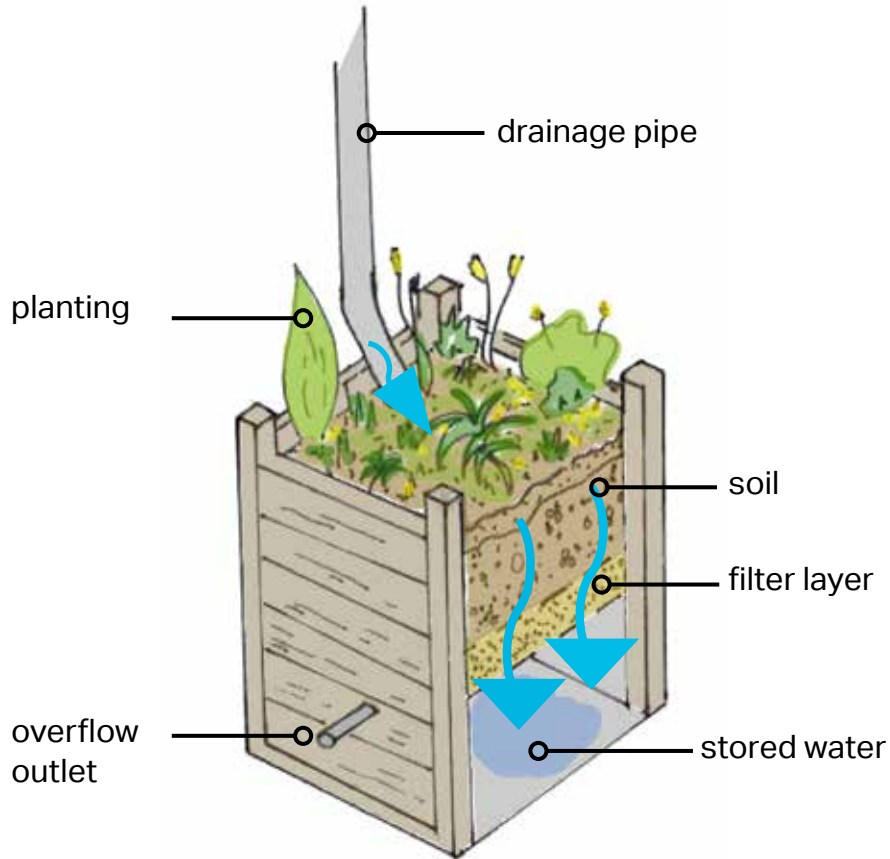
- Conceal tanks by cladding them in complementary materials.
- Use attractive materials or finishing for pipes.
- Combine landscape/planters with water capture systems.
- Underground tanks.
- Utilise water bodies for storage.



Figure 99: Examples of water butts used for rainwater harvesting in Cambridgeshire

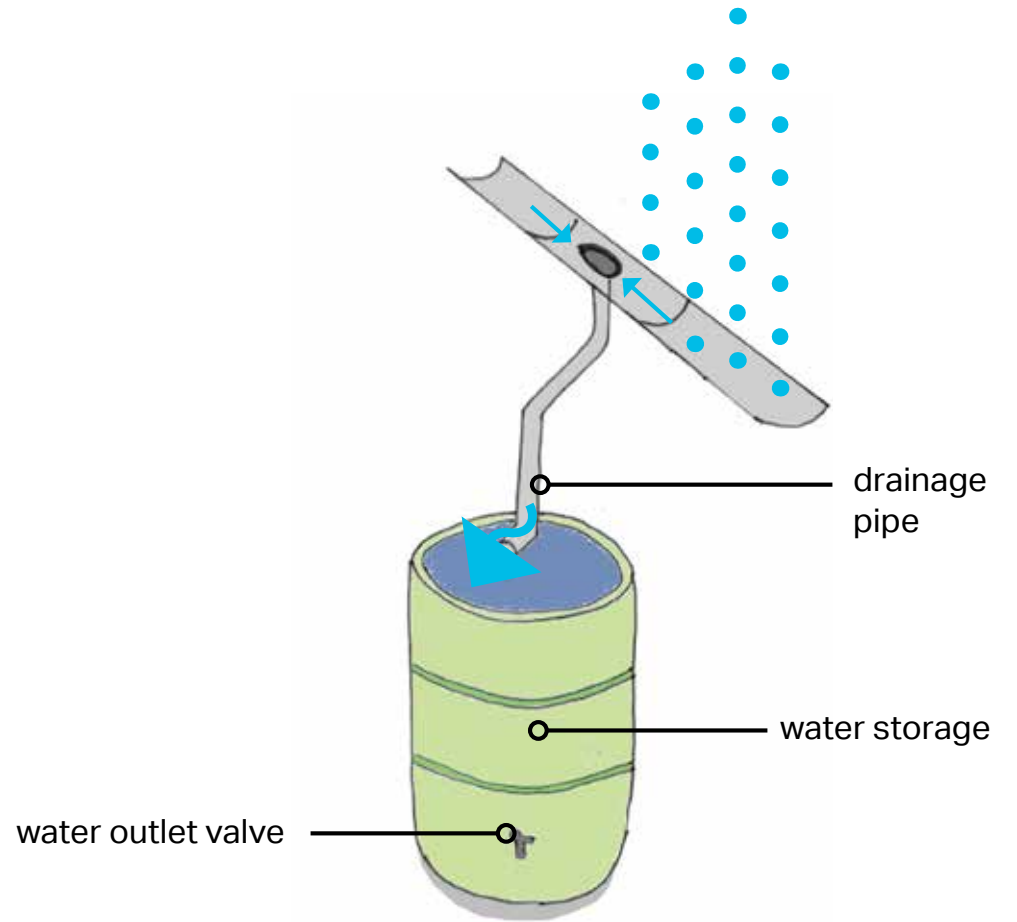
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Environment & energy efficiency



F.100

Figure 100: Diagram illustrating the functioning of a stormwater planter



F.101

Figure 101: Diagram illustrating the functioning of a water butt

Environment & energy efficiency

Code 26. Servicing

With modern requirements for waste separation and recycling, the number and size of household bins has increased. This poses a problem with the aesthetics of the property. Therefore, some guidelines for new development are:

- When dealing with waste storage, servicing arrangements and site conditions should be taken into account; in some cases waste management should be from the front of the building and in others, from the rear. It is recommended that bins are located away from areas used as amenity space.
- Create a specific enclosure of sufficient size for all the necessary bins.
- Bins should be placed as close to the dwelling's boundary and the public highway, such as against a wall, fence, hedge but not in a way as to obstruct the shared surface for pedestrian and vehicle movements.

- Place it within easy access from the street and, where possible, with the ability to open on the pavement side to ease retrieval.
- Refer to the materials palette to analyse what would be a complementary material.
- Add to the environmentally sustainable design by incorporating a green roof element to it.
- It could be combined with cycle storage.

Electric vehicle charging points

Each new residential unit with dedicated parking facilities should provide electric vehicle charging points or have parking areas that can be easily adapted to incorporate electric charging points at a later date. Efforts should be made to cater for electric cars, mobility scooters, and bicycles.



Bin storage design, minimising the visual impact of bins and recycling containers.

F.102

Figure 102: Bin storage design solution

1

General questions to ask and issues to consider when presented with a development proposal

Because the design guidelines and codes in this chapter cannot cover all design eventualities, this section provides a number of questions based on established good practice against which the design proposal should be evaluated. The aim is to assess all proposals by objectively answering the questions below. Not all the questions will apply to every development. The relevant ones, however, should provide an assessment as to whether the design proposal has taken into account the context and provided an adequate design solution.

As a first step there are a number of ideas or principles that should be present in all proposals. These are listed under 'General design guidelines for new development.' Following these ideas and principles, a number of questions are listed for more specific topics.

General design guidelines for new development:

- Integrate with existing paths, streets, circulation networks and patterns of activity;
- Reinforce or enhance the established settlement character of streets, greens, and other spaces;
- Harmonise and enhance existing settlement in terms of physical form, architecture and land use;
- Relate well to local topography and landscape features, including prominent ridge lines and long-distance views;
- Reflect, respect, and reinforce local architecture and historic distinctiveness;
- Retain and incorporate important existing features into the development;
- Respect surrounding buildings in terms of scale, height, form and massing;
- Adopt contextually appropriate materials and details;
- Provide adequate open space for the development in terms of both quantity and quality;
- Incorporate necessary services and drainage infrastructure without causing unacceptable harm to retained features;
- Ensure all components e.g. buildings, landscapes, access routes, parking and open space are well related to each other;
- Make sufficient provision for sustainable waste management (including facilities for kerbside collection, waste separation, and minimisation where appropriate) without adverse impact on the street scene, the local landscape or the amenities of neighbours;

1 (continued)

- Positively integrate energy efficient technologies;
- Ensure that places are designed with management, maintenance and the upkeep of utilities in mind; and
- Seek to implement passive environmental design principles by, firstly, considering how the site layout can optimise beneficial solar gain and reduce energy demands (e.g. insulation), before specification of energy efficient building services and finally incorporate renewable energy sources.

2

Street grid and layout:

- Does it favour accessibility and connectivity? If not, why?
- Do the new points of access and street layout have regard for all users of the development; in particular pedestrians, cyclists and those with disabilities?
- What are the essential characteristics of the existing street pattern; are these reflected in the proposal?
- How will the new design or extension integrate with the existing street arrangement?
- Are the new points of access appropriate in terms of patterns of movement?
- Do the points of access conform to the statutory technical requirements?

3

Local green spaces, views and character:

- What are the particular characteristics of this area which have been taken into account in the design; i.e. what are the landscape qualities of the area?
- Does the proposal maintain or enhance any identified views or views in general?
- How does the proposal affect the trees on or adjacent to the site?
- Can trees be used to provide natural shading from unwanted solar gain? i.e. deciduous trees can limit solar gains in summer, while maximising them in winter.
- Has the proposal been considered within its wider physical context?
- Has the impact on the landscape quality of the area been taken into account?
- In rural locations, has the impact of the development on the tranquillity of the area been fully considered?
- How does the proposal impact on existing views which are important to the area and how are these views incorporated in the design?
- How does the proposal impact on existing views which are important to the area and how are these views incorporated in the design?
- Can any new views be created?
- Is there adequate amenity space for the development?
- Does the new development respect and enhance existing amenity space?
- Have opportunities for enhancing existing amenity spaces been explored?
- Will any communal amenity space be created? If so, how this will be used by the new owners and how will it be managed?
- Is there opportunity to increase the local area biodiversity?
- Can green space be used for natural flood prevention e.g. permeable landscaping, swales etc.?
- Can water bodies be used to provide evaporative cooling?
- Is there space to consider a ground source heat pump array, either horizontal ground loop or borehole (if excavation is required)?

4

Gateway and access features:

- What is the arrival point, how is it designed?
- Does the proposal maintain or enhance the existing gaps between settlements?
- Does the proposal affect or change the setting of a listed building or listed landscape?
- Is the landscaping to be hard or soft?

5

Buildings layout and grouping

- What are the typical groupings of buildings?
- How have the existing groupings been reflected in the proposal?
- Are proposed groups of buildings offering variety and texture to the townscape?
- What effect would the proposal have on the streetscape?
- Does the proposal maintain the character of dwelling clusters stemming from the main road?
- Does the proposal overlook any adjacent properties or gardens? How is this mitigated?
- Subject to topography and the clustering of existing buildings, are new buildings oriented to incorporate passive solar design principles, with, for example, one of the main glazed elevations within 30° due south, whilst also minimising overheating risk?
- Can buildings with complementary energy profiles be clustered together such that a communal low carbon energy source could be used to supply multiple buildings that might require energy at different times of day or night? This is to reduce peak loads. And/or can waste heat from one building be extracted to provide cooling to that building as well as heat to another building?

6

Building line and boundary treatment

- What are the characteristics of the building line?
- How has the building line been respected in the proposals?
- Has the appropriateness of the boundary treatments been considered in the context of the site?

7

Building heights and roofline

- What are the characteristics of the roofline?
- Have the proposals paid careful attention to height, form, massing and scale?
- If a higher than average building(s) is proposed, what would be the reason for making the development higher?
- Will the roof structure be capable of supporting a photovoltaic or solar thermal array either now, or in the future?
- Will the inclusion of roof mounted renewable technologies be an issue from a visual or planning perspective? If so, can they be screened from view, being careful not to cause over shading?

8

Household extensions

- Does the proposed design respect the character of the area and the immediate neighbourhood, and does it have an adverse impact on neighbouring properties in relation to privacy, overbearing or overshadowing impact?
- Is the roof form of the extension appropriate to the original dwelling (considering angle of pitch)?
- Do the proposed materials match those of the existing dwelling?
- In case of side extensions, does it retain important gaps within the street scene and avoid a 'terracing effect'?

8 (continued)

- Are there any proposed dormer roof extensions set within the roof slope?
- Does the proposed extension respond to the existing pattern of window and door openings?
- Is the side extension set back from the front of the house?
- Does the extension offer the opportunity to retrofit energy efficiency measures to the existing building?
- Can any materials be re-used in situ to reduce waste and embodied carbon?

9

Building materials and surface treatment

- What is the distinctive material in the area?
- Does the proposed material harmonise with the local materials?
- Does the proposal use high-quality materials?
- Have the details of the windows, doors, eaves and roof details been addressed in the context of the overall design?
- Does the new proposed materials respect or enhance the existing area or adversely change its character?
- Are recycled materials, or those with high recycled content proposed?
- Has the embodied carbon of the materials been considered and are there options which can reduce the embodied carbon of the design? For example, wood structures and concrete alternatives.
- Can the proposed materials be locally and/or responsibly sourced? E.g. FSC timber, or certified under BES 6001, ISO 14001 Environmental Management Systems?

10

Car parking

- What parking solutions have been considered?
- Are the car spaces located and arranged in a way that is not dominant or detrimental to the sense of place?
- Has planting been considered to soften the presence of cars?
- Does the proposed car parking compromise the amenity of adjoining properties?
- Have the needs of wheelchair users been considered?
- Can electric vehicle charging points be provided?
- Can secure cycle storage be provided at an individual building level or through a central/ communal facility where appropriate?
- If covered car ports or cycle storage is included, can it incorporate roof mounted photovoltaic panels or a biodiverse roof in its design?

11

Architectural details and design

- If the proposal is within a Conservation Area, how are the characteristics reflected in the design?
- Does the proposal harmonise with the adjacent properties?
- This means that it follows the height massing and general proportions of adjacent buildings and how it takes cues from materials and other physical characteristics.
- Does the proposal maintain or enhance the existing landscape features?
- Has the local architectural character and precedent been demonstrated in the proposals?
- If the proposal is a contemporary design, are the details and materials of a sufficiently high enough quality and does it relate specifically to the architectural characteristics and scale of the site?
- Is it possible to incorporate passive environmental design features such as larger roof overhangs, deeper window reveals and/or external louvres/shutters to provide shading in hotter months?
- Can the building designs utilise thermal mass to minimise heat transfer and provide free cooling?
- Can any external structures such as balconies be fixed to the outside of the building, as opposed to cantilevering through the building fabric to reduce thermal bridge?



Delivery

05

5. Delivery

The Design Guidelines and Codes will be a valuable tool in securing context-driven, high quality development within Sutton. They will be used in different ways by different actors in the planning and development process, as summarised in the table.

ACTORS	HOW THEY WILL USE THE DESIGN GUIDELINES
Applicants, developers, and landowners	As a guide to community and Local Planning Authority expectations on design, allowing a degree of certainty – they will be expected to follow the Guidelines as planning consent is sought.
Local Planning Authority	<p>As a reference point, embedded in policy, against which to assess planning applications.</p> <p>The Design Guidelines should be discussed with applicants during any pre-application discussions.</p>
Parish Council	As a guide when commenting on planning applications, ensuring that the Design Guidelines are complied with.
Community organisations	As a tool to promote community-backed development and to inform comments on planning applications.
Statutory consultees	As a reference point when commenting on planning applications.

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