PAMPISFORD

Neighbourhood Plan Design Codes

FINAL REPORT

AUGUST 2021

Quality information

Prepared by	Checked by	Approved by
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Revision History

Revision	Revision date	Details	Name	Position
3	24.08.2021	Final issue	Ben Castell	Director
2	02.08.2021	Review	Heather Panton	Pampisford Parish Council
1	27.01.2021	Review,	Ben Castell	Director
0	27.01.2021	Research, site visit, drawings	Jing Yuan	Senior Urban Designer

Figure 1: Aerial photograph of Pampisford with the parish boundary highlighted

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Part A: Introduction and context

A - 1. Introduction

1.1. Introduction

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 Pampisford Parish Council.

The Steering Group is making good progress in the production of its Neighbourhood Plan and has requested to access professional advice on design guidelines and codes for future development within the parish. This document should support Neighbourhood Plan policies that guide the assessment of future development proposals and encourage high quality design. It advises on physical development helping to create distinctive places integrated with the parish.

1.2. Objective

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. In particular, it elaborates on key design elements that were agreed with the Neighbourhood Plan Working Group at the outset of the project.

1.3. Process

Following an inception meeting and a virtual site visit, AECOM and Pampisford Neighbourhood Plan steering group members carried out a high level assessment of the village. The following steps were agreed with the group to produce this report:

- Initial meeting between AECOM and the Pampisford Neighbourhood Planning Group and joint site visit;
- Review of existing baseline documents;
- Preparation of design codes and guidance;
- Draft report; and
- Final report.

A - 2. About Pampisford

2.1. Area of study

Pampisford is a small parish in South Cambridgeshire, situated some 7 miles to the south-east of Cambridge. The eastern boundary of Pampisford is along the alignment of the Roman road that runs north from Stump Cross. The tributaries of River Cam-River Granta flow past sections of the western and northern boundaries.

Nearby towns and villages situated within close proximity of Pampisford include Sawston, Whittlesford and Duxford to the west and Babraham and Great Abington to the north-east.

The vehicular access is provided by the A505 connecting Royston and Newmarket, and the Sawston bypass diverges from the main road in Pampisford parish. The nearest station is Whittlesford, located within 10 minutes cycling distance. It provides direct services to Cambridge and London via Liverpool Street line. The Parish is served by the StageCoach Citi 7 bus service, running from Saffron Walden and Duxford through to Cambridge centre, via Shelford and Addenbrooke's Hospital.

At the time of the 2011 census, Pampisford Parish had 344 usual residents.

2.2. Historical evolution

Pampisford has remained predominantly a rural settlement, and part of the Green Belt of Cambridge.

The earliest building within Pampisford is the Parish Church which dates back to medieval times. In the 16th and 17th centuries, farm-houses grew on the main approach to the church (Church Lane) and along Brewery Road. Some cottages in Brewery Road and Beech Lane date from the 17th and 18th centuries.

By the 19th century there were more buildings as other businesses arrived. In the second half of the 20th century, there were a amount of infill developments at junction with High Street. This gave the village a nucleated pattern. Sawston Trade Park next to London Road was built with development encouraged by the construction of the A1301.

2.3. Historic buildings and structures

As a recognition of its architectural heritage, the historical village core has been protected by a Conservation Area. The village has 21 Listed Building entries, including Grade II* Church of St. John the Baptist. The two moated sites east of College Farm are designated as a scheduled monument.

One of the most interesting features of the village is the presence of four water pumps. These were installed to improve water supply and sanitation following a bad outbreak of cholera in the 19th century.

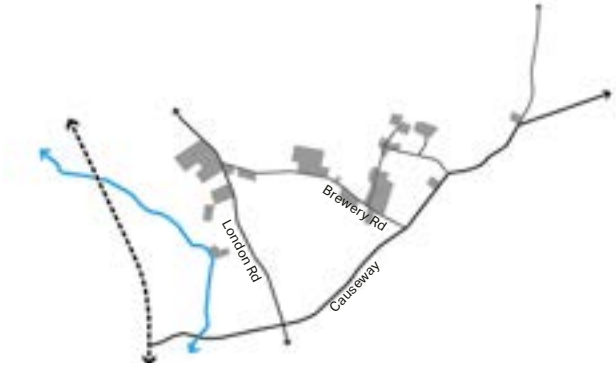


Figure 2: Map showing development in the parish in 1885

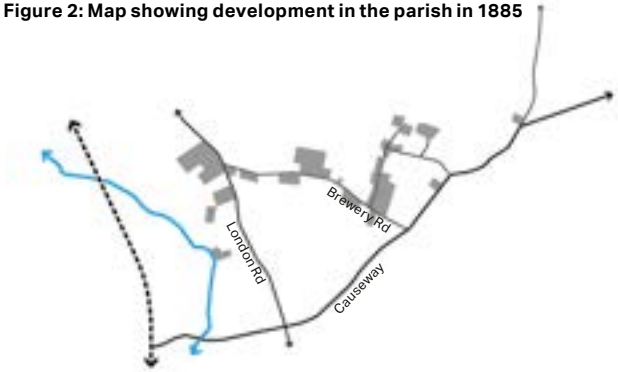


Figure 3: Map showing development in the parish in 1950

Figure 4: Map showing development in the parish in 1981

① ADAMS COTTAGE

② PUMP TO EAST OF NUMBER 1

③ PARISH CHURCH OF ST JOHN THE BAPTIST

④ 14, HIGH STREET

⑤ 10, HIGH STREET

⑥ INGLENOOK

⑦ PUMP AT JUNCTION WITH HIGH STREET

⑧ THE OLD RECTORY

⑨ RECTORY FARMHOUSE

⑩ BLENHEIM COTTAGE

Figure 5: Pampisford Conservation Area and notable buildings

A - 3. Character areas

The settlements within the parish each have a different character. Understanding that character can help to generate design cues for future development to follow. This section outlines the broad physical contextual characteristics of the settlements, and is helpful in identifying what is special and distinctive about each area. The character traits identified in this section inform the design codes.

In physical terms the Parish of Pampisford remains predominantly open countryside, farmland, woodland and parkland.

Over time, the natural expansion of the parish has generated specific areas with distinct character that can be differentiated in terms of six character areas as shown in Figure 6.

Figure 6: Character areas

3.1. Character area A: Historic core

This is the traditional heart of Pampisford village. This area contains a large amount of the village's historic fabric and listed buildings. Also, it' s the functional core of the village, where community services and the pub are found.

- The area is a mix of houses from various historic periods and styles. Plot sizes vary in size and form, as does building massing and setbacks, which results in an informal and dynamic building line and façade rhythm.
- High Street is characterised with a very green, enclosed streetscape.
- The most prominent housing typology is thatched cottage - which, for the most part,are situated at junctions with Brewery Road and Beech Lane.
- Local vernacular is provided in the timber-framed and plastered cottages and later brick built dwellings.
- Buildings are typically one and two storeys. Gabled roofs are commonplace, varying in eaves height and angle. Some roof elements (ie.dormer and chimney) have been included that add interest to the roof line.
- The Church Lane Recreation Ground is well maintained, consisting of lawn with children play facilities, accented by mature tree plantings.
- The Parish Church is an important landmark feature.

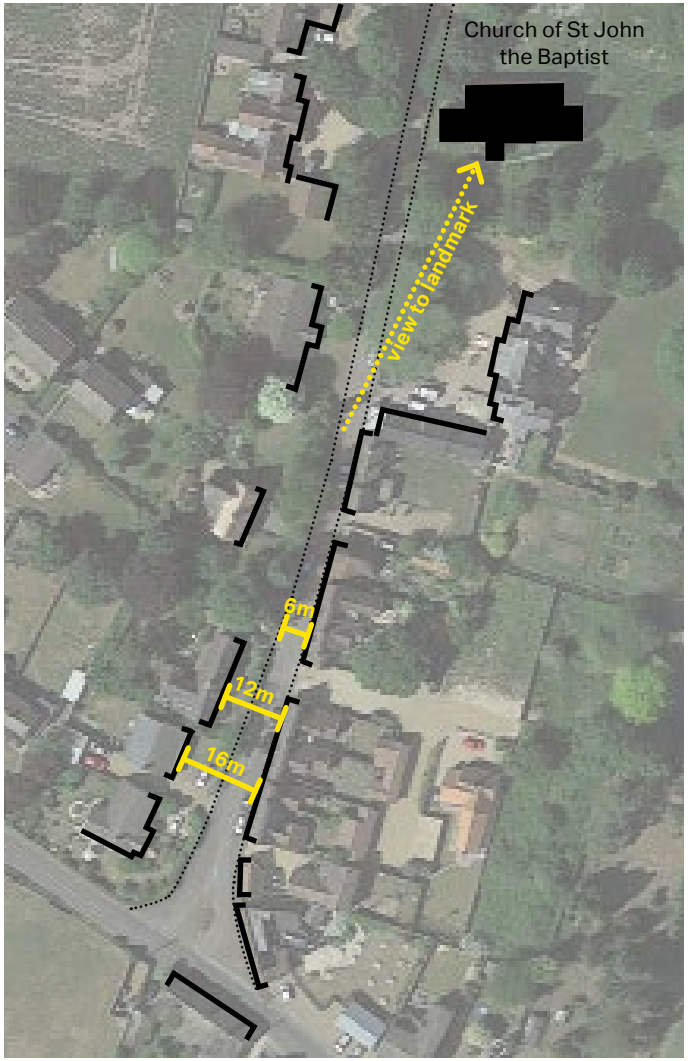


Figure 7: Key dimensions of High Street

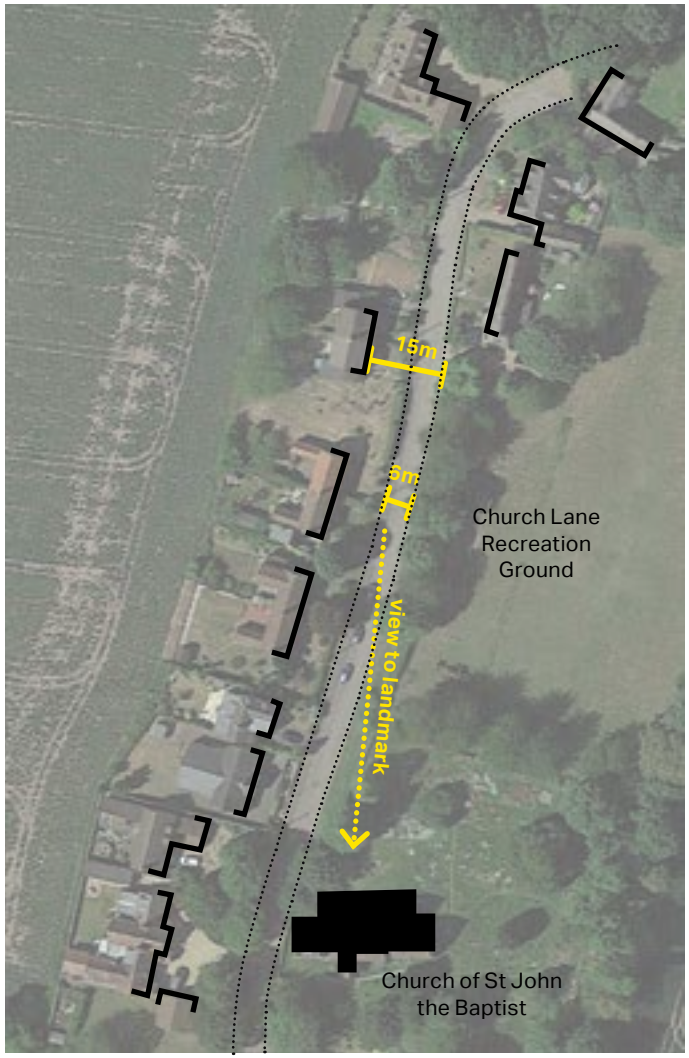


Figure 8: Key dimensions of Church Lane

3.2. Character area B: Brewery Road

Brewery Road is the main access route, heading west to Sawston. Many post-war 20th century developments are represented.

- Brewery Road has a linear pattern of development. The majority of the settlement is set along Brewery Road and distributed unevenly to either side in a one-plot deep configuration and back onto the open countryside.
- There has been gradual development across periods. Different periods of development are separated by green fields.
- Buildings are predominantly semi detached and detached houses and do not exceed two storeys in height.
- Green verges and mature trees are present and these contribute strongly to the well-vegetated character of the road.
- Brewery Road has an open and spacious feel, with views to the surrounding countryside.
- Buildings have deep and spacious front garden which add to the sense of openness and greenery.
- Pampisford Play Park is largely a grassed area with perimeter planting.

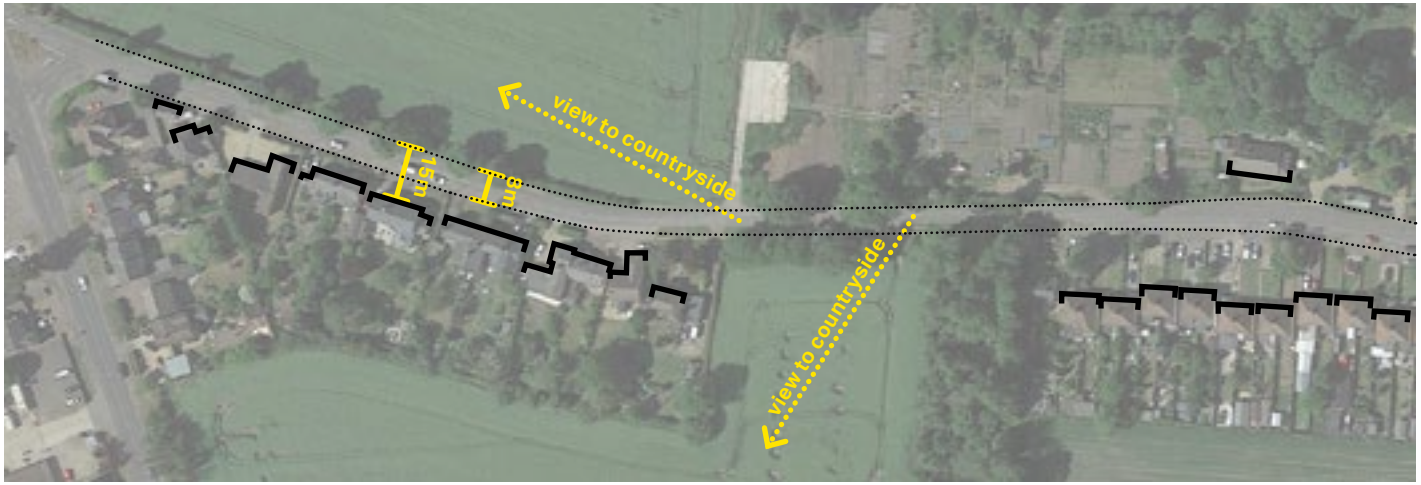


Figure 9: Key dimensions of west of Brewery Road

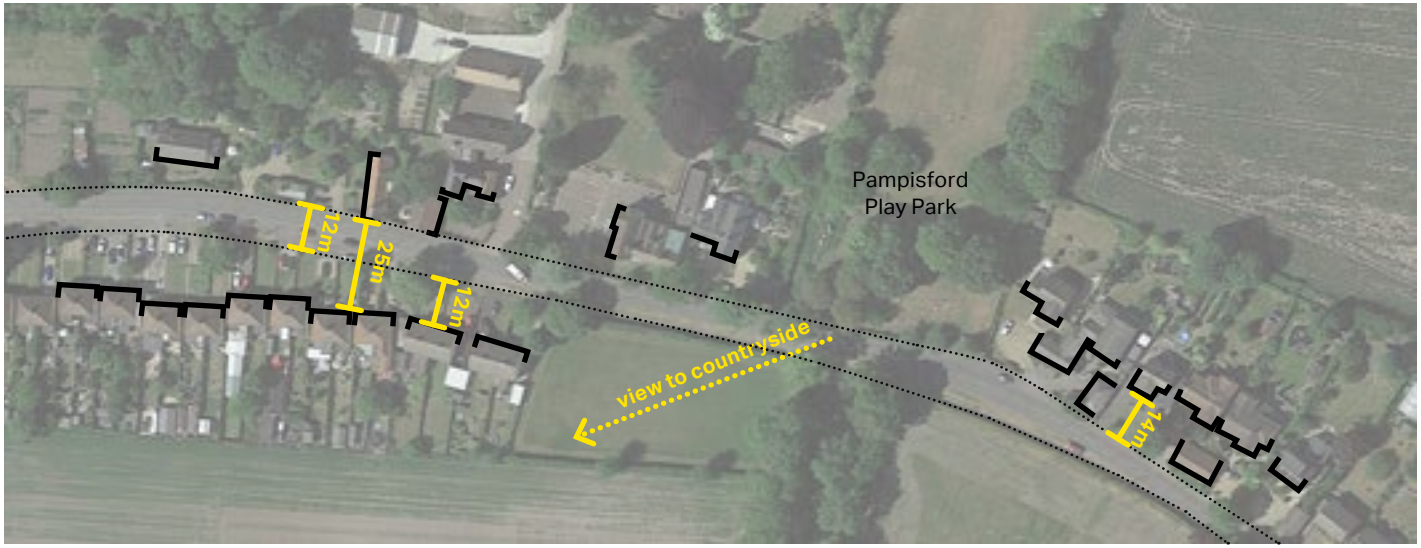


Figure 10: Key dimensions of east of Brewery Road

3.3. Character area C: Cul-de-sac development

The developments in Hammond Close and Glebe Crescent were built in the late 20th century.

- Short cul-de-sacs and no-through roads have been used to structure layouts for these developments.
- The houses are all of a similar size, scale, materials, and detailing.
- Pavements tend to be provided with kerbs and buildings are set back from the street. Roads and pavements are built to modern highways standards.
- Generally Buildings front onto streets. However some buildings in Glebe Crescent have back gardens facing the street so that the principal elevations face the countryside. As a result this layout, the street is enclosed by unattractive panel fences.
- The most common housing typologies are detached houses and bungalows

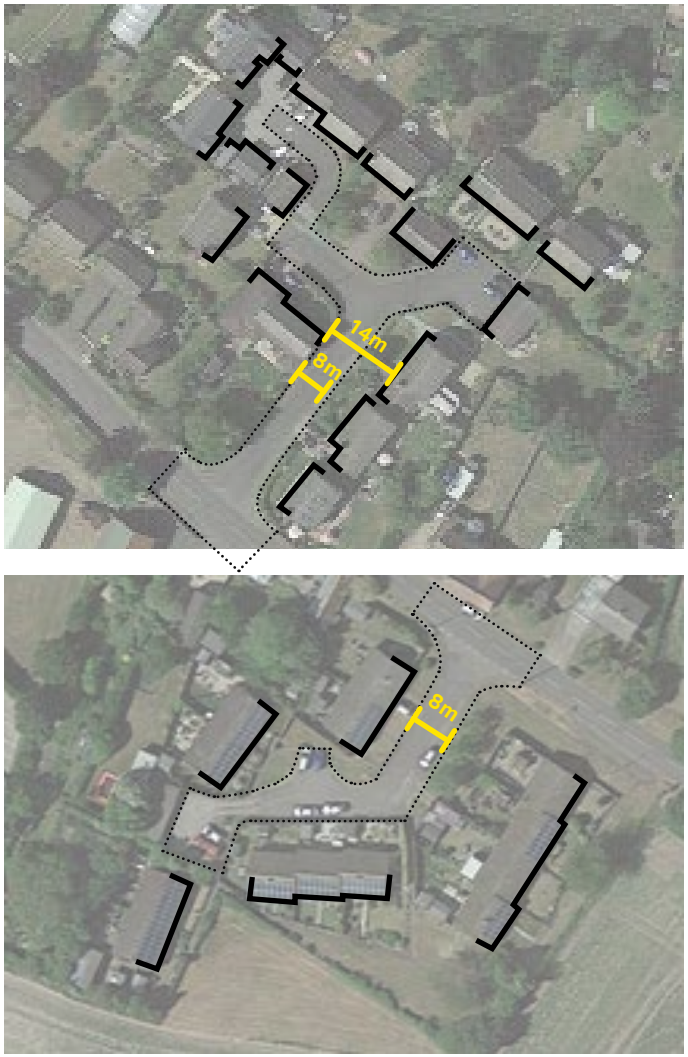


Figure 12: Key dimensions of cul-de-sac developments

Figure 13: Hammond Close

Figure 11: Glebe Crescent

3.4. Character area D: Farmstead

Scattered farmsteads have a more rural setting.

- The farmsteads remain strongly linked to its wider rural landscape and fields.
- Buildings are arranged in groups away from roads.

3.5. Character area E: Employment area in Brewery Road

A number of businesses are situated in Brewery Road.

- The employment areas incorporate historical buildings, which are sympathetic in materials and size, well merging with the surrounding residential buildings.
- Large scale buildings are screened by green buffers which mitigate any unpleasant visual impact for the surrounding residents.
- Buildings are arranged in groups away from Brewery Road.

3.6. Character area F: Sawston Trade Park

Swaston Trade park fronts onto London Road and is situated to the west of Pampisford village. It is an important employment area in South Cambridgeshire. A redevelopment project, to be known as Unity Campus, is under construction.

- Modern industrial units and research buildings do not exceed three storeys in height.
- Most of public realm in the business park is currently used for car parking.

Figure 14: Farmstead in Beech Lane

Figure 15: Pampisford Court

Figure 16: Sawston Trade Park

Part B: Design guidance and codes

B - 1. Landscape, nature and open space

1.1. Landscape character

The Parish is located in the Cambridgeshire Landscape Character Area - Chalkland. The area is characterised by smooth rolling chalk hills . Within the parish, the hills are dissected by the river valley of the Cam/Granta which is part of the Cambridgeshire Green Infastructure Strategy network, extending into the western and northern of Pampisford parish like 'fingers' .

Much of the Pampisford parish sits within the Green Belt. Therefore the parish remains a rural tranquil landscape. The built-up areas are surrounded by open fields, woodlands and farmlands. Development and redevelopment schemes within the Green Belt should accord with South Cambridgeshire Local Plan Policy NH/9 and Policy NH/8.

Guidance

1.1.1. New development must demonstrate an understanding of the landscape sensitivities and designations of the area. Flood risk zones, Registered Parks and Gardens, priority habitats and woodland, should all be protected and respected in future developments.

1.1.2. New development should preserve openness of the Green Belt and be in keeping with strong rural character.

1.2. Amenity space

Within the town there are two important amenity spaces, they are Pampisford Play Park and Church Lane Recreation Ground lying along Brewery Road and Church Lane respectively. These open spaces provide a strong soft landscaped character with mature tree planting and offer the most significant outdoor activities. In general, the open spaces located within the built environment are easily accessed by foot.

Guidance

1.2.1. Development adjoining public open spaces should enhance the character of these spaces by either providing a positive interface (i.e. properties facing onto them to improve natural surveillance) or a soft landscaped edge.

1.3. Trees

Distinctive trees, groups of mature trees, species-rich hedgerows and wide green verges are present and these contribute strongly to the well-vegetated character of the public realm, as well as faciliating biodiversity.

Guidance

1.3.1. All existing good quality woodland, hedgerows, trees and shrubs should be retained within the layout and, where necessary, enhanced through additional planting and/or improved management.

1.3.2. Where development abuts the countryside a generous and comprehensive landscape buffer should be created or retained to allow the transition from built form to the surrounding landscape. There should be no abrupt edges with little vegetation or landscape in such locations.

Figure 17: Church Lane Recreation Ground

Figure 18: Pampisford Play Park

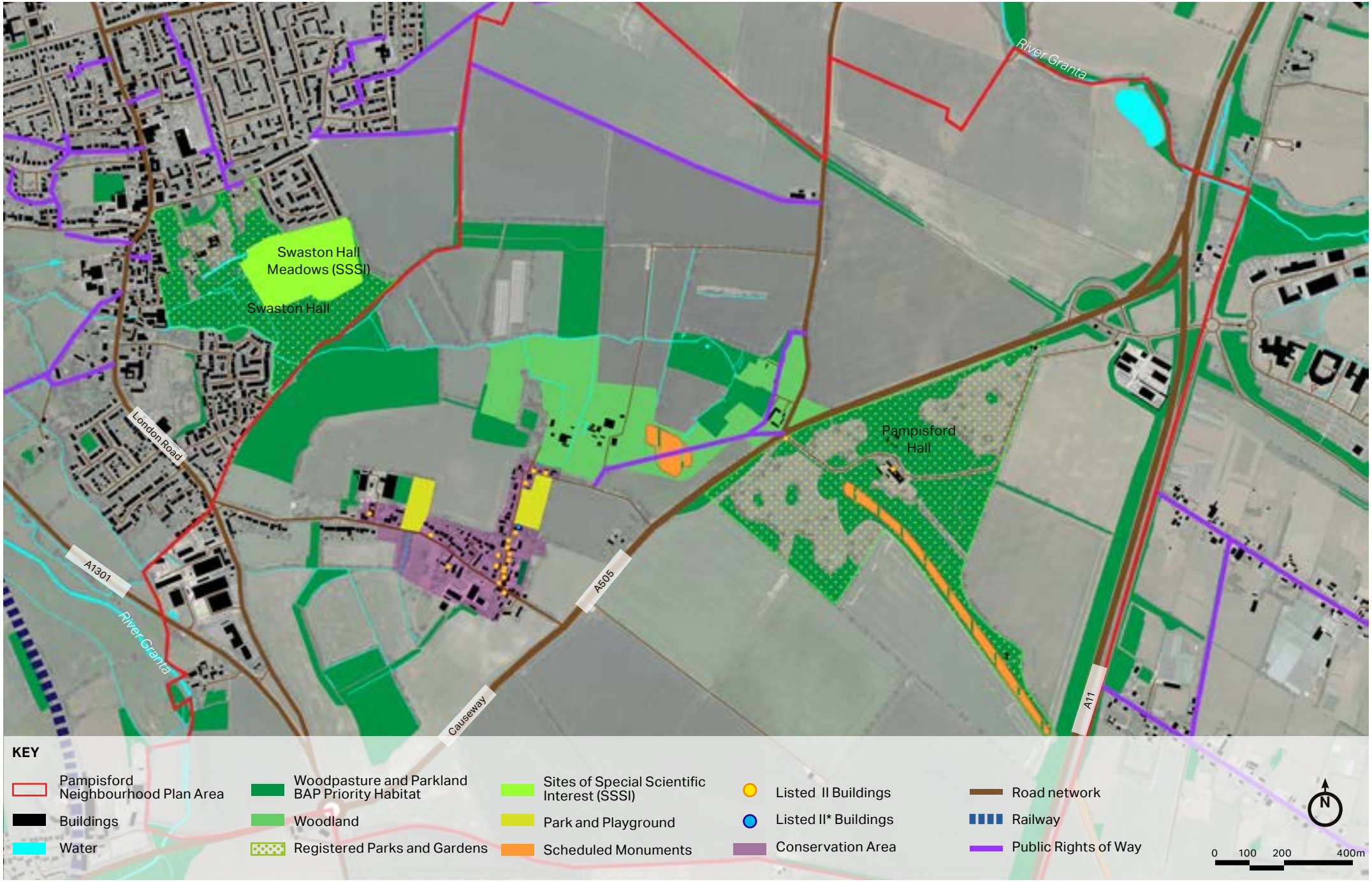


Figure 19: Local context

B - 2. Built form

2.1. Building scale and massing

Pampisford mainly consists of two-storey buildings creating a lower level of roofline, which enables the settlement to sit below the mature tree canopy and integrate it into the surrounding landscape, with the Church of St John standing out as an easily visible landmark.

Guidance

2.1.1. The majority of buildings in the Parish do not exceed two storeys in height. Therefore, new buildings should be sympathetic in mass, height and scale to the existing context.

2.1.2. Subtle variations in height, such as altering eaves and ridge heights, can add visual interest, although, in some instances a more cohesive and regular arrangement is the dominant characteristic and this should be respected, where is occurs. 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 inclusion of a uniform building type throughout a development must be avoided.

2.1.3. The massing of new buildings should ensure a sufficient level of privacy and access to natural light for their occupants and avoid overshadowing existing buildings.

Figure 20: Typical 2 storey semi-detached housing

Figure 21: The variety in scale provides a pleasing roofscape

Figure 22: Changes in frontage widths and plan forms

Figure 23: Changes in scale

2.2. Views and gaps

South Cambridgeshire Adopted Policies Map identified multiple important countryside frontages as shown in Figure 24.

These countryside frontages *"are defined where land with a strong countryside character either a) Penetrates or sweeps into the built-up area providing a significant connection between the street scene and the surrounding rural area; or b) Provides an important rural break between two nearby but detached parts of a development framework"* (South Cambridgeshire Local Plan, Policy NH/13)

Guidance

2.2.1. Buildings should be designed and arranged to reinforce views of existing landmarks and the open countryside through appropriate scale, mass and separation.

2.2.2. Narrow gaps between buildings should be avoided, generous gaps between buildings contribute to the general feel of openness of the area.

Figure 24: Images above showing important countryside frontages along Brewery Road

2.3. Building line

Within Pampisford the majority of buildings are set back from the street with generous gardens. Only a small amount of 17th and 18th century cottages and farmhouses, buildings directly adjoin the rear of the pavement with no setback, or only have a small front garden or planting strip. In some locations houses are arranged in groups away from the street.

Along Brewery Road where most of the modern residential developments are located, buildings tend to have regular building lines. These modern house setbacks are generally consistent with subtle variations. The historical core has a mix of house from various historic periods and style that results in informal and dynamic building lines.

Guidance

2.3.1. Buildings should front onto streets. The building line can have subtle variations in the form of recesses and protrusions, but will generally follow a consistent line.

2.3.2. When designing building setbacks, there must be an appropriate ratio between the width of the street and the height of the buildings.

2.3.3. A coherent street frontage should be achieved by coordinating the setback between buildings and the street. Large differences in setbacks for adjacent properties should be discouraged as they do not contribute to the overall streetscape or cohesiveness of place.

2.4. Enclosure

Clearly defined spaces help achieve cohesive and attractive places. They also create an appropriate sense of enclosure - the relationship between a given space (lane, street) and the vertical boundary elements at its edges (buildings, walls, trees).

The enclosure level of new developments must reflect an intelligent understanding of their surrounding environment. The historic core has a higher level of enclosure, with fewer front gardens and buildings that directly front the main street. Settlements along Brewery Road have a variety of enclosure levels, but are in general more open than in High Street/ Church Lane with a higher prevalence of front gardens and wider public realm.

Guidance

2.4.1. Buildings should be designed to turn corners and create attractive start and end points of a new street or frontage.

2.4.2. In the case of terraced and adjoining buildings, it is strongly recommended that a variety of plot widths, land use, building heights, and façade depth should be considered during the design process to create an attractive streetscape and break the monotony of the street wall.

2.4.3. Trees, hedges, and other landscaping features can help create a more enclosed streetscape in addition to providing shading and protection from heat, wind, and rain.

Figure 25: The enclosure of High Street

Figure 26: The enclosure of west of Brewery Road

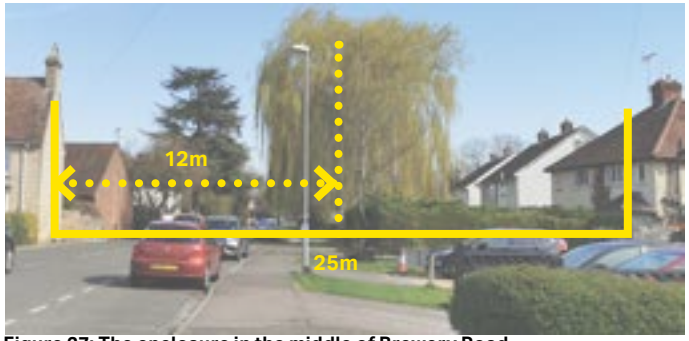


Figure 27: The enclosure in the middle of Brewery Road

2.5. Infill, upgrades and extensions

Pampisford is selected as a Infill Village in South Cambridgeshire Local Plan. It must comply with the Policy S/11.

"Residential development and redevelopment within the development framework of Infill Villages…will be restricted to scheme sizes of not more than 2 dwellings (indicative size)…or exceptionally 8 dwellings."

There are a number of principles that residential infill, extensions and conversions should follow to maintain character:

Guidance

2.5.1. Where there are opportunities for infill development, proposals should demonstrate that existing views and vistas between buildings and along view corridors have been considered and the aim should be that they are retained, wherever possible.

2.5.2. The original building should remain the dominant element of the property regardless of the scale or number of extensions. The newly built extension should not overwhelm the building from any given viewpoint.

2.5.3. Extensions should not result in a significant loss to the private amenity area of the dwelling.

2.5.4. Designs that wrap around the existing building and involve overly complicated roof forms should be avoided.

2.5.5. The pitch and form of the roof used on the building adds to its character and extensions should respond to this where appropriate.

2.5.6. Extensions should consider the materials, architectural features, window sizes and proportions of the existing building and respect these elements to design an extension that matches and complements the existing building.

2.5.7. In the case of side extensions, the new part should be set back from the front of the main building and retain the proportions of the original building. This is in order to reduce any visual impact of the join between existing and new.

2.5.8. In the case of rear extensions, the new part should not have a harmful effect on neighbouring properties in terms of overshadowing, overlooking or privacy issues.

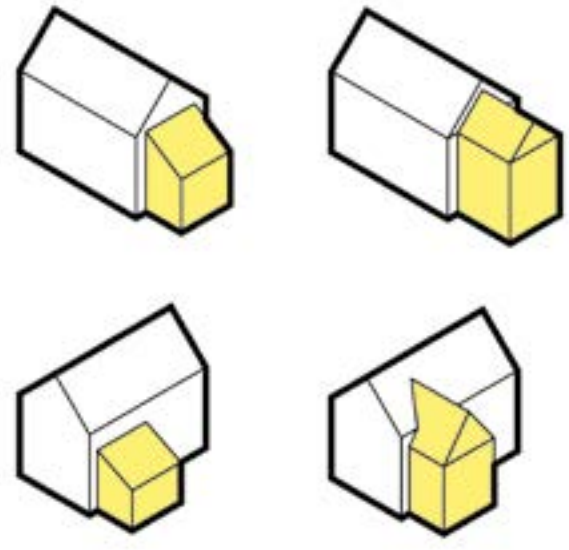


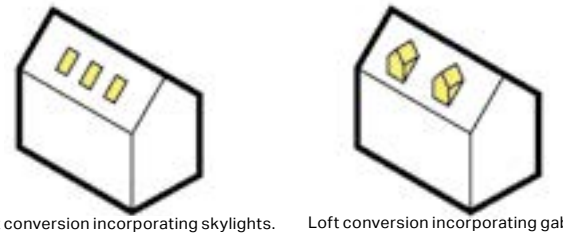
Figure 28: Good examples for side and rear extensions, respecting existing building scale, massing and building line.

2.5.9. Many household extensions are covered by permitted development rights, and so do not need planning permission. These rights do not apply in certain locations such as Conservation Areas.

2.5.10. Where possible, reuse as much of the original materials as possible, or alternatively, use like-for-like materials. Any new materials should be sustainable and be used on less prominent building parts.

2.5.11. Building extensions and upgrades should consider the integration of energy efficiency measures and technologies to contribute a high standard of sustainability. Please see section 7 for more details.

Figure 30: Image showing development framework of Pampisford



Loft conversion incorporating skylights. Loft conversion incorporating gable dormers.

Figure 29: Design treatment in case of loft conversion

B - 3. Parking and servicing

3.1. Car parking

Parking areas are a necessity of modern development. They do not need to be unsightly or dominate views towards the house. Parking provision should be undertaken as an exercise of placemaking.

Within Pampisford most plots are large enough to provide parking in the form of front garden, side, or garage parking. On a few properties, however, buildings with limited setback from streets only have informal on-street parking.

3.1.1. When placing parking at the front of a property, 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. This can be achieved by means of walls, hedging, planting, and the use of quality paving materials.

3.1.2. For family homes, cars should be placed at the side (preferably) or front of the property. For small pockets of housing, a rear court is acceptable.

3.1.3. Car parking design should be combined with landscaping to minimise the presence of vehicles.

3.1.4. 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.

3.1.5. Parking areas and driveways should be designed to improve impervious surfaces, for example, through the use of permeable paving.

3.1.6. 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.

3.1.7. Often, garages can be used as a design element to create a link between buildings and ensuring continuity of the building façade. However, it should be understood that garages are not prominent elements and they must be designed accordingly.

3.1.8. 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.

3.1.9. Opportunities must be created for car parking spaces to include electric vehicle charging points. Given the move towards electric vehicles, every opportunity must be taken to integrate charging technologies into the fabric of road and street furniture in the public and private realm.

Figure 31: Illustrative diagram showing an indicative layout of on-plot side parking

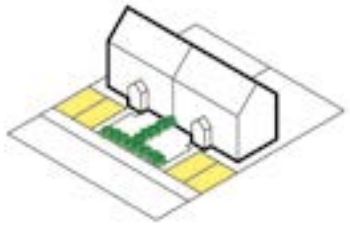


Figure 32: Illustrative diagram showing an indicative layout of on-plot front parking

Figure 33: Illustrative diagram showing an indicative layout of on-plot garage parking

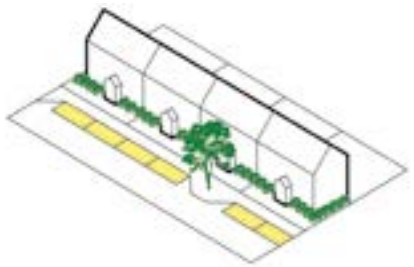


Figure 34: Illustrative diagram showing an indicative layout of on-street parking

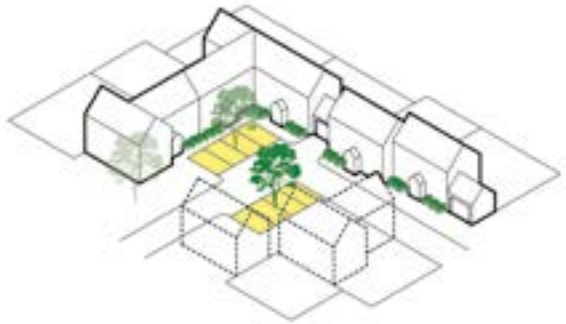


Figure 35: Illustrative diagram showing an indicative layout of parking courtyards

3.2. Cycle parking

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.

Guidance

3.2.1. Where possible cycle parking should be accessed form the front of the building either in a specially constructed enclosure or easily accessible garage.

3.2.2. When provided within the footprint of the dwelling or as 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.

3.2.3. Parking should be secure, covered and it should be well integrated into the streetscape if it is allocated at the front of the house.

3.2.4. The use of planting and smaller trees alongside cycle parking can be used to mitigate any visual impact on adjacent spaces or buildings.

3.2.5. The minimum garage size should be 7mx3m to allow space for cycle storage.

3.2.6. Bicycle stands in the public realm should be sited in locations that are convenient and that benefit from adequate natural surveillance. They should be placed in locations that do not impede pedestrian mobility or kerbside activities.

3.2.7. The chosen materials must be appropriate to its surroundings.

Figure 36: Indicative layout of a garage with a cycle storage area.

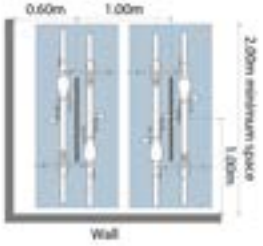


Figure 37: Sheffield cycle stands for visitors and cycle parking illustration.

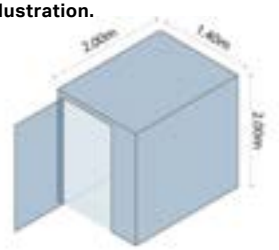


Figure 38: Secure covered cycle store for two cycle storage illustration.

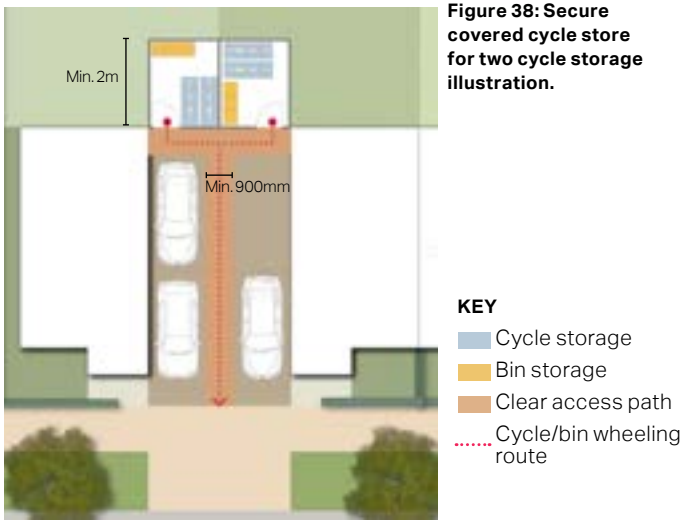


Figure 39: Indicative layout of a bicycle and bin storage areas at the back of semi-detached properties.

3.3. Bin Storage

With modern requirements for waste separation and recycling, the number and size of household bins has increased. Bin storage should be an integral part of layouts.

Guidance

3.3.1. A specific enclosure of sufficient size for all necessary bin storage should be created which is close to the home and accessible from the street and where it would not be visually intrusive in the street scene.

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

Figure 40: Bin storage design solution.

B - 4. Building detailing and materials

Within the Parish there is a wide variety of architectural style and development from different time periods, all of which contribute to its character and sense of place. The recurring architectural forms and features of this rich mix of precedents provides developers with a solid basis for design development and should be the starting point of reference in developing site proposals..

This section includes some examples of building materials and details that contribute to the local vernacular within the Pampisford Parish area, and these, among others, could be used to inform future development. This list is not exhaustive and each design proposal must explain its architectural and material strategy and demonstrate how it fits with the context of the area.

4.1. Roof, eaves and ridge lines

Creating variety and interest in the roofscape is an important element in the design of attractive buildings and places.

Gabled roofs are the most common, however hipped roofs also appear in the settlement. Roof materials include thatch, slate, clay tile and pantile.

Traditional thatch detailing, typically, has flush ridges, generously overhanging eaves and verges. Some tiled roofs with incorporated cornices and barge board details contribute to the various and interesting roofscape.

The majority of buildings in the Parish do not exceed two storeys in height. Depending on the roofing material used, pitches from 35 to 55 degrees are generally found on traditional houses in Pampisford. The overall character of the roofline is consistent and creates a low settlement.

Guidance

4.1.1. The scale and pitch of the roof should always be in proportion with the dimensions of the building itself.

4.1.2. Monotonous building elevations should be avoided, therefore, subtle changes in roofline can be achieved during the design process. Roof shapes and pitches must, however, employ a restrained palette on a given building; overly complex roofs must be avoided.

4.1.3. Local traditional roof detailing elements such as dormers and chimneys should be included in the design.

4.1.4. Deep, overhanging open eaves should be encouraged to add interest to buildings.

4.1.5. Where Solar Photovoltaic Panels are incorporated in the roofline, they should be flush with the roof tiles.

Figure 42: Images above show positive examples of roofscape articulations and roof detailing

4.2. Chimneys

Traditionally, Buildings of Pampisford display simply-shaped brick chimney stacks. Chimneys add interest to roof lines, even if they are no longer needed to heat the home and they contribute towards the local vernacular. These structures can accommodate wood burners, which are an opportunity to use locally sourced timber for fuel.

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

4.2.2. A modern approach should be taken to chimney design and should only be incorporated where they serve a function. In the case of small dwellings without fireplaces, gas fuel or soil and vent outlets can be combined into chimney structures.

4.3. Dormers

A dormer is a roofed structure, often containing a window, that projects vertically beyond the plane of a pitched roof. They can add interest to the roof. Gabled dormers are the most common in Pampisford.

4.3.1. Detailed evidence will be required, from developers, to show that their choice of design solution for dormers fits with the prevailing character and is correct in terms of proportion, relative to the size of the roof, and that it fits the general roofscape.

Figure 43: Images above show local styles of chimney and dormer

4.4. Windows

Windows are the 'eyes' of a building and are crucial to its character. A limited range of traditional window patterns are characteristic of traditional houses in Pampisford and provide appropriate models where a period effect is sought or required.

Most of the 17th and 18th centuries cottages have horizontal sliding sash windows. Vertical sash windows can be found in the 19th Century housing. Casement windows are widely-use in the 20th Century housing. Timber windows allow a finer profile to be achieved and if they are maintained properly they tend to be more durable than uPVC alternatives.

4.4.1. The number and size of the windows should be proportionate to each elevation. Because sunlight has an important effect on the circadian rhythm, windows must be of sufficient size and number for abundant natural light.

4.4.2. Ground floor windows can be larger and deeper than upper floor windows, as they add more animation to the streetscape and allow greater light penetration.

4.4.3. A restrained palette of window styles and shapes must be used across a given façade to avoid visual clutter and dissonance. Within a cluster of buildings, however, diversity in fenestration can add visual interest and avoid monotonous repetitions.

4.4.4. In general, traditional styled windows are often pained white, although other colours are welcomed as they add interest to the street scene.

4.5. Porches and canopies

Porches are often the key focal point of a building and should be incorporated into the scheme with care from the initial stage of design. A well-designed porch or canopy can enhance and give interest to a new building as well as reinforcing local building traditions. On the contrary, a poorly designed porch can blight even a well-designed new building and add an inappropriate and discordant feature to the overall character of the building and have a negative impact on the streetscene.

Within Pampisford porches and canopies those were part of the original design of a house, or added later, were generally very simple gabled.

4.5.1. Porches should be simple and relate to the style of the building to which they are attached. Leaving an open canopy is often the most appropriate form.

Figure 44: Images above show local styles of window, door and porch

4.6. Boundary treatment

Boundary treatment varied by street level, local character and type of structure.

Along Brewery Road, where most of the modern residential developments are located, most of dwellings have open plan front gardens which make the streetscape spacious. However, large properties tend to have well-defined boundary walls.

The late 20th century cul-de-sac developments are with private driveways and garages but with relatively smaller front gardens compared to the previous period. Hedge boundaries are very common, providing an enclosed and well-planted street scene.

Boundary treatment within the historical core are various. There are flint walls, low brick walls and hedgerows which strongly contribute to the rural character of the village. Also, garden vegetation helps to enrich the streetscape where low boundary features can be found .

Guidance

4.6.1. 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 and not impair natural surveillance.

4.6.2. Boundary treatments should consider the street scene, street hierarchy and size of the development.

4.6.3. Boundary features should be encourage to consistent with the characters while enabling enough variations for visual interest.

4.6.4. Locally distinctive landscape features and planting, such as flint and brick boundary walls and hedges of native species should be used in new development to define boundaries. Any material that is not in keeping with the local character should be avoided.

4.6.5. Typically, boundaries are between 0.6-1.2m in height and should predominantly comprise native hedges.

4.6.6. If placed on the property boundary, waste storage should be integrated as part of the overall design of the property. Landscaping could also be used to minimise the visual impact of bins and recycling containers.

Figure 45: Examples for different types of boundary treatment

4.7. Materials

It is important that the materials used in new developments are of a high quality and reinforce the local character of Pampisford.

Bricks with varying hues and mixtures of materials are widely-used in Pampisford. Rendering can be used to protect the walling material beneath. Traditionally, render is applied in a smooth floated finish in a limited range of naturally occurring colours. The local rendering tradition suggests a white or light pastel colouring. It is recommended to keep render to subtle tones. Locally, Flint buildings/walls finished with brick dressing contribute strong character to the Parish area.

Guidance

4.7.1. Materials proposed for use in new development and building extensions should match or be guided by those used in existing buildings of the area.

4.7.2. Bricks should be predominatly in rich hues of orange and yellow.

4.7.3. Flint should seek to complement building frontages and boundary treatments.

4.7.4. Any new development should use a simple and local material palette. Richness should be achieved through varied roofscapes, building styles and careful detailing.

4.7.5. Any new materials should be durable, sourced from eco-friendly, recycled and sustainable supplies when possible.

Figure 46: Examples of materials used locally

B - 5. Climate change

5.1. Low carbon development

Energy efficient or eco homes combine all around energy efficient construction, appliances, and lighting with commercially available renewable energy systems, such as solar water heating and solar electricity.

The aim of these interventions is to reduce home overall energy use as cost effectively as the circumstances allow for. Whereas, the final step towards a high performance building would consist of other on-site measures towards renewable energy systems.

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, walls, 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

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 and reflective walls
- F **Flood resilience and resistance** e.g. raised electrical, concrete floors and greening your garden
- G **Construction and site planning** timber frames, sustainable transport options (such as cycling)
- H **Solar panel**
- I **Electric car charging point**

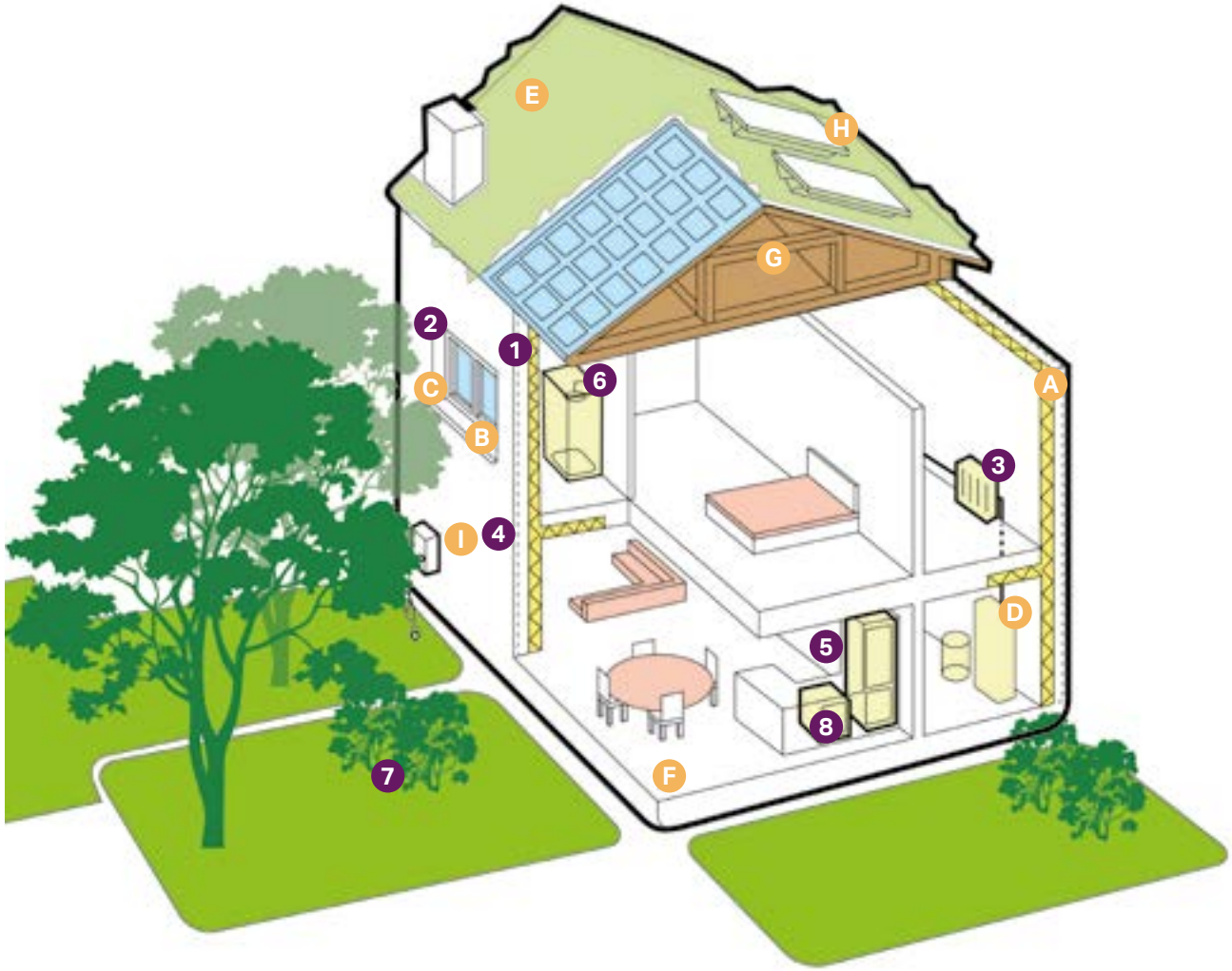


Figure 47: Diagram showing low-carbon homes in both existing and new build conditions (adapted from Commission on Climate Change)

5.2. Solar roof panels

Solar roof panels should be designed in from the start, forming part of the design concept. Some attractive options are solar shingles and photovoltaic slates or tiles. In this way, the solar panels can be used as a roofing material in their own right.

Guidance

5.3.8. The colour and finish of solar panels and how they reflect light should be chosen to fit in with the building or surroundings.

5.3.9. Consider the style of the building and, if possible, position the solar PV panels so they are in proportion to the building and its features. For example, they can resemble roofing elements such as roof lights or windows.

5.3.10. The way in which panels are laid out in relation to one another can make a huge difference to the appearance of the system – symmetrical installations tend to work much better.

5.3. Heat pumps

Heat pumps are an efficient alternative to fuel oil and electrical systems for heating and cooling. Heat pumps can be either ground or air source.

Ground source heat pump

Ground source heat pumps, as the name suggests, use the ambient temperature of the land upon which the dwelling sits to generate heating and hot water, reducing energy bills and carbon footprint.

The ground pipework can be installed in two ways, either vertically or horizontally. Horizontal pipework is only suitable for a large garden. For properties that have less space, the pipework can be laid vertically, which usually requires a deep hole to be bored into the garden. When considering installing a ground source heat pump householders or developers should check the prevailing ground conditions and ensure they are aware of any underground obstructions and/or utilities lines.

Air source heat pump

Air source heat pumps use the ambient heat in the air, even on cold days. They are generally easier to install than ground source heat pumps. They can be installed immediately adjacent or at some distance from the building to be heated. Typically, the following guidelines should be considered.

Guidance

5.3.1. Generally, installing an air source pump should not breach any local planning or building regulations.

5.3.2. The pump should be placed in a location where it is not visually intrusive to minimise its effect on the external appearance of the building.

5.3.3. The pump should be not be installed in the front of the property or on a narrow alleyway. It is best located at the back of the property.

5.3.4. The pump should be at least one metre away from the property boundary and units installed on a flat roof should be at least one metre away from the external edge of the roof.

5.3.5. Any plants or shrubs should be at least a metre away from heat pumps.

5.3.6. Planning permission may be required for installations within the curtilage of a Listed Building, a site designated as a Scheduled Monument, a Conservation Area or a World Heritage Site.

5.3.7. The pump should not have a harmful effect on neighbouring properties in terms of noise. It should not be placed immediately adjacent to neighbouring occupied buildings.

Figure 48: Favour symmetrical arrangements

Figure 49: Place pumps in a recessed space to minimise the visual impact

5.4. Managing flood risk

Parts of the village fall within Flood Risk Zones 2 and 3, although development has avoided an area of flood risk.

New development should comply with South Cambridgeshire Local Plan Policy CC9: Managing Flood Risk.

Guidance

5.5.1. Discharging surface water to the ground via infiltration should be encouraged in new developments.

5.5. SuDS

The term SuDS stands for Sustainable Drainage Systems. It covers a range of approaches to manage surface water in a 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 the collection of surface water to 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; and

- Attenuation and controlled release, which holds back the water and slowly releases it into the sewer network.

Figure 50: Flooding zones in Pampisford

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:

New developments should comply with South Cambridgeshire Local Plan Policy CC8: Sustainable Drainage System

"Maximum use has been made of low land take drainage measures, such as rain water recycling, green roofs, permeable surfaces and water butts"

Guidance

5.5.2. All development should be designed to eliminate the risk of surface water flooding and potential overloading of the sewage network, and maximise environmental gain, such as: water quality, water resources, biodiversity, landscape and recreational open space.

5.6. Permeable paving

Permeable pavements offer a solution to maintain soil permeability while performing the function of conventional paving. The choice of paving in public areas should also have reference to public safety, so some materials may not be appropriate and, therefore, permeable paving might be more difficult to install. In domestic properties, there may be greater scope for the use of permeable surfaces on driveways and footpaths.

Guidance

5.6.1. The choice of permeable paving units should be made with reference to the local context; in Pampisford, therefore, the units may take the form of unbound gravel, clay pavers, or stone setts.

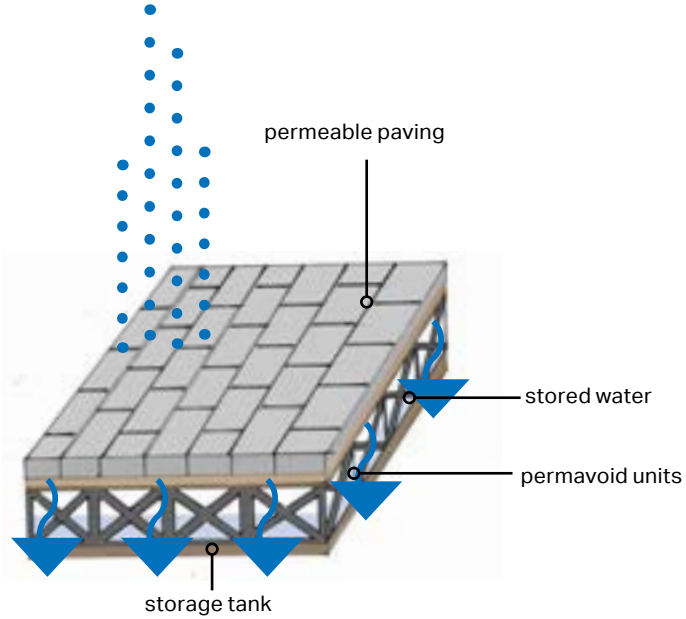


Figure 51: Diagram illustrating the functioning of a soak away

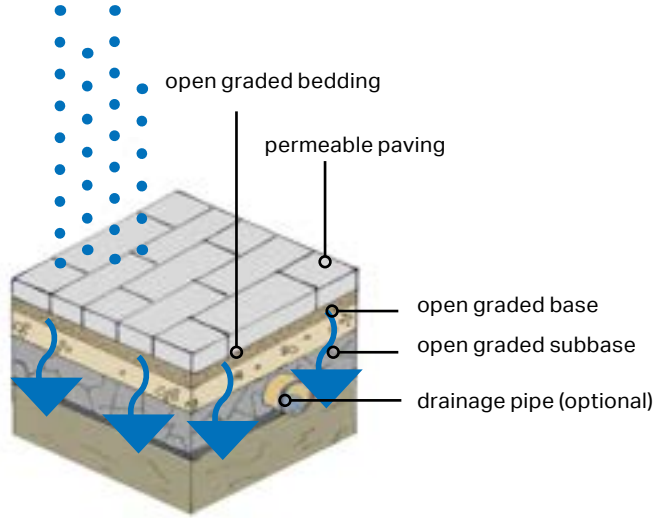


Figure 52: Diagram illustrating the functioning of a soak away

5.7. Bioretention system

Bioretention systems, including soak away and rain gardens, can be used within each development, along verges, and in semi-natural green spaces.

Guidance

5.7.1. Bioretention systems 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.

5.7.2. Bioretention systems 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. Cutting of downpipes and enabling roof water to flow into rain gardens can significantly reduce the runoff into the sewer system.

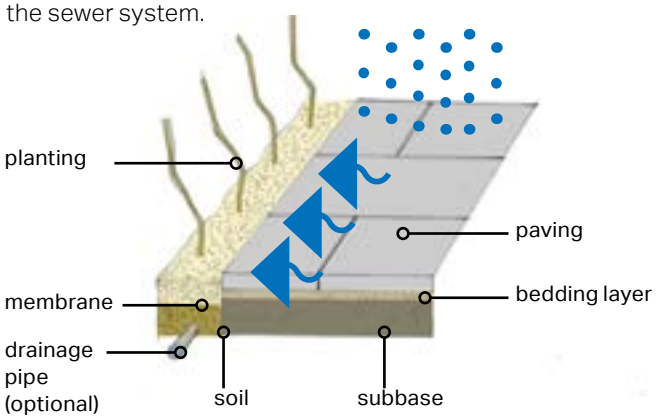


Figure 54: Diagram illustrating the functioning of a soak away garden

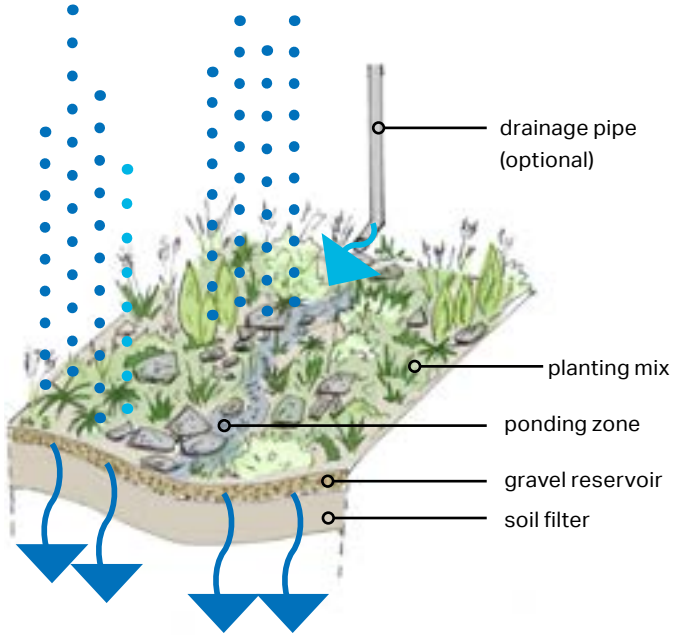


Figure 53: Diagram illustrating the functioning of a rain garden

5.8. Rainwater harvesting

Rainwater harvesting refers to the systems allowing the capture and storage of rainwater as well as those enabling the reuse on-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; and
- Utilise water bodies for storage.

Figure 55: A local example of rainwater harvesting

B - 6. General questions to ask and issues to consider when presented with a development proposal

Because the design guidelines of this report 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 the proposals. The proposals or design should:

- Respect the existing settlement pattern in order to preserve the character. Coalescent development should be avoided;
- Integrate with existing paths, streets, circulation networks;
- Reinforce or enhance the established character of streets, greens and other spaces;
- Harmonise and enhance the 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, roofline, height, form, and density;
- Enhance and reinforce the property boundary treatments;
- 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 relate well to each other; and
- Aim for innovative design and eco-friendly buildings while respecting the architectural heritage and tradition of the area and integrating them with future development.
- 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.

Street grid and layout

- Does it favour accessibility and connectivity over cul-de-sac models? 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?

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 affect the character of a rural location?
- 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 spaces be created? If so, how will this be used by the new owners and how will it be managed?

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?

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?
- If any of the buildings were to be heated by an individual air source heat pump (ASHP), is there space to site it within the property boundary without infringing on noise and visual requirements?
- 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?

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?

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 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?

Household extensions

- Does the proposed design respect the character of the area and the immediate neighbourhood, or 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 extension, does it retain important gaps within the street scene and avoid a 'terracing effect'?
- 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?

Building materials and surface treatment

- What is the distinctive material in the area, if any?
- 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 been addressed in the context of the overall design?
- Do 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?

Car parking solutions

- 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?

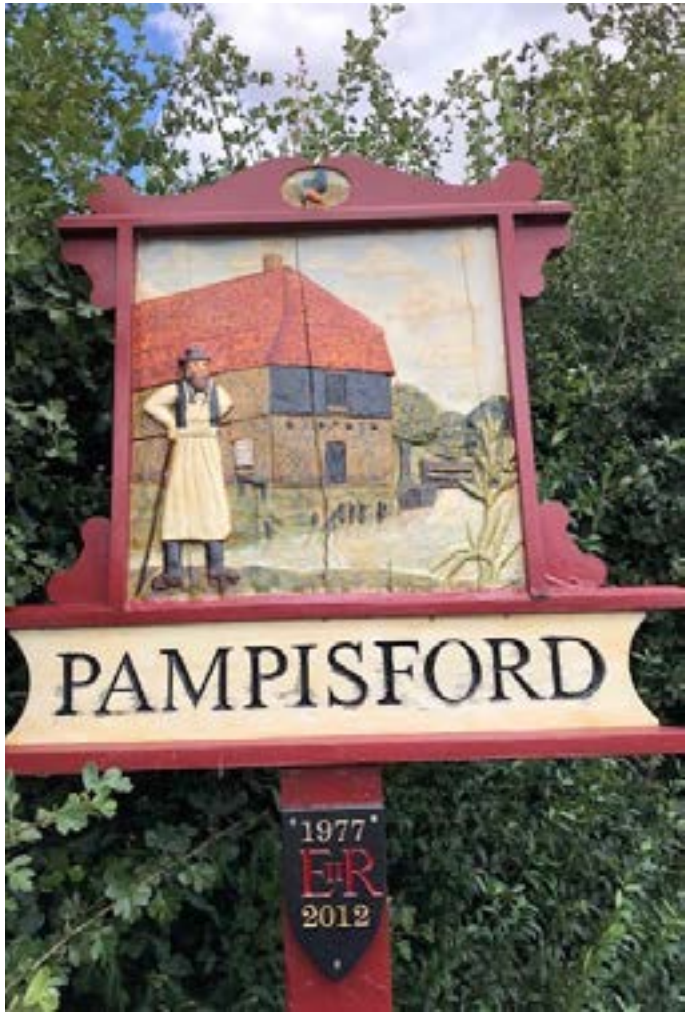
Architectural details and contemporary design

- 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?

B - 7. Delivery

The Design Guidelines will be a valuable tool in securing context-driven, high-quality development in Pampisford. 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	As a reference point, embedded in policy, against which to assess planning applications. The Design Guidelines should be discussed with applicants during any pre-application discussions.
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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