

Reedham

Design Guidance and Codes

Final report
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Quality information

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Contents

1. Introduction	5
1.1 Objectives	5
1.2 Process	5
1.3 Area of Study	6
1.4 Housing site allocations	9
1.5 Policy and guidance	10
2. Context and character	13
2.1 Historic growth & heritage	13
2.2 Layout & Street hierarchy	15
2.3 Landscape Character & Wildlife	16
2.4 Flood and Water Management	19
2.5 Gateways and views	20
2.6 Facilities and open spaces	23
3. Design guidance & codes	25
3.1 Introduction	25
3.2 List of codes	25
3.3 General design principles	26
DC.01 - Response to the landscape context	27
DC.02 - Connectivity through the village & future development	29
DC.03 - Knitting into the village's fabric	30
DC.04 - Boundary treatments	31
DC.05 - Richness and variety in materials and details	32
DC.06 - The Broads Sustainability Guide	34
4. Site-specific design guidance & codes	37
4.1 Introduction	37
4.2 Policy Context	39
4.3 Site 1 - Summary of opportunities and constraints	40
4.4 Site 2 - Summary of opportunities and constraints	42
4.5 Indicative masterplan for Site 1	44
4.6 Site specific design codes	51
5. General issues to consider	61

The background of the slide is a landscape photograph. On the left, a narrow, muddy path leads through tall grass towards a dark, square windmill. To the right of the path is a green field with some water puddles. In the distance, a body of water is visible with a white boat moored on the right side. The sky is overcast and grey.

Introduction

01

1. Introduction

Through the Department for Levelling Up, Communities and Housing's Neighbourhood Planning Programme, led by Locality, AECOM has been commissioned to provide design support to Reedham Parish Council's Neighbourhood Plan Steering Group.

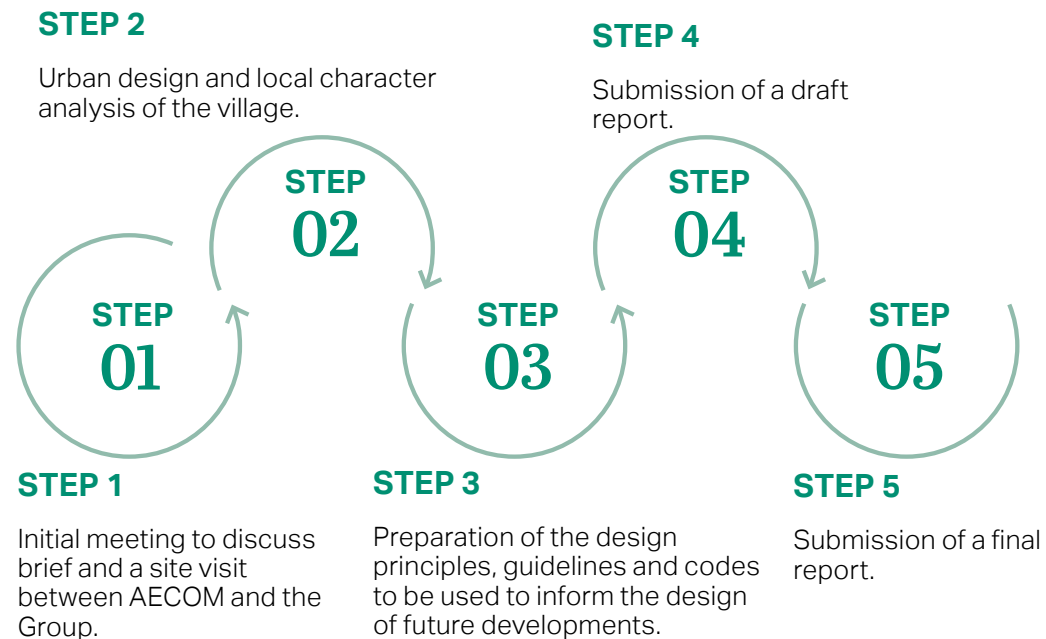
1.1 Objectives

The main objective of this report is to provide design guidance and codes for future development in the Reedham Neighbourhood Plan area to help retain, protect and enhance its unique character and encourage innovation towards sustainable design.

The report sets out general design guidance and codes, then applies them to two sites.

1.2 Process

The following steps were agreed with the Steering Group to produce this report:



1.3 Area of Study

Reedham is located on the north bank of the River Yare. The parish is around 20km east of Norwich and 12km west of Great Yarmouth and Lowestoft. The parish falls on the boundary between Broadland District Council and the Broads Authority.

The community of Reedham has a population of around 1,200 and comprises 575 dwellings and several businesses. Reedham has a range of facilities including:

- A village hall;
- A Post Office (part time);
- A parish church;
- A primary school;
- A nursery school;
- A doctor's surgery;
- Food shops;
- A brewery; and
- Pubs.

Tourism is important to Reedham's economy and helps to support local service provision. As it is situated by The Broads, Reedham is a magnet for tourists exploring the lower parts of River Yare.

Reedham has three important tourism assets (Wherryman's Way, Pettitts Animal Adventure Park, and the Broads), all of which generate large numbers of varied visitors.

Reedham is set in an area of natural beauty and is extremely rich in wildlife. It has several national and international wildlife designations. The marshes are a significant landscape feature, a vast panoramic expanse dotted with mills. The village also has a stunning river frontage and is known for having one of the last remaining railway swing bridges and chain ferries in the country.

The Reedham Ferry provides a crossing over the River Yare and is the only crossing point between Norwich and Great Yarmouth. The Wherryman's Way, a 35 mile long

distance path between Norwich and Great Yarmouth, follows the river and runs along Reedham Riverside. It connects with other footpaths and provides great access into Reedham's surrounding countryside.

The village is also connected by public transport, with rail services from the centrally-located station to Norwich, Lowestoft and Great Yarmouth on the Wherry Lines Railway. There is also a limited bus service to Acle operated by Our Bus.





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Figure 02: Sign for the Riverside as part of the Broads.

Figure 03: River Yare and Riverside Road.

Figure 04: Reedham Ferry to the west of the village.

1.4 Housing site allocations

Reedham is identified as a Cluster Village in the emerging Greater Norwich Local Plan. This leads to a requirement to accommodate an additional 60-80 new homes up to 2038. This will result in a 16% growth of the settlement over 25 years. The Neighbourhood Plan has the opportunity to ensure that this growth is delivered to a design preferred by the community.

Current plans are for housing development to be delivered on two sites: east of Station Road and on Mill Road. Both allocations are expected to address standard requirements associated with development. These include mitigations for flood risk (as well as SUDs), highway improvements, safeguarding of mineral resources, land remediation, measures to protect the environment, biodiversity and landscape intrusion.

Site 1 will be addressed with a high level proposal layout and specific design codes in Section 4 of this report.



Figure 05: Map of Reedham showing the two allocated housing sites from the Local Plan.

1.5 Policy and guidance

The following documents have informed this report. This policy and guidance has been produced at a national, district, and local level. Any applications for new development should make clear references to how these documents have been taken into account.

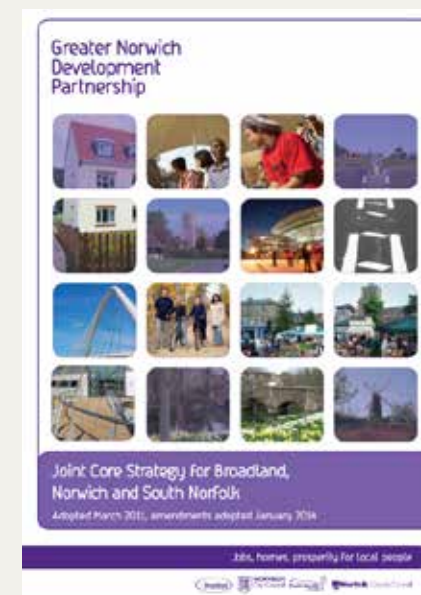
Section 1.4 highlights the aspiration for future housing development in Reedham, which was first set out in the [Greater Norwich Development Partnership Joint Core Strategy \(JCS\) \(2014\)](#) and [Broadland District Sites Allocation DPD \(2016\)](#).

As Reedham parish is partly in The Broads, the policies and design guidance set out in the [Local Plan for the Broads](#) and [The Broads Planning Guides](#) should be greatly considered to maintain the distinctiveness of the villages in the area and minimise the adverse impacts of development on its surrounding landscape.

National Planning Policy Framework

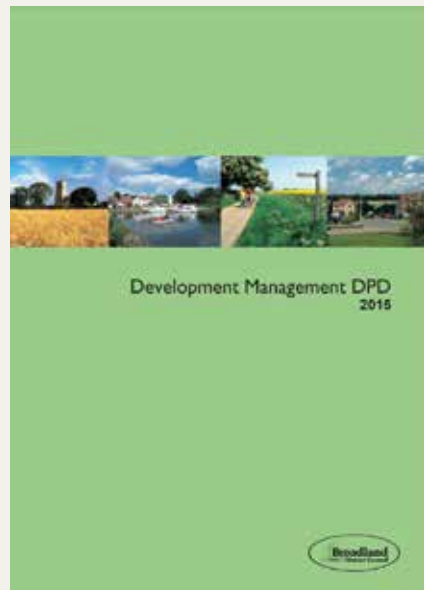
- 2021 update.
- The NPPF outlines the Government's overarching economic, environmental, and social planning policies for England. It supports proposals which 'promote high levels of sustainability or help raise the standard of design more generally in an area.'
- The NPPF reinforces the objective of the planning system which is to contribute to the achievement of sustainable development, achieved through (but not limited to) the environmental objective. This objective seeks to contribute to protect and enhance the natural, built and historic environment - which should be a focus for Reedham.

Joint Core Strategy (2014)



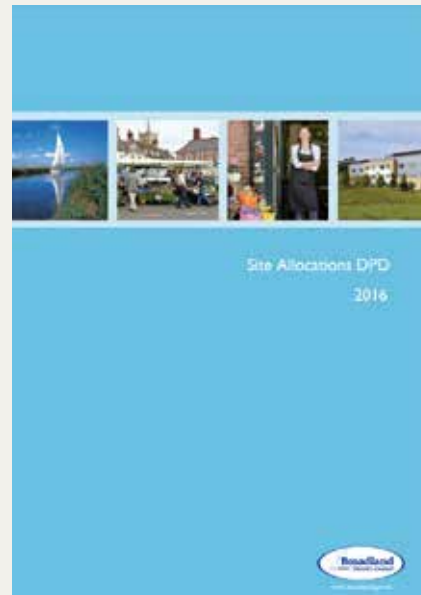
- This document sets out the overarching strategy for growth across Broadland, Norwich and South Norfolk.
- Policies most relevant to Reedham includes **Area-wide Policies 1-8** and **Policy 15: Service Villages**.

Broadland District Development Management DPD (2015)



- A Local Plan that forms part of the Broadland Development Plan. The policies contained in this document seek to further the aims and objectives set out in the **NPPF** and **JCS**.

Broadland District Sites Allocation DPD (2016)



- This document also forms part of the Broadland Development Plan. It identifies or allocates areas of land for specific types of development such as housing.
- The scale of development reflects the requirements set out in the **JCS**.

The Broads Local Plan (2019) and Planning Guides - The Broads Authority

The Local Plan for the Broads, currently under review, sets out strategic policies for the Broads area up to 2036.

It is supplemented by a series of Planning Guides, which stress that good design is vital for protecting and enhancing the character of the Broads and promoting truly sustainable development. Design is given a lot of weight in determining planning applications due to the special qualities of the Broads. Guides relevant to Reedham include:

- Broads Design and Management Information;
- Towards a Dark Sky Standard;
- Biodiversity Enhancements Guide;
- Landscaping Strategy Guide; and
- Sustainability Guide.



Context and character

02

2. Context and character

This section outlines the broad physical, historic and contextual characteristics of the Reedham Parish area. It analyses the Parish's heritage, landscape and mobility.

2.1 Historic growth & heritage

The core village has two main areas of settlement – the first around Riverside and The Hills, and the second around the station from the mid-19th Century.

The first main area is where the settlement originally developed around the trade route associated with the navigable water link to Great Yarmouth and Norwich, afforded by the River Yare. The second area dates to the mid-19th century and is centered around the Havaker and along the northern part of Station Road. Both areas have continued to extend through later infilling and ribbon

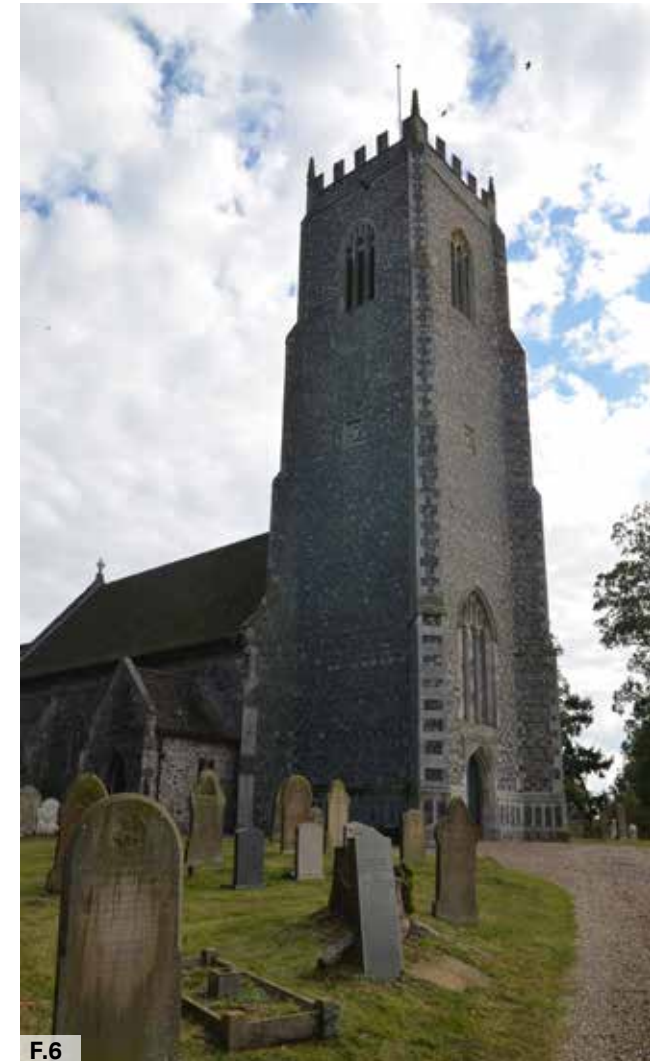
development. This pattern of growth gives Reedham a dispersed settlement pattern with 2-3 different centres.

A third nucleus - the oldest - is around the Parish Church, the Church of St. John the Baptist, located to the north east of the larger settlement. It is a Grade I listed building located next to the Grade II listed Old School House.

Other notable Grade II or Grade II* listed heritage assets in the village includes:

- Cadges Mill (160m north east of Seven Mile House);
- Holly Farm House;
- Polkeys Mill (75m north east of Seven Mile House);
- Reedham War Memorial;
- The former Top House Public House (including the boundary wall to yard); and
- Witton Green Farmhouse,

Figure 06: Photograph of the Grade I listed Church of St. John the Baptist.



F.6



Figure 07: Reedham War Memorial on Riverside by Julie Weir (Source: <https://www.iwm.org.uk/memorials/item/memorial/91820>).

Figure 08: Photograph of the Grade II* listed Polkey's Drainage Mill by John Fielding (Source: https://www.flickr.com/photos/john_fielding/).



Figure 09: Map of Reedham village's listed buildings.

2.2 Layout & street hierarchy

Reedham is located on the north bank of the River Yare, over 20km east of Norwich and 12km west of Great Yarmouth and Lowestoft. The village is not connected via any regional roads. It is mainly connected to other settlements to the north by Freethorpe Road and Halvergate Road. Ferry Road to the south west of the village leads to the Reedham Ferry - the only crossing over the River Yare that leads to the southern half of Ferry Road. This network of winding rural roads form the main street layout for Reedham, which then branches out into residential streets.

Reedham also has public footpaths that connects the village to the waterfront and its surrounding countryside. As these footpaths connect the village to the Broads, it's important for future developments to preserve and enhance their setting wherever possible.



Figure 10: Map of Reedham village's layout and street hierarchy,

2.3 Landscape character & wildlife

The village lies on the steeply rising ground to the north of the Yare Valley. It lies to the east of the northern floodplain of the River Yare, which is a designated special landscape character area. This special landscape character area is an area of grazing marsh bisected in an east-west direction by the Norwich to Yarmouth railway. This area includes Reedham Ferry, the last remaining vehicle crossing on the River Yare between Norwich and Great Yarmouth.

The land to the east of Reedham is the Halvergate Marshes Site of Specific Scientific Interest (SSSI). This puts the eastern half of its settlement in an SSSI Impact Risk Zones, which means that planning applications will need to be assessed for likely impacts on the SSSI. The same area is designated as a wetland of international importance under the

Convention on Wetlands of International Importance, especially as waterfowl habitat in the Ramsar Convention in 1973.

Within the Parish, there is a well-developed band of woodland along the marsh margins and small areas of unimproved pasture, wet fen meadow, reedbed and alder carr.

Reedham village lies at an intersection between several major wildlife corridors, which follow the river valleys. Many bird, reptile and mammal species use and follow these corridors.

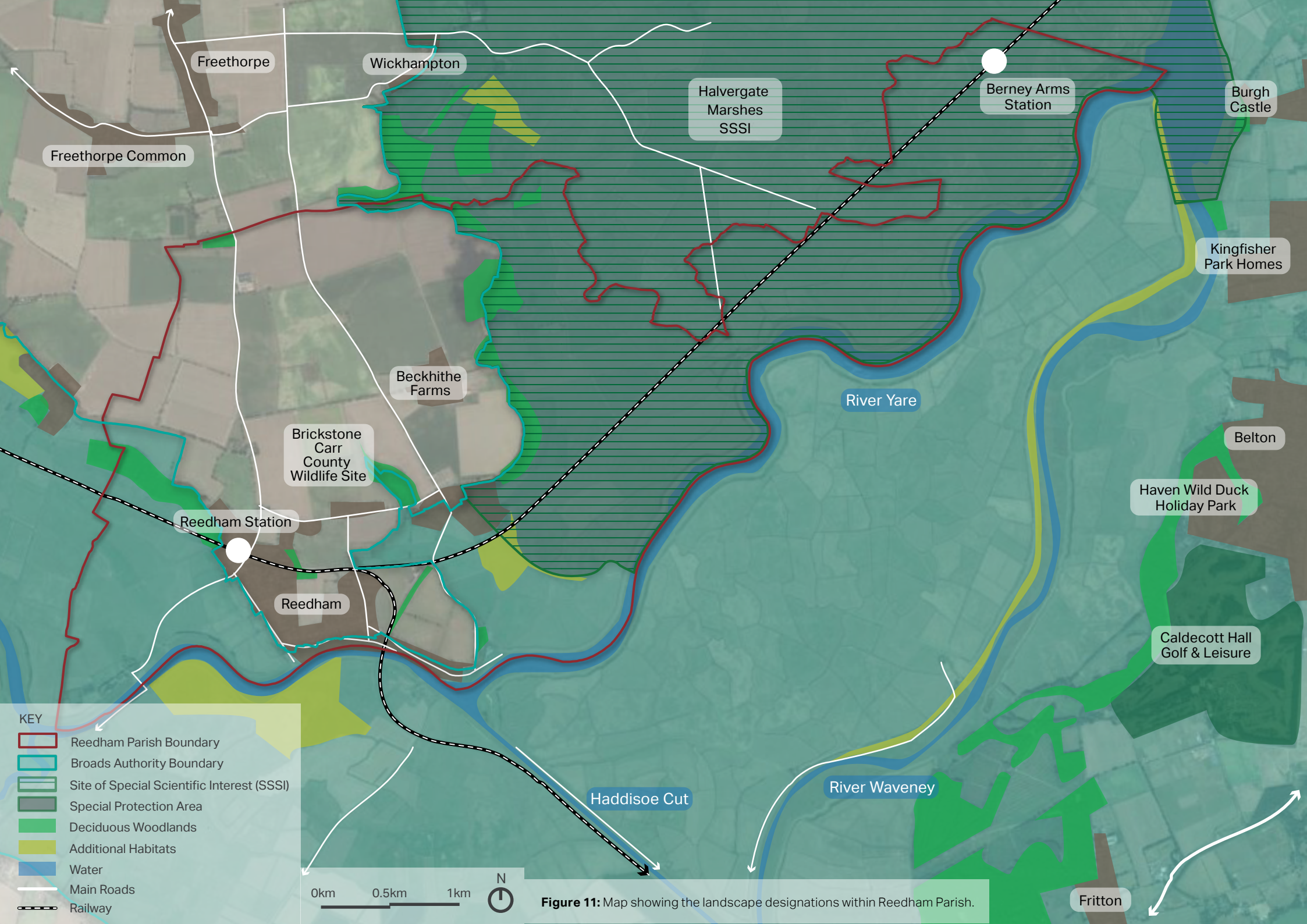
A large proportion of the village lies within an area which has national and international wildlife designations – mainly concerned with the importance of the marshland for breeding and wintering wildfowl, and the wildlife interest of the marsh ditches.

Almost all the floodplain grazing marshes in the parish have been formally identified as Biodiversity Action Plan Priority Habitat 'Coastal and Floodplain Grazing Marsh.' The

upland has no formal nature conservation designations except for a small area of wet woodland, which is the locally protected Brickstone Carr County Wildlife Site, and the Woodland Walk, which is a former railway cutting which has developed wildlife interest and is used for informal recreation.

The proximity of the village to nationally and internationally important wetland sites and key wildlife corridors mean that the village is of significant wildlife interest. Though not all of these habitats are protected under national designation, increased pressure from housing growth may have potential negative impacts that need to be mitigated.

More information about the important landscapes in the Parish can be found in the [Broads Landscape Character Assessment](#) and the [Broadland Landscape Character Assessment](#).



KEY

- Reedham Parish Boundary
- Broads Authority Boundary
- Site of Special Scientific Interest (SSSI)
- Special Protection Area
- Deciduous Woodlands
- Additional Habitats
- Water
- Main Roads
- Railway

0km 0.5km 1km



Figure 11: Map showing the landscape designations within Reedham Parish.



F.12



F.14



F.13



F.15

Figure 12: Photograph of some of the flat lands within Reedham village (showing parts of Site 1).

Figure 13: Photograph showing public footpath across open fields within the village.

Figure 14: Photograph of a riverside public footpath along the south of the village.

Figure 15: Photograph of the marshes along the riverside, to the south of the village.

2.4 Flood and water management

The existing settlements in Reedham are constrained to the south, east and west by flood risk, with land categorised into Flood Zone 3. This indicates a 1 in 100 or greater annual probability of river flooding. A small area to the south of Reedham is categorised as Flood Zone 2, which means there is a probability of 1 in 1000 of flooding. This poses a constraint for the location of new development.

Surface water flooding is also an issue as there are areas of medium and high risk for some properties in Cliff Close, New Road, Mill Road and School Hill, and to a lesser extent off Witton Green and Station Road. The depth of water in high risk areas could range from 300mm to 900mm in some isolated areas.

It will be important to ensure that the current conditions of surface water flooding in Reedham are not worsened by future development.



Figure 16: Map indicating flood zones and surface water flooding conditions in Reedham.

2.5 Gateways and views

Reedham is a rare example of a village with immediate and attractive direct access to the Broads, which is of large appeal to residents and visitors. Reedham also has three important tourism assets in the Wherryman's Way, Pettits, and the Broads - all of which generates a large number of varied visitors. The presence of the quayside and Wherryman's Way is an important stepping point on the Broads.

Certain gateways around Reedham are identified as an opportunity for better signage and to create a pretext for development to create better connections to these gateways and enhance them further. The gateways for general visitors include the Church and Pettitts and train station. Gateways for water and natural visitors include the Reedham Ferry and access points to River Yare along Riverside.

Furthermore, the sloping topography of Reedham, with River Yare at its lowest point, creates pockets of long distance views throughout the village. Roads such

as Freethorpe Road and Church Road have pockets of long distance views of River Yare and dwellings within the village. Other roads such as Ferry Road and Low Common have long distance views toward the marshlands and Reedham's surrounding countryside.

New development should make note of these existing views and seek to enhance them wherever possible. The massing of new development should not obstruct these views or detract from the overall character of Reedham's surrounding landscape.

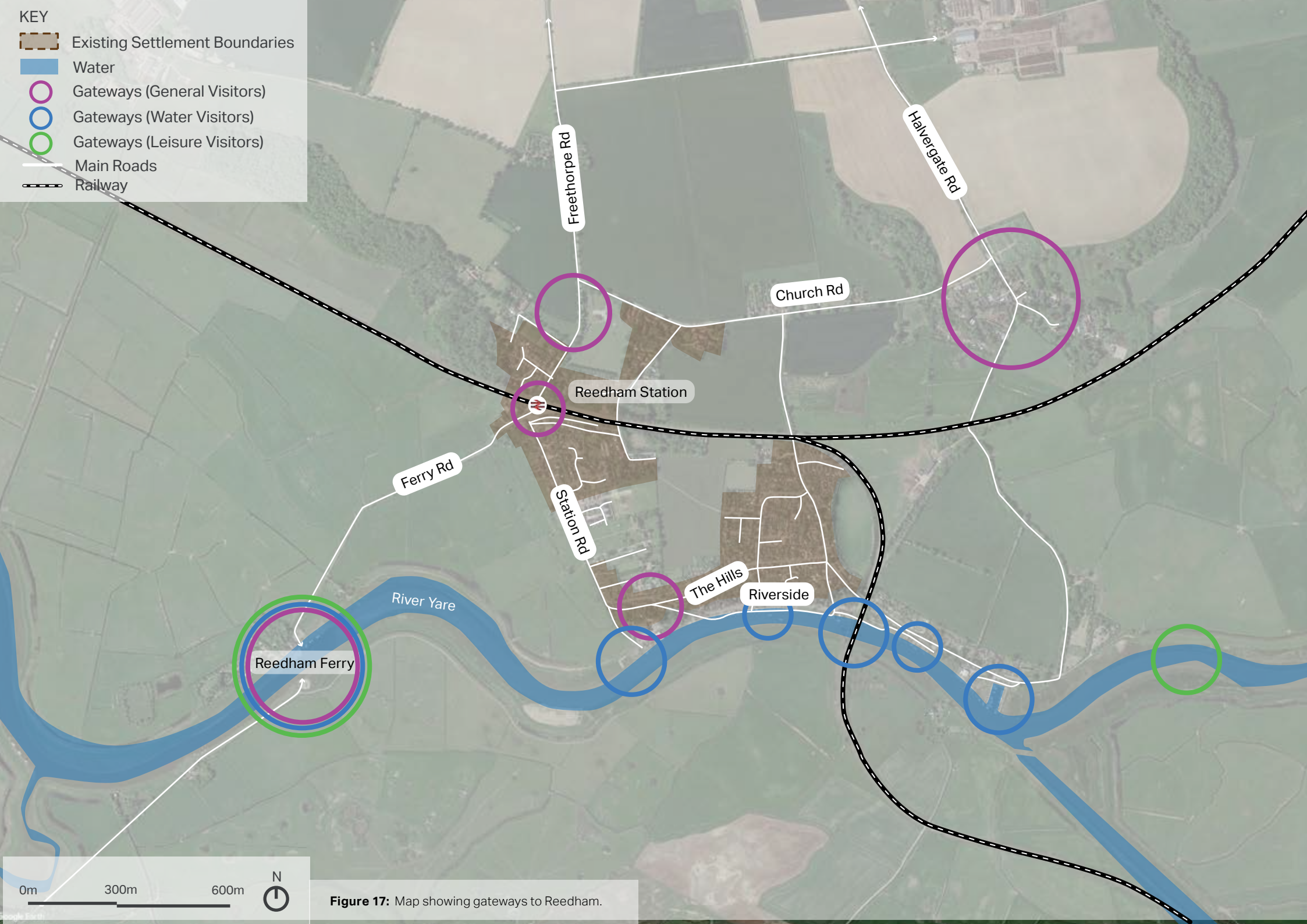




Figure 18: Photograph of the view facing south of the railway bridge from Holly Farm Road.

Figure 19: Photograph of the view towards south-west of Reedham from the back gardens of houses along the west of Station Road.

Figure 20: Photograph of the view along Riverside towards the Broads, south of Reedham.

Figure 21: Photograph of the view from the entrance to Wardy's Way towards the open fields to the west.

2.6 Facilities and open spaces

Shops and businesses

There continues to be a number of local businesses operating in Reedham. There are approximately 20 privately owned businesses with two or more employees, in addition to the school and GP Surgery, and several sole traders. Some of the most notable businesses include the village store, the Post Office, pubs, and chip shops. It is important that businesses are supported locally as there remains a need for local provision of the services they offer. The prevalence of local businesses also suggests that there is a need for good transport and communication links.

Schools and education

Reedham Primary School and Nursery School provides education services for the village. It caters 73 pupils of 4 to 11 years old and 12 pupils in the nursery. The main buildings were constructed in the 19th century on a small site with a separated playing field. Within Reedham's Community Led Plan's questionnaire, there have been

obvious concerns about the ongoing viability of the school and if it were to close, the village would be 'greatly diminished.' Thus, a continuing cooperation between the community and Reedham Primary School is needed to help the school remain at the heart of the village.

Leisure and recreation

Reedham is fortunate to have existing leisure and recreational facilities and activities. The main site for leisure and recreation is a Village Hall equipped with an outdoor gym and sports pitches. Events in Reedham include the Village Fete, Music and Beer Festivals and Car Boot Sales. Whenever possible, new developments and future village improvements should seek to contribute towards bringing forth these aspirations.



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F.23

Figure 22: Photograph of the Village Hall and outdoor gym.

Figure 23: Photograph of the Post Office and Tea Rooms on Riverside.

The background image shows a row of residential buildings. On the left is a single-story house with a red-tiled roof, a dormer window, and a white picket fence in front. To its right is a two-story brick house with a red-tiled roof, multiple windows with dark frames, and a red postbox. A semi-transparent white circle is centered over the image, containing the text 'Design guidance and codes' and the large number '03'.

**Design guidance
and codes**

03

3. Design guidance & codes

This section sets out the principles that will influence the design of potential new development and inform the retrofit of existing properties in Reedham. The aim is to enhance local distinctiveness by creating good quality developments, thriving communities and enhance connections to Reedham's surrounding landscape.

3.1 Introduction

An aim of this document is to ensure that future development within Reedham is well-designed and built to last. This section focuses on the distinctive characteristics of the Parish, especially in the setting of The Broads, and shows how they can influence or be incorporated into new development.

This section provides guidance on the design of development, which is informed by best practice from within Reedham. It sets out the expectations that applicants for planning permission in the Parish will be expected to follow.

The local patterns of streets and spaces, building traditions, materials and the natural environment should all help to determine the character and identity of a development. However, it should be recognised that notes of contemporary design and new buildings technologies are capable of delivering acceptable built forms and may sometimes be more efficient.

It is important with any proposals, that the local context is fully considered. Any form of contemporary design should still embody Reedham's 'sense of place' and meets the aspirations of its current residents.

3.2 List of codes

This chapter is divided into seven codes:

- **DC.01** - Response to the landscape context;
- **DC.02** - Connectivity through the village & future development;
- **DC.03** - Knitting into the village's fabric
- **DC.04** - Boundary treatments;
- **DC.05** - Richness and variety in materials and details; and
- **DC.06** - Street lighting and dark skies
- **DC.07** - The Broads Sustainability Guide.

3.3 General design principles

This section sets out a series of general design principles followed by questions against which the development proposals should be evaluated.

As an initial appraisal, there should be evidence that development proposals have considered and applied the following general design principles:

- Harmonise with and enhance the existing settlement in terms of physical form, movement pattern and land use;
- Relate well to local heritage, topography, landscape features, countryside setting and long-distance views;
- Reinforce or enhance the established high-quality character of streets and other spaces;
- Integrate with existing access: public rights of way and street network;
- Provide adequate open space and green infrastructure for new development in terms of both quantity and quality, to reflect settlement needs;
- Reflect, respect and reinforce local architecture and historic distinctiveness; avoiding pastiche replication;
- Retain and incorporate important existing landscape and built-form features into the development which add richness;
- Respect surrounding buildings in terms of scale, height, form and massing;
- Adopt contextually appropriate materials, architectural details and construction details;
- Ensure all components (buildings, landscapes, access routes, parking and open space) relate well to each other to provide safe, connected, attractive and cohesive environments;
- Energy generating technologies should be integrated within development at the start of the design process. Retrofitting existing properties should be done sensitively;
- Development of areas susceptible to flooding should include construction details and protection elements within the design of the building to increase resilience;
- Enhance biodiversity; and
- Integrate nature based water management solutions into all new and existing developments.

DC.01 - Response to the landscape context

With the two housing site allocations in Reedham aimed at delivering 60-80 homes in the next few years, consideration of the landscape context of the Broads, and those areas beyond, is becoming more important.

Other than its national designation, the Broads create a very special context for Reedham due to the interactions of water, people and wildlife. The villages and buildings within the landscape are crucial to the [distinctiveness of the Broads](#).

Buildings in the Broads reflect the activities of people living and working in its context. The importance of the waterways is reflected in the designs of buildings. For example, riverside chalets and cottages are typical of Reedham. Their simple construction is suitable for the marshy ground conditions.

The result is the scale and type of building which blends with the natural surroundings in a way that some new developments do not. The green boxes below highlight the key considerations of responding to the landscape context of the Broads:

- All proposals in the Broads area should respond to the guidance set out in [Broads Planning Guides](#);
- Development of both traditional or contemporary architecture styles must reflect the existing character of Reedham;
- Development affecting the transitional edges between the settlement and surrounding landscape, typically beyond the designated settlement boundary, must be softened by new landscaping features.

- This will provide a harmonious interface between the built environment and the wider landscape. More guidance on landscaping is provided in the [Broads Landscape Strategy](#)
- Development that alters the undeveloped skyline of low lying valleys around Reedham and across the River Yare should be avoided; and
- The views towards the marshlands in the Broads, towards River Yare, and surrounding low lying valleys should be protected. The impact of massing, height and architectural quality of any new development within the view corridors should be considered.



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Figure 24: An example of a traditional waterfront cottage along Riverside incorporating colours and materials that reflects the character of Reedham and its surrounding landscape.

Figure 25: An example of use of boundary treatment and soft landscaping that reflects the character of Reedham and blends in with its surrounding landscape. The low brick walls create a sense of openness.

Figure 26: An example of contemporary brick house that sits at the edge of the village with far-reaching views across the landscape.

Figure 27: An example of the use of landscaping to soften the appearance of a dwelling and help blend in with the context of Reedham's vast surrounding landscape.

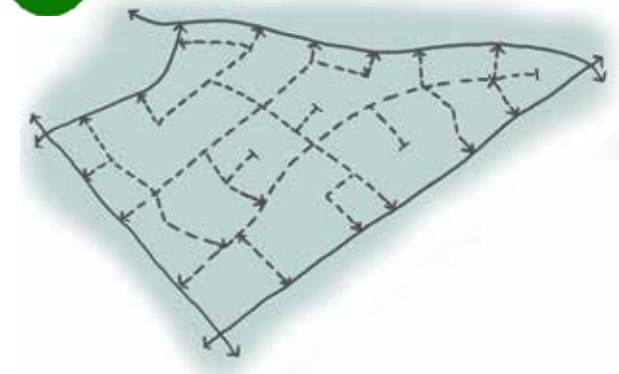
DC.02 - Connectivity through the village & future development

Best design practice tends to favour a connected street layout that makes it easier to travel by a variety of transport modes, including wheelchair, walking and bicycle.

Some recent housing developments, such as Broadland Close, are cul-de-sacs. This street layout decreases connectivity to amenities and do not enhance access to the public footpaths that connect Reedham to its surrounding landscape.

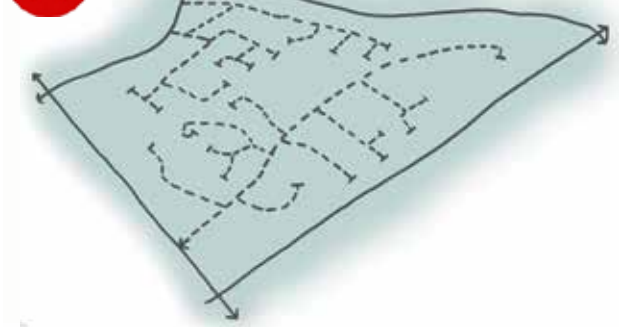
Upcoming developments should consider a more permeable street network to cultivate those important links. They should also keep in mind pedestrian and cycle links around the village and its surrounding landscape. Overall, new development should consider the following guidance in the box to the right.

- Propose routes laid out in a permeable pattern, allowing for multiple connections and choice of routes, particularly on foot. Cul-de-sacs should be relatively short and provide onward pedestrian links;
- Provide for short, walkable routes to key destinations (usually defined as within a 10 minute walk or 5 minutes trip by bike). If the design proposal calls for a new street or cycle/pedestrian link, it must connect destinations and origins;
- Avoid designs that feature barriers to vehicle movement, gates to new developments, or footpaths between high fences; and
- Align pedestrian and cycle routes to existing and new green infrastructure links and features wherever possible.



F.28

Figure 28: A connected layout, with some cul-de-sacs, balances sustainability and security aims in a walkable neighbourhood.



F.29

Figure 29: A layout dominated by cul-de-sacs encourages reliance on the car for even local journeys.

DC.03 - Knitting into the village's fabric

Density, scale, massing and orientation

The scale, form and massing of buildings are important to the character of Reedham. Therefore, the existing context needs to be considered and new development should react sensitively to preserve and enhance the best characteristics of Reedham. It should ensure a harmonious relationship with neighbouring buildings, spaces and streets.

In order to do so, future developments in Reedham should adhere to the following guidance:

- Density of development should not exceed 20 dwellings per hectare on developments of five or more dwellings;
- Developments of five or more dwellings must include a variety of dwelling sizes, forms and heights;

- Individually designed buildings are preferred;
- Whenever possible, architectural detailing where key vistas are terminated, at prominent corners or entrances, should be enhanced;
- Dual aspect corner units must have windows on all facades that front the street;
- Vistas should not be terminated with inactive development frontage including garages, car parking and rear boundary walls or fences;
- Developments should not go beyond 2 storeys in height; and
- Wherever possible, long rows (3+) of terraced dwellings should be avoided as it does not reflect the character of Reedham.



Figure 30: An example of how a row of houses can vary in colour, boundary treatments and architecture elements that reflects the character of Reedham.



Figure 31: An example of a single-storey dwelling in Reedham with windows on all façades and space in the roof to convert to an additional half storey.

DC.04 - Boundary treatments

A clear distinction between public and private space is fundamental to creating a good place. Buildings fronting streets, squares and open spaces activate the public realm. Therefore, primary access and principal frontages should always face onto public spaces.

Within the residential areas, setbacks from the street and front garden landscaping can provide some privacy for front living rooms while also allowing natural surveillance of the streets.

There are various boundary treatments used across the village. Generally, new developments should consider the following guidance with regard to boundary treatments:

- Front boundaries on main roads should be defined by either native hedgerow planting, low stone or brick walls, timber post and picket fences;

- Colour and material of boundary elements should reflect the predominant approach along the street;
- Infill dwellings should continue the predominant boundary treatment from neighbouring properties;
- Open lawn frontages are preferred in locations where this treatment is commonly found. Tree and shrub planting should be used to soften street frontages and add variety;
- Wherever possible, tree and shrub planting should be used to minimise the visual impact of cars and create an attractive streetscape; and
- Close boarded fencing visible from publicly accessible locations and front gardens under 4m in depth should not be accepted.



Figure 32: An example of the use of wooden fences and some wildflower planting as boundary treatment that reflects the colours and materials of Reedham and its landscape.



Figure 33: An example of landscaping used to complement and cover hard boundary treatments such as fences to create an attractive streetscape that reflect Reedham's character.

DC.05 - Richness and variety in materials and details

A mixture of building materials and architectural features will add interest and help buildings assimilate into Reedham's village scape and surrounding landscape context of the Broads. New developments should adhere to the following guidance in relation to choice of building materials and details:

- Use sustainable building materials and new technologies to minimise fossil fuel reliance;
- Use a variety of building materials and architectural features that complement local, traditional buildings;
- All roofing materials must be non-reflective (with allowance for harnessing solar energy);
- The colour of building materials should reflect the local vernacular;

- New dwellings within infill plots must complement the adjacent dwellings;
- The use of flint, timber and weatherboarding to add distinctive features to buildings is preferred;
- Where possible, use local building materials manufactured within and/or originating from the region to reduce carbon emissions from transport;
- A good blend of bricks, providing different tones of the same colour, could be considered; and
- More guidance on use of materials, architecture detailing and colours for development set in the Broads can be found in the Broads Planning Guidance documents.



Figure 34: An example of the use of multi-tonal bricks and landscaping to reflect the character of Reedham.



Figure 35: An example of contemporary design along Riverside that incorporates architecture details and colours reflecting of Reedham's distinct character.

This small sample palette of materials and details is taken from both traditional and more modern dwellings in Reedham. It displays a broad range of approaches that enrich the village as a whole. It is acceptable to follow a more traditional approach or a more modern approach by evolving traditions in order to innovate and improve sustainability. However, inauthentic pastiche that is not true to its time and place should be discouraged.

Pastiche done very well and richly detailed may still be accepted if it adds to the design quality and richness of the village overall. Where these increase sustainability, they are allowed, but preferably with a local connection (e.g colours). Traditionally, locally distinct materials and details are greatly encouraged overall within Reedham.



F.36
Figure 36: Examples of materials commonly found in Reedham.

DC.06 - Street lighting and dark skies

Reedham parish has a strong rural character. It is important for development to minimise light pollution caused by street lighting or lighting from properties. The following guidelines aim to ensure there is enough consideration given at the design stage of new developments:

- Lighting schemes in residential areas are important to encourage courteous driving and thus, make people feel safer to walk or cycle along the rural lanes. However, it is important they are not causing unacceptable levels of light pollution particularly in intrinsically dark areas;
- New development should consider lighting schemes that could be turned off when not needed ('part-night lighting') to reduce any potential adverse effects;

- New development should choose lighting that is energy-efficient and sustainable. For instance, the installation of motion sensors on the lights should be encouraged;
- Lighting schemes should be directed downward to avoid reducing dark skies or disturb neighbours or passers-by.
- Foot/cycle path light should be in harmony with surrounding rural landscape. Lighting such as solar cat's-eye lighting, reflective paint and ground-based lighting could be introduced; and
- New developments and house extensions designs should be encouraged to use natural light sources.
- For more information, reference the Broads Authority's [Towards a Dark Sky Standard Guide](#).



Figure 37: Example of a foot/cycle path which is lit by solar cat's-eye providing some light for pedestrian and cyclists without creating any disturbance to the nearby properties or unacceptable levels of light pollution.

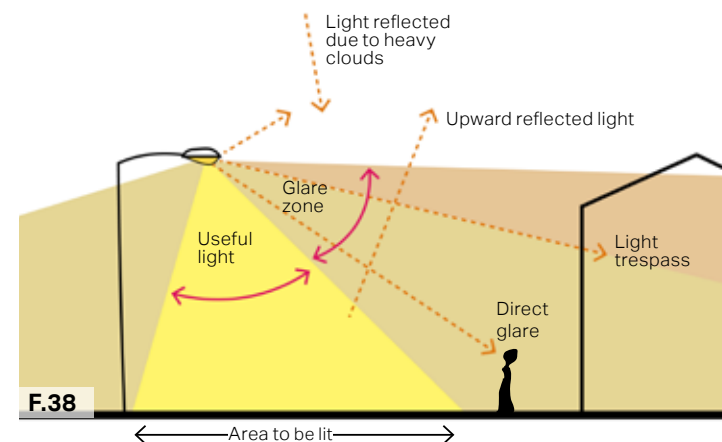


Figure 38: Diagram to illustrate the different components of light pollution and what 'good' lighting means.

DC.07 - The Broads Sustainability Guide

[The Broads Sustainability Guide](#) is one of the documents that can be found in the [Broads Planning Guides](#). The objective of this guide is both practical and ethical to ensure that buildings can contribute to biodiversity and a sustainable future for the Broads. It promotes the use of natural local resources and creating suitable interventions within the Broadland landscape. This guide is not intended to be prescriptive but suggests ways in which the built environment can compliment the sustainable balance of the Broads.

As Reedham sits in the setting of the Broads and its landscape, developments should aim to follow the suggestions written in this document whenever possible. The suggestions in this report covers a range of topics from site selection, site layout, energy, and others.

The document also includes a quick

checklist to use when commissioning or designing buildings to be sustainable. The checklist is provided in the boxes in the following page and more information on each topic can be read in the document.



Figure 39: Cover of the Sustainability Guide by the Broads Authority.

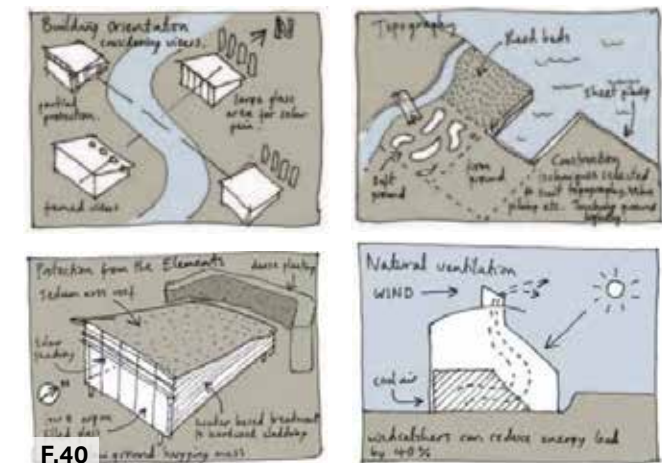


Figure 40: Example of some of the diagrams of the guidance provided in the document.

The Broads Sustainability Guide checklist:

- **Climate** - design buildings to be as flexible as possible for future adaptation to climate and temperature change, and changes in water level.
- **Energy efficiency** - design buildings to be as energy efficient as possible, reducing effects or depletion of natural resources and pollution produced by conventional energy generation.
- **Sustainable materials & construction** - understand the impacts, which materials specified may have on the environment, resource depletion and energy consumption.

- **Biodiversity & quality environments** - consider existing plant and wildlife, acoustic insulation, thermal comfort, natural daylight and ventilation.
- **Water resource management** - understand the importance of conserving limited natural resources, minimise consumption, reduce flood risk and relieve demands on infrastructure.
- **Waste management** - reduce, re-use and recycle.

- **Renewable energy** - develop sites to maximise opportunities for generating and using renewable energy.
- **Micro-climate and pollution** - create shelter from excessive exposure to sun and wind, and improve air quality by reducing pollution.



**Site-specific
design guidance
and codes**

04

4. Site-specific design guidance & codes

This section sets out the design codes that will influence the layout of potential new development within Reedham's two allocated housing sites. The aim is to ensure that the sites will provide sufficient growth that is appropriate to Reedham both in terms of scale and overall design.

4.1 Introduction

This chapter has two sections, one for each of the two sites allocated in the Greater Norwich Local Plan. Each section will highlight the high-level opportunities and constraints of the sites and present several design options. After selecting a preferred option, an illustrative layout of each site will then be outlined.

Wherever possible, images from Reedham are used to illustrate the design codes. However, where these images are not available, the following outputs are used:

- Design principles and guidance text;
- Images from best practice examples;
- Illustrations and explanatory diagrams.

For both sites, the general design guidance and codes set out in Chapter 3 still applies and should be referenced in their design proposals. The specific design guidance and codes should help to unlock the development potential of these sites, whilst

supporting sustainable growth by improving the image and quality of development coming forward in Reedham.

This chapter includes indicative masterplans that show one way of applying the design codes on the two sites. We have not undertaken technical studies on topics such as ground conditions, traffic and drainage (although AECOM specialists have inputted into design development).

It is important to note that both sites fall within The Broads and SSSI impact zones. Therefore, input from ecological specialists would also be required on top of the given design guidance and codes to comprehensively understand the potential for design to have adverse effects on the environmental designations.

It is also expected that full co-design exercises are undertaken by applicants on the sites. This report is just a step in that direction, enabling the community to progress from an informed position.



Reedham Station

Site 1:
Land East
of Station
Road

New Road

Mill Rd

Site 2:
Mill Road

The Hills

Holy Farm Rd

Riverside

River Yare

KEY

- Existing Settlement Boundaries
- Site Boundary
- Water
- Main Roads
- Railway

0m 50m 100m

N

Figure 41: Map of Site 1 and Site 2 and its immediate context.

4.2 Policy context

Broadland District Recreational Provision in Residential Development SPD (2016)

This document provides guidance on how the requirements set out within Policies EN1 Biodiversity and Habitats, EN3 Green Infrastructure and RL1 Provision of Formal Recreation Space, of the Development Management DPD will be applied in practice.

The District Council considers that new residential developments generate a requirement to protect and enhance biodiversity as well as provide green infrastructure (including contributing towards a well-managed network of habitats, informal recreation and allotments) and formal recreational space (including formal recreation and children's play space).

Provision to the required standards is necessary to mitigate the impacts associated with additional population arising from a particular development and to improve health and mental wellbeing.

Indicative thresholds for provision are set out in the document. The on-site provision for each type of open space will clearly be based upon whether the population arising from a development will generate a sufficient area for a particular type of open space to be provided on-site.

For a development of 25-149 dwellings, of which both sites fall under, children's play space should be provided on-site, with informal open space and allotments to be provided off-site.

The document can be accessed here: [Broadland District Recreational Provision in Residential Development SPD \(2016\)](#).

Broadland District Affordable Housing SPD (2008)

This document informs applicants for planning permission of the detailed requirement for provision of affordable housing. This SPD supplements the Local Plan, and is aimed at:

- Providing detailed explanation of the Local Plan policies and set a clear

framework for developers and others to understand how affordable housing is to be provided across the District;

- Establish a flexible approach to appropriate levels and distribution of affordable housing provision;
- Provide information to indicate types of affordable housing which are of greatest need and/or are most appropriate for Broadland;
- Outline the procedures and processes which will be used to secure section 106 planning obligations on affordable housing.

The Broads Authority will be asked to refer to the principles set out in this document as a material consideration when it considers relevant development proposals.

Thus, future development must show consideration to information set out in this SPD. This document can be accessed here: [Broadland District Affordable Housing SPD \(2008\)](#).

4.3 Site 1 - Summary of opportunities and constraints

Site 1, Land East of Station Road, is located on an empty green field land bordered by existing housing development across the western and northern edges. The site has an area of 1.10 ha and has been allocated for 30 dwellings.

Within the site, there is currently a small garden allotment and a dedicated public footpaths that connects the western part of the site to the Witton Green footpath along the eastern edge. The existing garden allotment provides an opportunity to be integrated with future development as retained open space that serves both the existing and future community.

The footpath from the west connects to another dedicated footpath along the open fields towards Cliff Close. These continuous footpaths are an opportunity for pedestrian and cycle access points for Site 1 both from

the east and west. The street that connects to Barn Owl Close provides a main vehicular access into the site.

The north, east, and south edges of the site are bordered by mature vegetation in the form of tall trees and hedges. Development on the site should take this into consideration and create a green edge to complement the existing mature vegetation and provide enough buffer from the rear-end of surrounding houses.

There are several view corridors from the open fields looking into the existing settlement that should be maintained or enhanced wherever possible. These view corridors should be maintained through the footpaths and new streets in order to increase the legibility of future development.

The topography of the site is mainly flat and does not pose any significant constraints for future development.

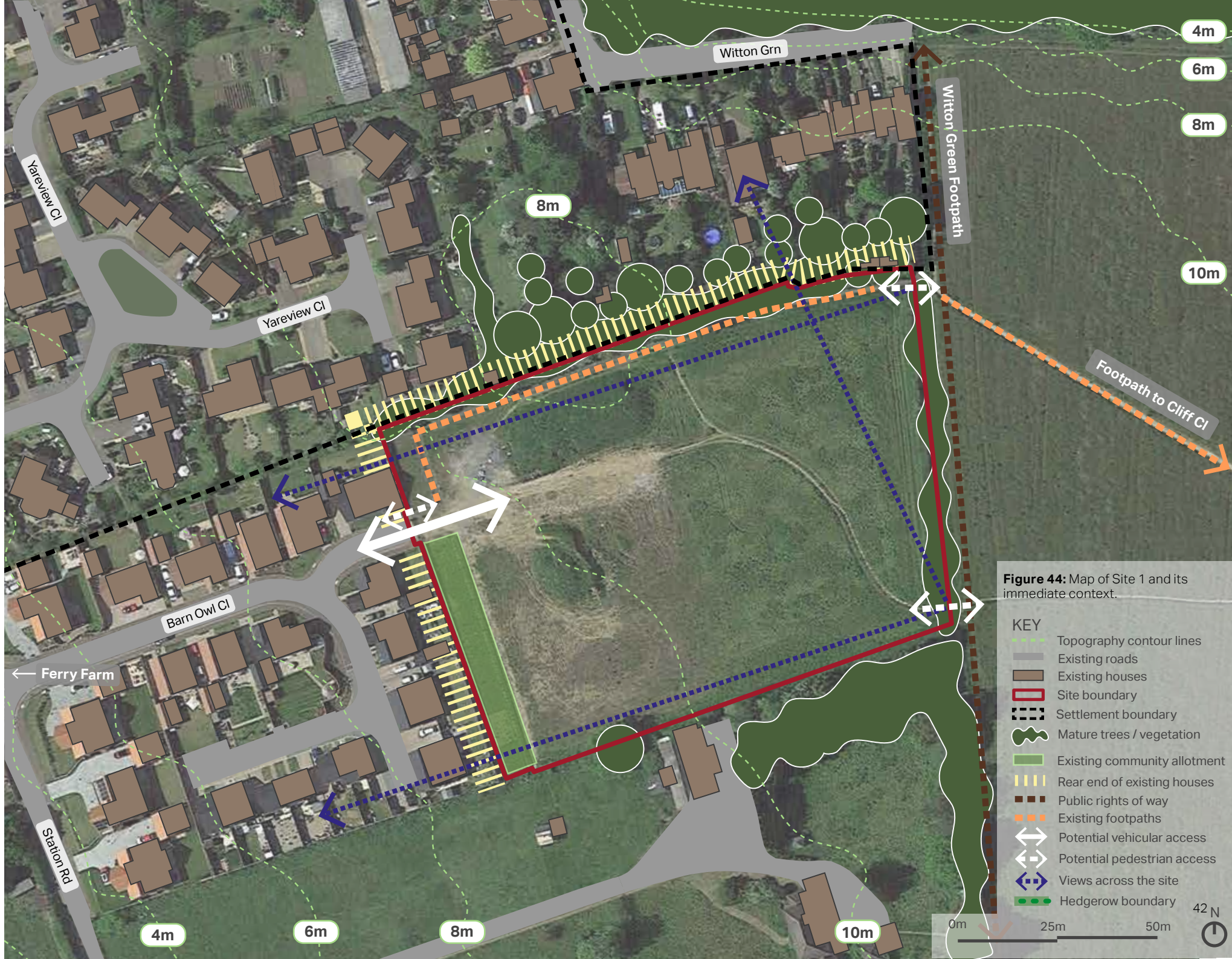
With reference to Figure 16 of Reedham's flood map, the site is not within any flood zones.



Figure 42: View towards the existing settlement from the north east of the site.



Figure 43: Photograph of the public footpath on the site.



4.4 Site 2 - Summary of opportunities and constraints

Site 2, Mill Road, is located on empty green field land adjacent to the railway track along the east. It is located in close proximity to Reedham Primary School and is served by two bus stops along Mill Road and School Hill. The site has an area of 1.30 ha and has been allocated for 30 dwellings.

The western edge is bordered by the rear end of houses along Mill Road and Holly Farm Road. The site is also surrounded by mature vegetation in the form of tall trees and hedges along the east and north. This mature vegetation should be complemented by a hedgerow boundary to separate future development with the surrounding open fields and railway track.

There is an opportunity for a main vehicular access through Mill Road on the west and a pedestrian and cycle only access through Holly Farm Road on the south.

The topography of the site has a slight slope downwards to the east and west with the highest point of the site providing some key view corridors towards the existing settlement and open fields. The eastern slope is much more steep with an estimated 20-25% slope, which may not be the most suitable for development. This portion of the site could be used as open space provision in accordance with the guidance of the *Broadland District Recreational Provision in Residential Development SPD (2016)*.

With reference to Figure 16 of Reedham's flood map, the site is not within any flood zones.

The Neighbourhood Plan steering group have strong aspirations to provide a school playing field and car parking for staff on part of the site. However, due to access to the site being deemed too narrow for development to proceed, the steering group has decided not to produce a masterplan for the site at this stage.



F.45

Figure 45: Main access into the site from Mill Road.



F.46

Figure 46: View towards the site from Holly Farm Road bridge.



Figure 47: Map of Site 2 and its immediate context.

KEY

-  Existing bus stops
-  Topography contour lines
-  Gently sloping topography
-  Existing roads
-  Existing houses
-  Site boundary
-  Settlement boundary
-  Mature trees / vegetation
-  Rear end of existing houses
-  Public rights of way
-  Potential vehicular access
-  Potential pedestrian access
-  Views across the site
-  Hedgerow boundary

4.5 Indicative masterplan for Site 1

This section sets out the spatial option considered as part of the design development process and a final option which is presented in the following pages.

Spatial option

Several spatial options were considered during the design process of the masterplan. All the options considered were designed based on the design guidance and codes set out in the earlier chapters of this report, with more specific guidance for the site outlined in the following pages. The *Broadland District Recreational Provision in Residential Development SPD (2016)* and parking standards for Broadland District area were also highly considered in the spatial options presented.

Each option explored a variety of densities for the site and ensured the highest number of dwellings that is still appropriate for the site, taking into account the average

densities of existing housing development across Reedham.

Preferred option

The preferred option is predicated on delivering an appropriate number of homes whilst maintaining the key landscape features within and around the sites, retaining existing connections with the wider landscape and street network. Overall, the preferred option provides a setting for development that is attractive, accessible, and capable of delivery.

The spatial arrangement of development, as proposed in the preferred option, has the potential to deliver the target number of homes in a mix range of densities, housing types, and tenure mix. This mix and range would provide a more balanced and efficient use of land. This allows flexibility for the option to meet the policies set out in the *Broadland District Affordable Housing SPD (2008)*.

The arrangement also has the potential to meet the open space standards outlined

in the *Broadland District Recreational Provision in Residential Development SPD (2016)* and provide place-making solutions to ensure that the built and landscape character of Reedham is preserved.

Site 1 - Preferred option

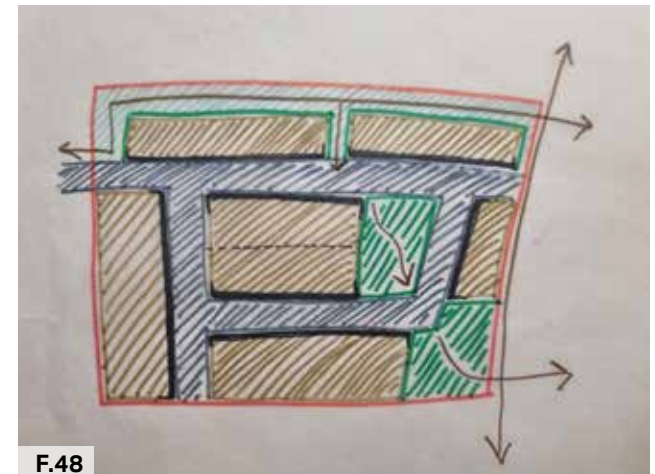
The two sketches on the right show some of the options considered for Site 1. The second option was chosen as it better reflected Reedham's character and the site's potential to deliver the 30 dwellings.

This option retains the existing garden allotment and enhances its setting by providing additional green space across the street, along with visitors parking, and also adjacent to it. This creates a well curated entrance to the site that encourages neighbouring residents to continue to use this space.

A play area is also provided at the centre of the site for new residents.

This option includes a mix of housing typologies and parking typologies, creating a variety of densities throughout the site.

The new pedestrian and cycle connections link the west of the site to the existing footpaths along the east.



F.48

Figure 48: Option 1 for the design layout of Site 1.



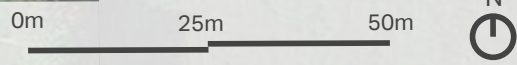
F.49

Figure 49: Option 2 for the design layout of Site 1.



Figure 50: Site 1 preferred option.

- KEY**
- Site boundary
 - Vehicular access
 - Pedestrian/cycle access
 - Public rights of way
 - Development parcels
 - Building frontages
 - Green open spaces/landscaping
 - Retained garden allotments
 - Trees/tall hedges



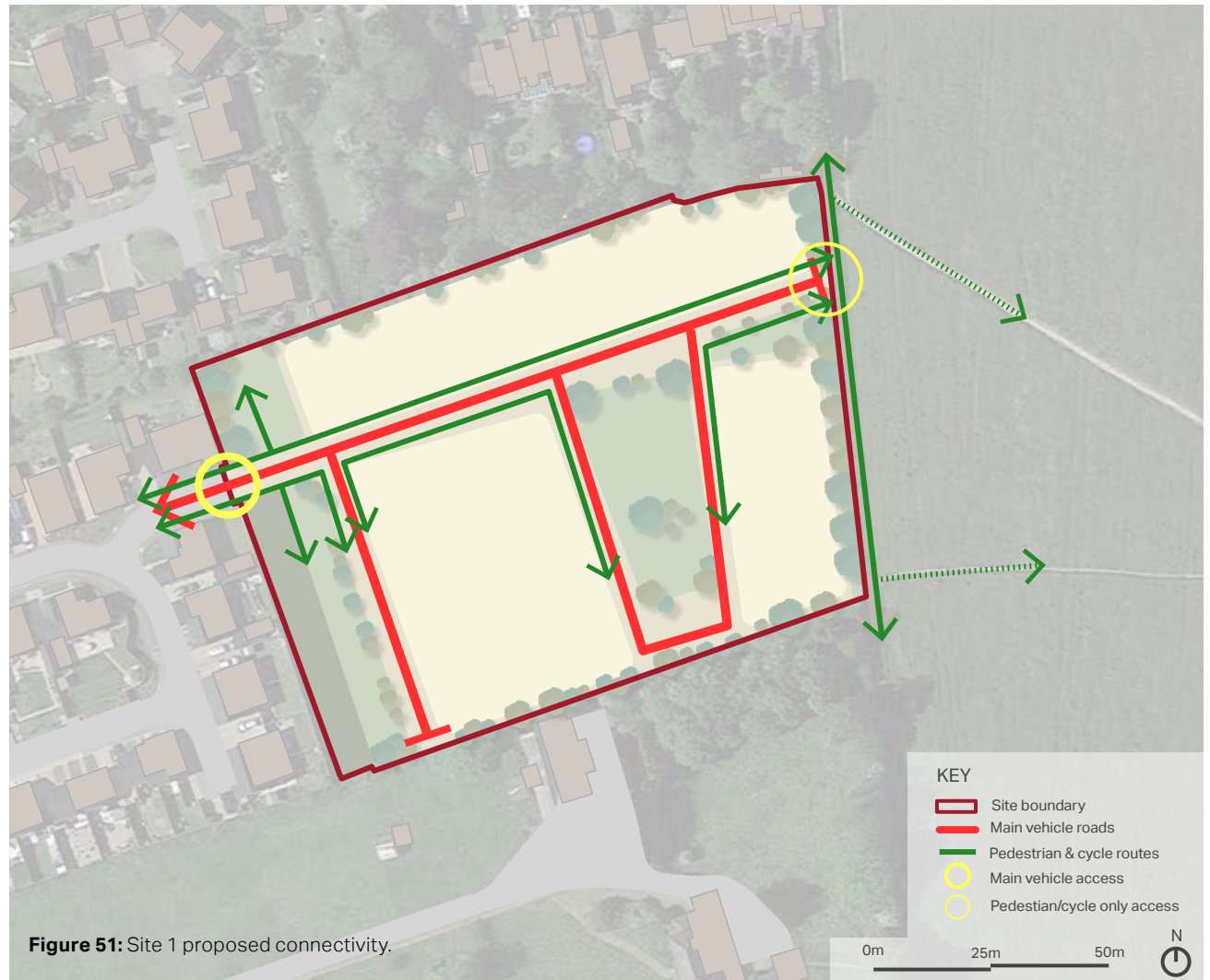
Connectivity

The site includes a main road with access from Barn Owl Close and runs along to the east end of the site. Most of the roads on site will be private residential roads with shared surface, intended mainly for access to dwellings.

Roads with shared surfaces will be pedestrian and cycle safe and allows for a safer environment surrounding the green open spaces provided within the site.

Pedestrian and cycle connections connects the west of the site, where the Barn Own Close main access point is, to the east of the site. This connects the west of the site to the existing Witton Green footpath and the footpaths that crosses the open fields to the east.

The design of connectivity throughout the site reflects the guidance set out in **DC.02 - Connectivity through the village & future development**, page 32 of this report.



Frontages

The main building frontages on the site all face onto the streets. Green open spaces and pavements within the site are also overlooked by the frontages to ensure sufficient natural surveillance and increased safety.

Corner buildings should have two frontages as mentioned in **DC.08 - Corner treatments** on page 70 of this report.

The facades of each dwelling should also follow the guidance on architecture details and use of materials mentioned in **DC.05 - Richness and variety in materials and details** on page 32-33 of this report.



Green infrastructure

The green infrastructure provided in this option includes a range of open spaces that can be used as play areas, the retained and enhanced garden allotment, landscaping and tree planting throughout the site.

The landscaping and green spaces help enhance the pedestrian and cycle connectivity, whilst responding to the landscape context surrounding the site. Tree planting along the eastern edge of the site creates a buffer between housing development proposed and the open fields while enhancing the setting for the Witton Green public footpath. The green spaces provided also serve as connections between the site, open fields on the east and neighbouring housing developments.

The open space provided complies with the standards outlined in the **Broadland District Recreational Provision in Residential Development SPD (2016)** and **DC.12 - Landscape and green spaces** on page 65.



Parking provision

This preferred option for Site 1 includes a variety of housing typologies and densities, and would include a mix of parking typologies. These are outlined in **DC,09 - Parking typologies** on page 62.

Some of the typologies include on-plot parking, on-plot garage parking and courtyard parking - which can be found across the neighbourhoods of Reedham. Each dwelling should be provided with 2 spaces of private parking space as outlined in the [Parking Standards SPD \(2007\)](#).

Should courtyard parking is incorporated, it should be designed with landscaping and tree-planting to ensure that the hardscaped area is softened by an attractive and green environment.

Visitor parking spots should also be provided throughout the site, especially in close proximity to the garden allotments and open spaces that serve as play areas.



Figure 54: Local example of on-plot parking arrangements in a recent development, Reedham.



Figure 55: Local example of on-plot garage parking, Reedham.



Figure 56: Another local example of on-plot garage parking at the front of a detached house, Reedham.



Figure 57: Positive local example of a parking courtyard in Reedham that incorporates landscaping to soften its visual impacts.

4.6 Site-specific design codes

Some further design guidance and codes should be applied when moving forward with any housing development in Reedham.

These guidance and codes are specific to the design of new housing development and must be applied to ensure that future development reflect both the built and landscape characters of Reedham. These guidance and codes will also help ensure that future housing developments follow best practice in design. They include:

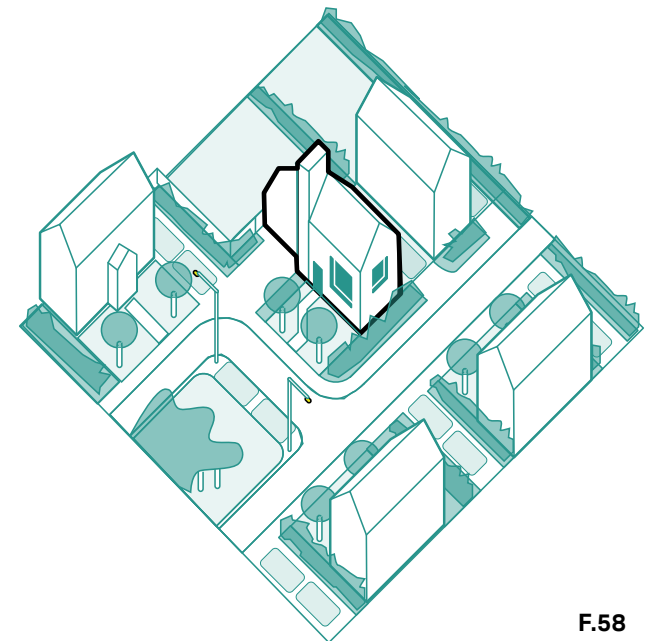
- **DC.08 - Corner treatment;**
- **DC.09 - Enclosure;**
- **DC.10 - Well defined public and private space;**
- **DC.11 - Parking typologies;**
- **DC.12 - Landscape and green spaces;**
- **DC.13 - Sustainable urban drainage system (SUDS) & Bioretention system;**
- **DC.14 - Permeable pavements.**

DC.08 Corner treatment

An important villagescape principle is for buildings to satisfactorily address the corner. Where corner sites are visually prominent buildings should define the corner architecturally.

- Buildings should have two active frontages created by incorporating prominent entrances and windows;
- On corners which are less visually prominent, such as within the lower density residential areas, continuous built frontage should address the corner by using a series of linked dwellings where possible; and
- When a terraced, detached or semi-detached house faces out onto the corner, the buildings should have the main entrance and habitable room windows facing both sides to create

activity, and should overlook the street. This building can also be taller or have a distinctive architectural element to ensure a greater presence.



F.58

Figure 58: Diagram showing a corner building with two active frontages.

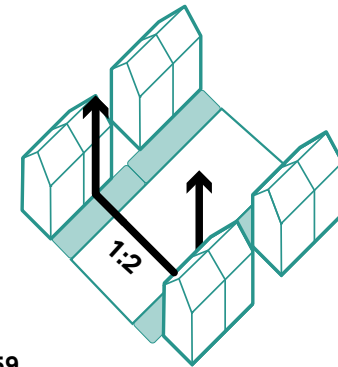
DC.09 Enclosure

Enclosure is the relationship between public spaces and the buildings or other features that surround them. A more cohesive and attractive urban form is achieved where this relationship is in proportion.

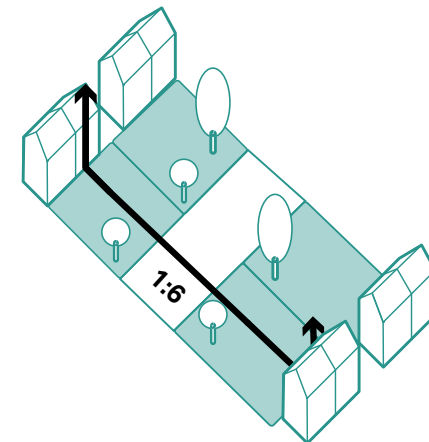
The enclosure ratio varied in the village (see opposite Figures). The following principles serve as general guidelines that should be considered to achieve a satisfactory sense of enclosure:

- Façades should have an appropriate ratio between the width of street and building height;
- Corner buildings are placed in important locations and in the intersection of two streets;
- Narrow gaps between buildings must be avoided, they should be either detached/semi-detached or properly linked;

- Building lines should run parallel to the back of the pavement;
- In places with lower density, the sense of enclosure is provided from the use of natural elements such as trees and hedges; and
- In the case of terraced buildings, it is recommended that a variety of plot widths, and façade alignments should be considered during the design process to create an attractive villagescape.



F.59



F.60

Figure 59:
1:2 ratio of enclosure in more compact housing developments.

Figure 60:
1:6 ratio of enclosure in less compact housing developments with front gardens and more amenities.

DC.10 Well defined public and private space

- 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 front garden width should be 3m from a wall of the dwelling and be permanently screened by walls or fences;
- Appropriate boundary treatments including low walls, hedges and railings must be incorporated into design proposals to clearly distinguish public and private space. Reliance should not be placed on high screening fences or wall (2m and above) where these would form a dominant feature;

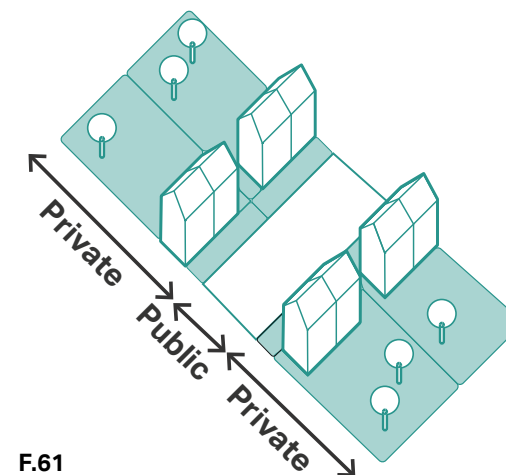
- There should be a privacy distance between the backs of properties achieved between the faces of single or two storey buildings backing each other. Distances should be greater between buildings in excess of two storeys. When this is not possible, the layout should be back to side arrangements or use single-aspect buildings to avoid overlooking issues;
- Private open amenity space is important to wellbeing and is, in the form of back gardens, also part of the character of Reedham. All new houses will be expected to have useable outside amenity space; and
- New residential development should provide private amenity space within the curtilage of the development.

Figure 61:

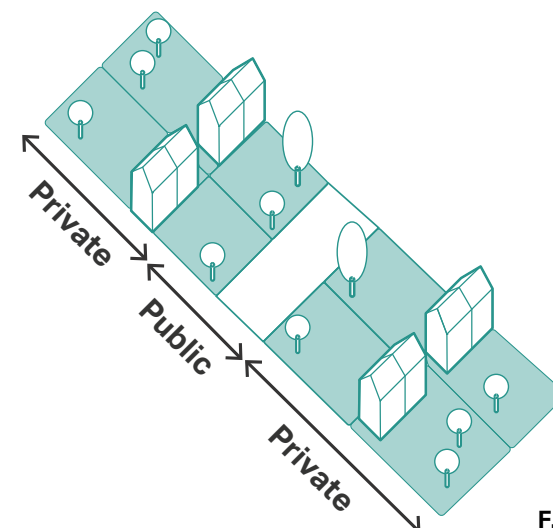
Public and private space example diagram (1) for new housing developments in Reedham.

Figure 62:

Public and private space example diagram (2) for new housing developments in Reedham.



F.61



F.62

DC.09 Parking typologies

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

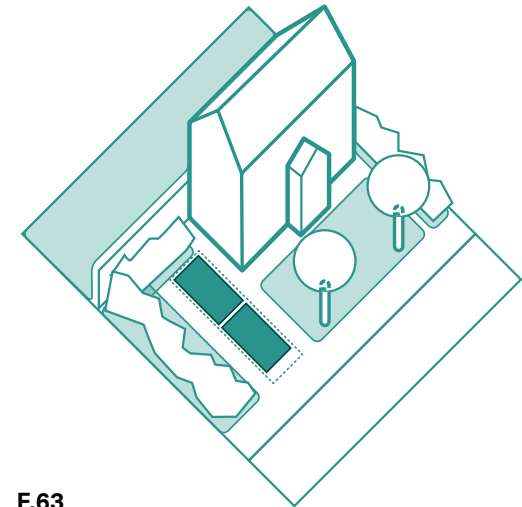
- When placing parking at the front of a property, the area should be designed to minimise visual impact. The aim is to keep a sense of enclosure and to break the potential of a continuous area of car parking in front of dwellings. This can be achieved by means of walls, hedging, planting, and the use of quality paving materials.
- When needed, residential car parking can be translated into a mix of on-plot side, front and garage parking complemented by on-street parking.
- For family homes, cars should be placed at the side of the property

or front of the property.

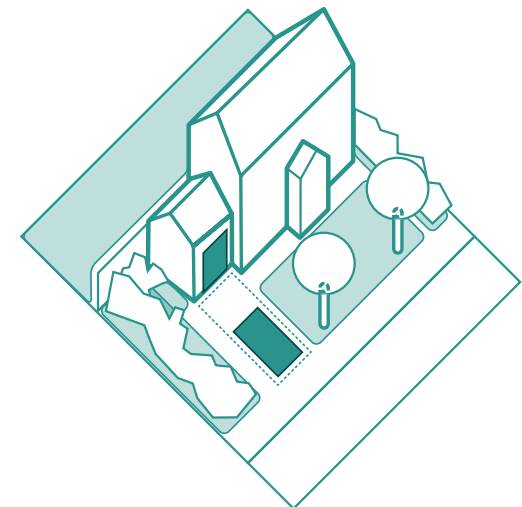
- The provision of tandem parking encourages on-street parking. Where on-plot parking spaces is limited, tandem parking is acceptable, but should be avoided in areas which offer general access (e.g. parking courts).
- Car parking design should be combined with landscaping to minimise the presence of vehicles.
- Parking areas and driveways should be designed to improve impervious surfaces through the use of permeable paving.
- Long-term strategies to manage parking demand, such as cycling infrastructure and parking, car sharing, and carpooling schemes should also be explored.

Figure 63:
Diagram of on-plot parking provision example for Sites 1 & 2.

Figure 64:
Diagram of on-plot parking with garage for Sites 1 & 2.



F.63



F.64

Courtyard parking

- Courtyard parking must be overlooked by neighbouring properties;
- Access to courtyards should be through private residential roads to ensure continuity of the street frontage;
- Parking clusters should be interspersed with trees and soft landscaping to provide shade, visual interest and to reduce heat island effects;
- Courtyard parking must be designed to avoid impeding the flow of pedestrians, cyclists and other vehicles;
- Public and private spaces should be very clearly defined to avoid confusion and necessary design mitigations should be applied for maximum safety;

- On shared surfaces, parking bays can be clearly marked using changes in paving materials instead of road markings; and
- For visitors parking, 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 65: Best practice example of linear courtyard parking at the front of property in a modern housing development in the UK (Poundbury) (1).



Figure 66: Best practice example of courtyard parking at the front of property in a modern housing development in the UK (Poundbury) (2).

Cycle parking

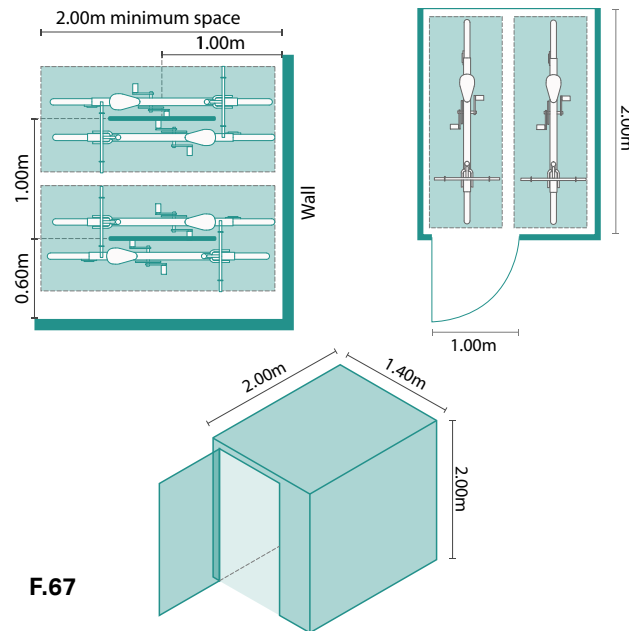
A straightforward way to encourage cycling is to provide secured covered cycle parking within all new residential developments and publicly available cycle parking in the public realm.

Houses without garages:

- For residential units, where there is no on-plot garage, covered and secured cycle parking should be provided within the domestic curtilage;
- Cycle storage should be provided at a convenient location with an easy access;
- 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 1300mm 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; and

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

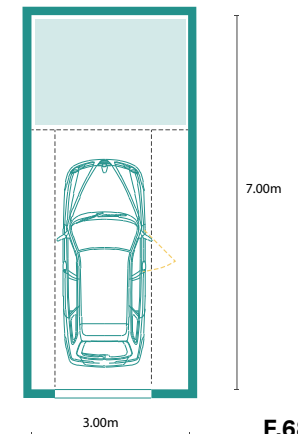


F.67

Figure 67: Illustrations of cycle stands for visitors and cycle parking (covered and uncovered storage).

Houses with garages:

- Where possible cycle parking should be accessed from the front of the building either in a specially constructed enclosure or easily accessible garage; and
- The bike should be removed easily without having to move the vehicle. New developments should promote cycling by providing more cycle routes and monitor the condition of the existing ones.



F.68

Figure 68: Illustration of indicative layout of a garage with a cycle storage area.

DC.11 Landscape and green spaces

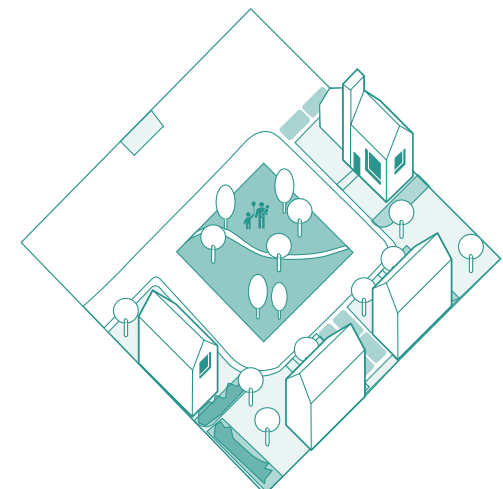
Reedham has a good network of footpaths and wide range of green spaces. Future open spaces should be planned considering the following guidance:

- Where possible, design new open spaces to incorporate existing landscape features to create an informal park with opportunities for natural play and recreation;
- New developments located in close proximity to schools should provide open spaces that is within a 10 to 15 minutes walking distance to the school, serving the uses of both local residents and the school;
- Planting should be used to soften the mass of the built form. For example, a 'semi-natural' strip of planting with two rows of trees with a woodland footpath between;

- Green buffers can be a satisfactory transition between old and new neighbourhoods. This could take the form of a 'semi-natural' woodland strip, as above, or more formal open space like playing areas;
- All existing good quality hedgerows, trees and shrubs to be retained within the site and enhanced with improved management;
- New trees, grassland and shrubs to be planted to supplement existing vegetation;
- Where possible, landscaped spaces should seek to improve biodiversity, incorporate wildlife enhancements, and provide wildlife corridors as accessible routes to surrounding areas for pedestrians, cyclists, plants and animals⁶;

⁶ Reference the Broads Landscape Strategy Guide and Biodiversity Enhancements guide for more details (<https://www.broads-authority.gov.uk/planning/planning-permission/broads-planning-guides>)

- Active frontages to face onto green spaces;
- Provide allotments or other community garden facilities where appropriate; and
- Allow for flexible use of the space allowing temporary uses to fluctuate with a changing programme of events and use.



F.69

Figure 69:
Diagram of green space layout at the centre of development.

DC.12 Permeable pavements

Most built-up areas have hard surfaced roads, footpaths and driveways which are 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 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. The choice of permeable paving units should be made with reference to the local context.

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 pavements must also comply with:

- [Flood and Water Management Act 2010, Schedule 3](#);
- The Building Regulations Part H;
- [Drainage and Waste Disposal](#);
- [Town and Country Planning \(General Permitted Development\) \(England\) Order 2015](#);
- 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](#);
- [The SuDS Manual \(C753\)](#);
- [BS 8582:2013 Code of practice for surface water management for development sites](#);
- [BS 7533-13:2009 Pavements constructed with clay, natural stone](#)

[or concrete pavers](#); and

- [Guidance on the Permeable Surfacing of Front Gardens](#).

DC.13 Bioretention systems

Bioretention systems, including soak-aways 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; and
- They can be used at varying scales, from small-scale rain gardens serving individual properties, to long green-blue corridors incorporating bio-retention 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. 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.⁶

⁶ UK Rain Gardens Guide. Available at: <https://raingardens.info/wp-content/uploads/2012/07/UKRainGarden-Guide.pdf>

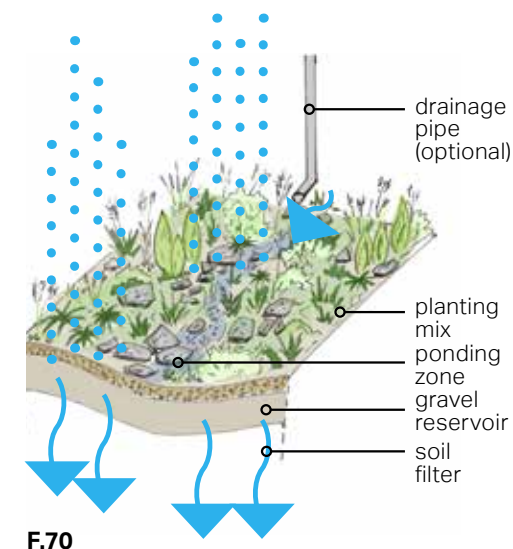


Figure 70:
Diagram illustrating the functioning of a rain garden

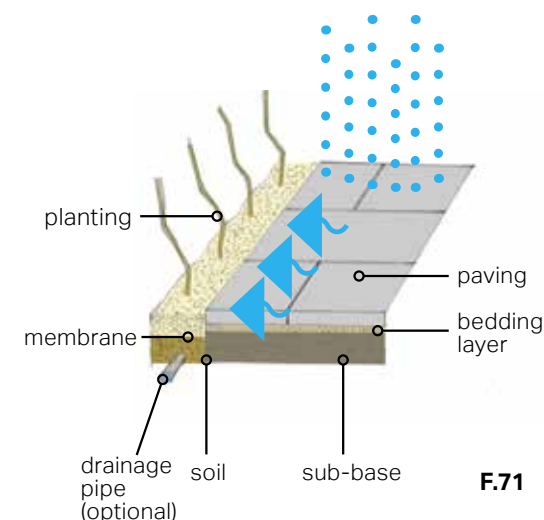


Figure 71:
Diagram illustrating the functioning of a soak away garden

**General issues to consider
when presented with
development proposals**

05

1

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;
- Positively integrate energy efficient technologies;
- 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;
- 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 (continues)

Local green spaces, views & 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?

3

Local green spaces, views & character:

- Have opportunities for enhancing existing amenity spaces been explored?
- Will any communal amenity space be created? If so, how will this 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 (continues)

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 villagescape?
- 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?

5

Buildings layout and grouping:

- 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:

- Is the extension subservient to the host building?
- 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'?
- 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 site to reduce waste and embodied carbon?

9 (continues)

Building materials & 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?

9

Building materials & surface treatment:

- 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?

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