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AECOM

Filby

Design Guidance and Codes

Final Report
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Delivering a better world

Quality information

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Revision History

Issue no.	Issue date	Details	Issued by	Position
2	13.03.2025	Final draft issued to working group	Jimmy Lu	Principle Urban Designer
	12.03.2025	Comments provided	Madeleine Gohin	Neighbourhood Planning Officer Locality
	28.02.2025	Final draft issued to Locality	Nicholas Pascalli	Graduate Urban Designer
1	25.02.2025	Comments provided	Louise Cornell	Planning consultant
	23.12.2024	First draft sent to group for comments	Nicholas Pascalli	Graduate Urban Designer
0	14.10.2024	Site visit with AECOM	–	–
	01.10.2024	Initial call with the working group	–	–

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Introduction

01

View of Filby Broad, one of five lakes in the Trinity Broads.

1. Introduction

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

As the National Planning Policy Framework (NPPF) (paragraph 131) notes, 'good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities' (see **page 8**).

Following an analysis of the Neighbourhood Area (NA), a set of architectural and design qualities will be identified. This set of qualities, combined with good design practice, will form the design guidelines that development within Filby should follow in order to comply with this parish-wide design guidance and codes document.

1.1 Purpose of this document

This document sets out design guidance and codes based on the existing features of Filby. The document is intended to sit alongside the Neighbourhood Plan to provide guidance for applicants preparing proposals in the NA and as a guide for the Neighbourhood Plan Working Group and Great Yarmouth Borough Council and The Broads Authority when considering planning applications.

1.1.1 What is Guidance versus Codes?

Design guidance identifies how development can be carried out in accordance with good design practice. Design codes are requirements that provide specific, detailed parameters for development. Proposals for development within the NA should demonstrate how the guidance has informed the design and how the design codes have been complied with. Where a proposal cannot comply with a code (or several) a justification should be provided.

Figure 01: Filby Village Hall, a newer facility neighbouring the thatched Filby Village Club, shows the vernacular variety in the NA.

Figure 02: Filby's distinctive identity and community is displayed through outlets such as its displays for Britain in Bloom.

1.2 Area of study

Found in the Great Yarmouth Borough of Norfolk County, Filby is a village and civil parish of 580 hectares, with a population of approximately 900 in the 2021 Census.

The settlement has a history stretching back to the Saxons and Vikings, largely due to the parish's proximity to the eastern coast and connections via river systems. Filby is also mentioned in the Domesday book with a community of approximately 200 residents in a 287 acre area.

Today Filby has a strong rural character due to its agricultural presence and close relationship with the natural environment. This includes access to surrounding fields in the countryside and to the The Broads National Park that occupies much of the western NA. This notably includes Filby Broad, one of the five lakes that make up the Trinity Broads. This landscape area is designated with the Broads Special Area of Conservation (SAC) as well as the Trinity Broads Site of Special Scientific Interest (SSSI).

Filby has connections to Casiter-on-Sea, Great Yarmouth, Acle and Norwich via the A1064 which crosses through the village, making it a popular home for commuters. Although there is no rail station in the NA, there is a limited peak-time bus that services the village and connects it to Great Yarmouth, the nearest main station for transfers. However, this dependency for road travel does impact traffic in the area.

Additionally, Filby is well served by local facilities and amenities which include the village shop and post office, The Kings Head pub, a bakery, both primary and pre-schools, the village hall and community centre, a playing field and All Saints church. However, it is likely most residents travel by personal vehicle to neighbouring settlements for obtaining the majority of goods and services.

Figure 03: The Neighbourhood Area in regional context. *Data source: Esri OS data*

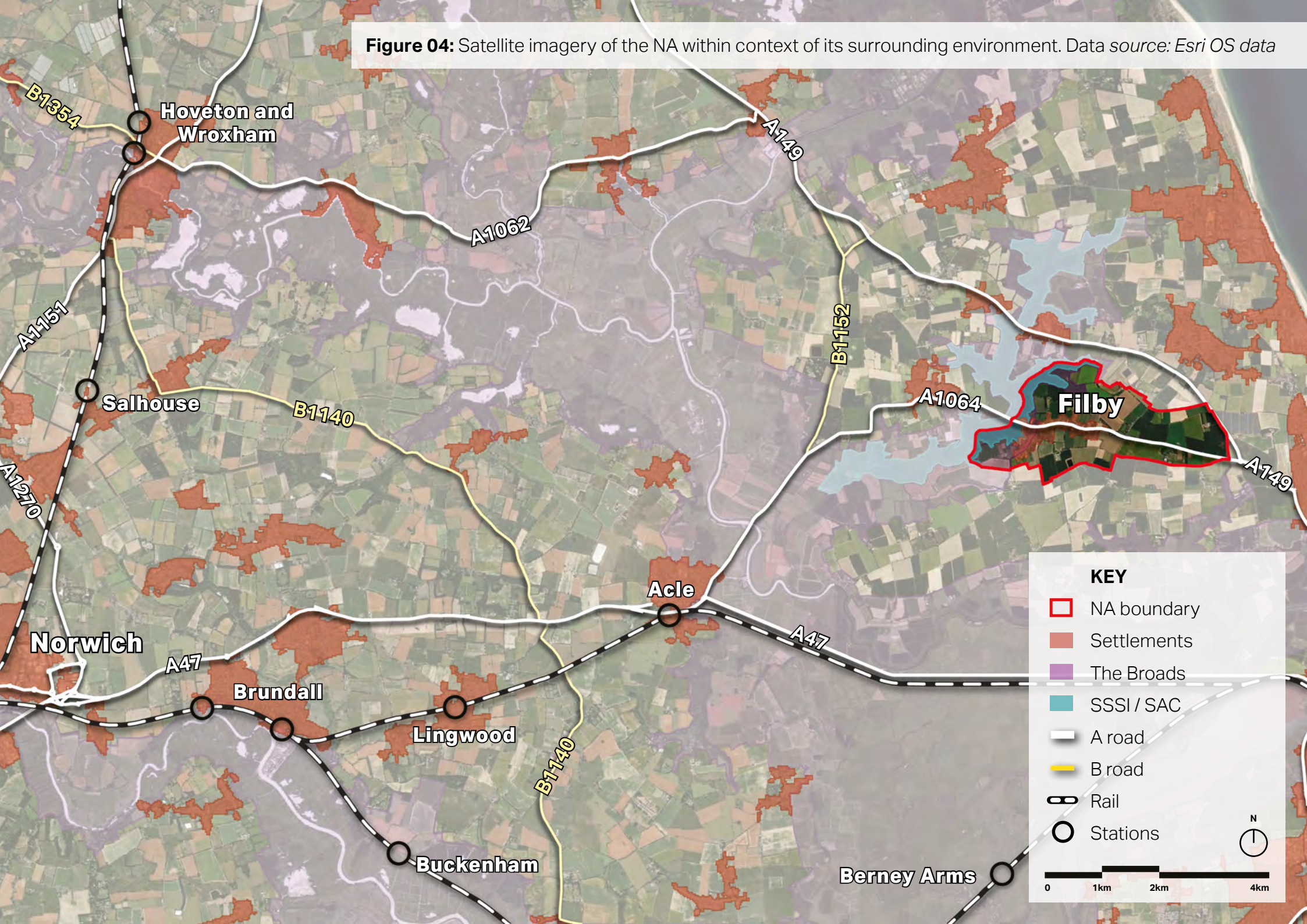


Figure 04: Satellite imagery of the NA within context of its surrounding environment. Data *source: Esri OS data*

Current advice to Local Planning Authorities (LPAs) suggests a nested approach, with clear links between different codes. This symbol will indicate that guidance exists for a specific theme and which of these documents should be referred to.

1.3 Planning policy context

The NPPF 2024, paragraph 132 states that:

'Plans should… set out a clear design vision and expectations, so that applicants have as much certainty as possible about what is likely to be acceptable. Design policies should be developed with local communities so they reflect local aspirations, and are grounded in an understanding and evaluation of each area's defining characteristics. Neighbourhood plans can play an important role in identifying the special qualities of each area and explaining how this should be reflected in development…'

The Government is placing significant importance on the development of design guidance in order to set standards for design upfront and provide key principles regarding how sites should be developed.

Therefore this report's main objective is to develop design codes to sit alongside the Neighbourhood Plan to inform design proposals within the parish and ensure that they remain sympathetic to the character.

Other research, such as for the Government's Commission for Architecture and the Built Environment (now part of the Design Council; see, for example, *The Value of Good Design*[1]) has shown that good design of buildings and places can improve health and well-being, increase civic pride and cultural activity, reduce crime and anti-social behaviour and reduce pollution.

Therefore this document seeks to harness an understanding of how quality design can sensitively incorporate the best aspects of Filby's overall character into any future development.

Additionally, these following documents have informed the design guidance and codes within this report to ensure they are best aligned with the needs and opportunities identified for the NA:

[1]Available at: https://www.designcouncil.org.uk/our-resources/archive/reports-resources/value-good-design/

National planning documents

2007 - Manual for Streets
Department for Transport

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

2019 - National Design Guide
MHCLG

The National Design Guide (Ministry of Housing, Communities and Local Government 2019) illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice.

2020 - Building for a Healthy Life
Homes England

Building for a Healthy Life (BHL) is the government-endorsed industry standard for well-designed homes and neighbourhoods. The BHL toolkit sets out principles to help guide discussions on planning applications and to help local planning authorities to assess the quality of developments.

County planning documents

2022 - Parking Guidelines for new developments in Norfolk
Norfolk County Council

This document is to provide parking guidelines for new developments including for bicycles, servicing vehicles and electric vehicles. It is divided into Parking guidelines, Vehicle modes and Land use classes sections.

2022 - Pavement design and construction Guide
Norfolk County Council

This document is a guide for developers in the design of pavements, including materials, dimensions and permeability for flood mitigation and resilience.

2023 - Norfolk County Council Street Lighting Developer Specification
Norfolk County Council

This document provides a needs assessment and basic principles and standards for providing external street lighting within new developments. It includes street signals, placement, brightness and light fixture forms.

Borough and local planning documents

2024 - Great Yarmouth First Draft Local Plan Consultation
Great Yarmouth Borough Council

The Local Plan is a key document which sets out a vision and framework for the future development of the area. It includes a series of objectives related to development and community infrastructure, as well as to ensure development is well-designed and sustainable.

2023 - Great Yarmouth Design Code
Great Yarmouth Borough Council

This document is a tool for shaping placemaking at all scales and forms of development within the borough, aside from the Broads Authority. The objectives of this guide include protecting and enhancing the built and landscape character, ensuring quality new development, encourage sustainable development and be designed for the future but also reflect the local heritage.

2019 - Local Plan for the Broads
Broads Authority

This Broads Authority Local Plan sets out the issues facing the authority as well as strategic policies and site allocations. It outlines environmental issues, developer expectations and development management polices. Additionally, it outlines site-specific policies which includes the Filby Broad area.

2024 - Design Guide and Code for the Broads
Broads Authority

The Design Guide SPD is in conformity with the Local Plan for the Broads and expands on Local Plan policy DM43: Design. This policy sets out the objective for development to be of a high design quality, integrate effectively with its surroundings, reinforce local distinctiveness and landscape character and preserve or enhance heritage.

Sustainability Guide
Broads Authority

The objective of this guide is to ensure that buildings can contribute to biodiversity and a sustainable future by creating suitable interventions within the Broadland landscape. It includes sections for SuDS, site layout and density and sustainable building designs, for example.

1.4 Process and engagement

A one-day site visit took place on October 14 2024 commencing with an in-person meeting between AECOM and representatives of the Filby Neighbourhood Plan Working Group to explore the group's key aims and objectives and to address any initial concerns.

This was followed by a tour of the parish, via car and on foot. This activity allowed consultants to appraise local character and the features informing its sense of place, such as heritage and landscape features. The exercise also provided valuable local insight into the area's pertinent design issues and opportunities, good and bad practice, as well the overall context for which the evidence-base of the Neighbourhood Plan will reflect.

This document has resulted from a collaborative effort between the Filby Neighbourhood Plan Working Group and AECOM, reflecting the priorities of local residents. The design coding process includes the following steps:

Figure 05: A brief chronological breakdown of the key elements and milestones used throughout the duration of the production of this document.

1.4.1 Filby Neighbourhood Plan Survey Analysis Report

In October 2024, a Neighbourhood Plan Review Survey was distributed to the residents of Filby to gauge what revisions may need to be addressed in the emerging Neighbourhood Plan. In total 127 people answered some or all of the survey which included 13 questions. The responses that influenced the contents of this Design Guidance and Codes document are summarised below:

In Q3, respondents were asked *if they agreed that there is a need for new housing to be built in the village*. **The majority of respondents (71.2% or 89 people) disagreed or strongly disagreed**. 27.2% (34 people) either agreeing or strongly agreeing, the area needed more housing.

In Q4, respondents were asked *if new housing was built, what size homes do they think these should be*, with the options ranging between small and large. 112 people answered this question. **66 people selected small homes** (1-2 bedrooms) and **59 people said medium homes** (3-4 bedrooms). 18 people selected larger homes (5 bedrooms or more).

In Q5, respondents were asked *what factors they think are important in the design of new housing or extensions*. This question was multiple choice and had 121 responses. The most common option selected was for **building scale to be in keeping with the development pattern of the street and not be overbearing** (103 responses or 85.1%), followed by using **local building materials characteristic of the area** (95 responses or 78.5%) and **being of a height in keeping with other buildings in the area** (93 people or 76.9%).

Other common answers included the incorporation of energy-efficient features, using appropriate soft boundaries, incorporating features that support biodiversity, using porous surfacing, having appropriately designed on-plot parking, and having development with an active frontage onto the street.

In Q7, respondents were asked *if they felt road safety for pedestrians and cyclists is a problem in the parish*. 124 people answered this question and 3 people skipped it. **The majority of people either strongly agreed or agreed (80.6% or 100 people) that road safety is a problem**.

In Q8, respondents were asked *to what extent do they think safely crossing the road is a problem within the parish*. There were 123 responses. **The majority of people felt it was a very serious or serious problem** (65% or 80 people).

In Q12, respondents were *asked to rank different environmental features that should be included in new development*. The most common responses were native foliage, wildflowers, open green spaces and hedgerows, dedicated spaces for wildlife, renewable energy additions, and water-dependent habitats.

These responses aided in shaping the themes addressed in the design guidances and codes presented in *Chapter 2* of this document.

1.5 How to use this document

This document will be used differently by different people in the planning and development process.

A valuable way codes and guidance can be used is as part of a process of co-design and involvement that seeks to understand and takes account of local preferences for design quality. As such the codes and guidance can help to facilitate conversations to help align expectations, aid understanding, and identify key local issues.

The resulting design guidance and codes can then set out how to adequately respond to these issues in future development.

Design codes and guidance alone will not automatically secure quality design outcomes, but they will help to prevent poor outcomes by creating a rigorous process that establishes expectations for design quality.

What follows is a list of actors and how they will use the design guide:

Potential users	How they will use the design guidance and codes
Applicants, developers, & landowners	As a guide to the community's and the Local Planning Authority's 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 guidance and codes should be discussed with applicants during any pre-application discussions.
Filby Parish Council	As a guide when commenting on planning applications, ensuring that the guidance and codes are complied with.
Local community organisations	As a tool to promote community-backed development and to inform comments on planning applications.

Table 01: A list of potential users of this documents and how they will apply the design guidance and codes.

1.6 Reading the guidance and codes

The goal of these guidance and codes is to promote the best possible delivery of residential and public realm development, which will support sustainable and contextually appropriate designs.

If there is variation from the compliance requirements outlined in this document, it must be supported by factual evidence. Under such circumstances, developers and their design teams must show that the plan will produce a final proposal of the greatest quality that is consistent with the main goals of this document and, therefore, the goals of the Filby Neighbourhood Plan.

Submissions that do not adhere to this guidance, and that do not furnish strong rationales, supporting documentation and comprehensive examination of available solutions, may be refused.

The guidance and codes provided in the next section are arranged into themes and are supported by relevant analysis. These include detailed mapping, descriptions, diagrams and images taken from the NA and appropriate precedents.

Accompanying the guidances and codes are references to existing policies from Supplementary Planning Documents (SPDs) relevant to the local context. These support a nesting approach to link to relevant policies to ensure that there are no gaps in information and that all guidance and codes are bespoke to the context of Filby.

These nested policies will appear throughout the next section as shown below:

Reference to existing policy:

Where there is already reference to a topic in existing local policy or guidance, this has been highlighted alongside the below icon.

Example of a nested policy:

Guidance for farmstead forms can be found in **section 8.8** of the *Design Guide and Code for the Broads*

Please note:

Both design codes and guidelines are contained within this document, highlighted within boxes as shown here. The difference between codes and guidelines is summarised below:

- Codes: Design codes are mandatory requirements for design issues and are expressed with the word **MUST**.
- Guidelines: Design guidelines set out aspirations for design that is expected to be delivered and are expressed with one of two words:
    - **SHOULD** reflects design principles that are strongly encouraged.
    - **COULD** reflects design principles that are suggestions.

Area-wide guidance and codes

02

Bus stop shelter displaying Filby's crest and a wind vane.

2. Area-wide guidance and codes

This section supports decision-makers and designers when producing or reviewing planning applications in the NA. This applies to development in allocated sites, infill development and windfall development that may come forward, with a focus on proposed residential development.

It is acknowledged that there is not always agreement on aesthetic issues and opinions may vary. The following guidance and codes therefore allows for flexibility and design innovation, whilst ensuring that any new development is appropriate and complementary to the surrounding context.

To enable a clear design process, new development proposals must use the this section to ensure that development proposals enhance the setting and sustainability of Filby, while not detracting from its context, local character and sense of place.

2.1 Guidance and code themes

The guidelines outlined in this chapter aim to apply to the whole of the NA. These have been derived from current urban design best practice and are considered essential for a successful development.

These guidelines advocate the use of context for design cues. In this sense it is expected that a design proposal will make reference to different design elements such as layout of buildings, building envelope, materials, building forms, colours, roofs and fenestrations.

These guidance and codes were decided based on meeting with the Neighbourhood Plan Working Group as well as information gained on the site visit. Each of these themes will be accompanied by relevant supported analysis completed through a desktop study.

Codes and guidance are arranged under the following overarching themes:

- **A. Settlement Patterns (SP)**
  - SP.1 Development at the settlement edge
  - SP.2 Settlement patterns
- **B. Built Forms (BF)**
  - BF.1 Orientation and positioning of houses and garages
  - BF.2 Architectural vernacular and materiality
  - BF.3 Boundary treatments
  - BF.4 Extensions and conversions
- **C. Public Realm (PR)**
  - PR.1 Traffic calming interventions
  - PR.2 Parking provision
- **D. Ecology, biodiversity and sustainability (EC)**
  - EC.1 Habitats and biodiversity corridors
  - EC.2 Trees and hedgerows
  - EC.3 Sustainable Drainage Systems (SuDS)
  - EC.4 Dark Skies and Lighting

2.2 A. Settlement Pattern (SP)

2.2.1 SP.1 Development at the settlement edge

The settlement edge refers to the boundaries of built-up areas within the NA. It excludes isolated developments such as farmsteads and individual dwellings in the surrounding countryside. Great Yarmouth classifies this area in the Landscape Character Assessment and Settlement Fringe Landscape Sensitivity Study as Settled Farmland, and more specifically as Ormesby and Filby Estate Farmland.

Development within this area can influence factors such as density, coalescence and suburban sprawl. These are all factors that contribute to the rural atmosphere of the settlement and should be carefully considered by all potential forthcoming development, whether that be single infills, extensions or entire new cul-de-sac developments. *Policy E5: Landscape Character* of the Neighbourhood Plan provides further information relating to this settlement fringe and should be referred to alongside these guidelines and codes.

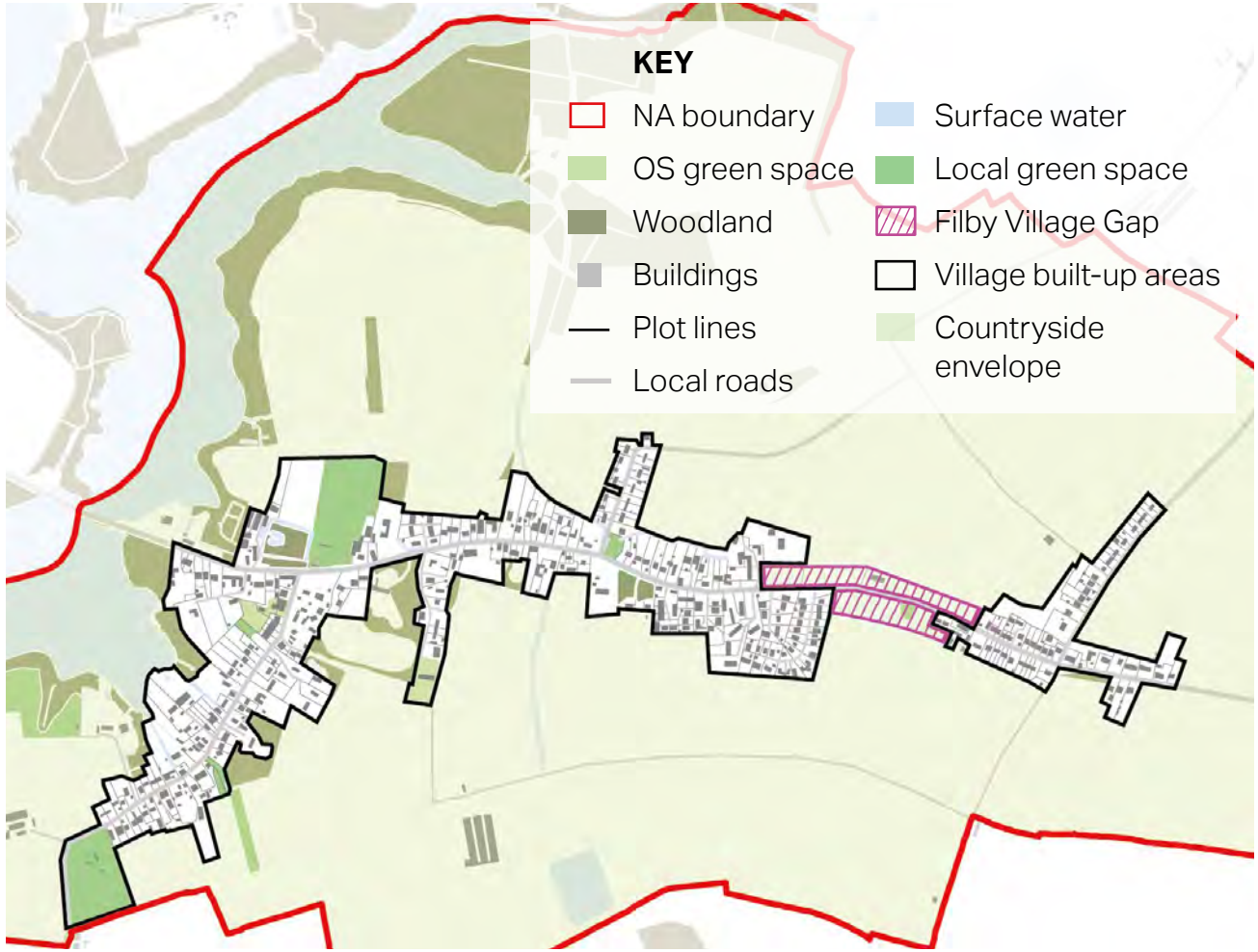


Figure 06: Filby village built-up area, local green spaces, and Village Gap. *Data source: Esri OS data*

Guidance for water-adjacent dwellings can be found in **Codes relating to Waterside Homes** of *Design Guide and Code for the Broads*

Descriptions for the character of the landscape can be found in Great Yarmouth Borough Council's *Landscape Character Assessment* (2008) and *Settlement Fringe Landscape Sensitivity Study* (2016)

- Future development **must not** result in the village coalescing with surrounding settlement clusters. In particular, the Filby Village Gap **must** remain intact and unobstructed physically or visually. Infill within this gap would result in a significantly extended village boundary without any break which is unfitting with the rural setting that largely defines Filby;
- Edge of settlement development that backs onto the countryside **should** gradually transition into the landscape by utilising comprehensive buffering, or 'green curtains', implemented along the back plots. Abrupt edges to development with little vegetation or landscaping **should** be avoided. Long rear gardens **could** be preferable here;
- Materials are key for boundary treatments for back gardens as this will have a major impact on views. The rear boundaries of properties **should** either follow existing hedgerow boundaries or be planted to form new hedgerows. Low walls and fences **could** be appropriate if they do not obscure views;
- Gateway sites are situated at the settlement edge near a main local route and marks the point of arrival into (and departure from) a settlement. Filby village has gateways to the east and west from Main Road, south from Thrigby Road and north from Pound Lane and Ormesby Lane. Development **could** enhance the sense of arrival and departure of the village through bespoke landscaped and built structures. This would be a natural, unobtrusive way to make Filby distinct and identifiable by visitors and passerbys;
- The sense of departure and arrival **could** be achieved by a noticeable change in building scale, street enclosure, or road configuration. Gateway buildings and features **should**, however, reflect the local character and respond to existing development and landscaping; and
- If a gateway plot is developed with a group of buildings, the corner of the site **should** act as the key landmark. The corner building **could** be slightly taller or display a notable built element, signalling its importance within the grouping.

Figure 07: Positive example of development implementing landscape screening at the settlement edge (seen from the churchyard).

Figure 08: The Filby Gap offers valuable views out of the settlement and a barrier between distinct settlements in the village.

2.2.2 SP.2 Settlement patterns

Filby is formed of mostly linear settlement patterns which help supplement the rural setting of the village. The central 'spine' of development is along Main Road (the A1064) with all other roads in the village connecting to it. This includes further linear development along through roads, referred to as 'linear extensions' in this case, and cul-de-sac development.

The linear extensions are varied in length and have a plot layout similar to Main Road, without any notable gaps between development such as the Filby Gap. The cul-de-sac developments are short and simple in form, comprising a single road that is usually straight, the exception being Poplar Drive. These cul-de-sacs typically have dwellings curved around the end of the no-through road, preventing further expansion.

This guidance and codes section focuses on how infill development should integrate with these established settlement patterns and how the layout of future development of multiple dwellings can best reflect Filby.

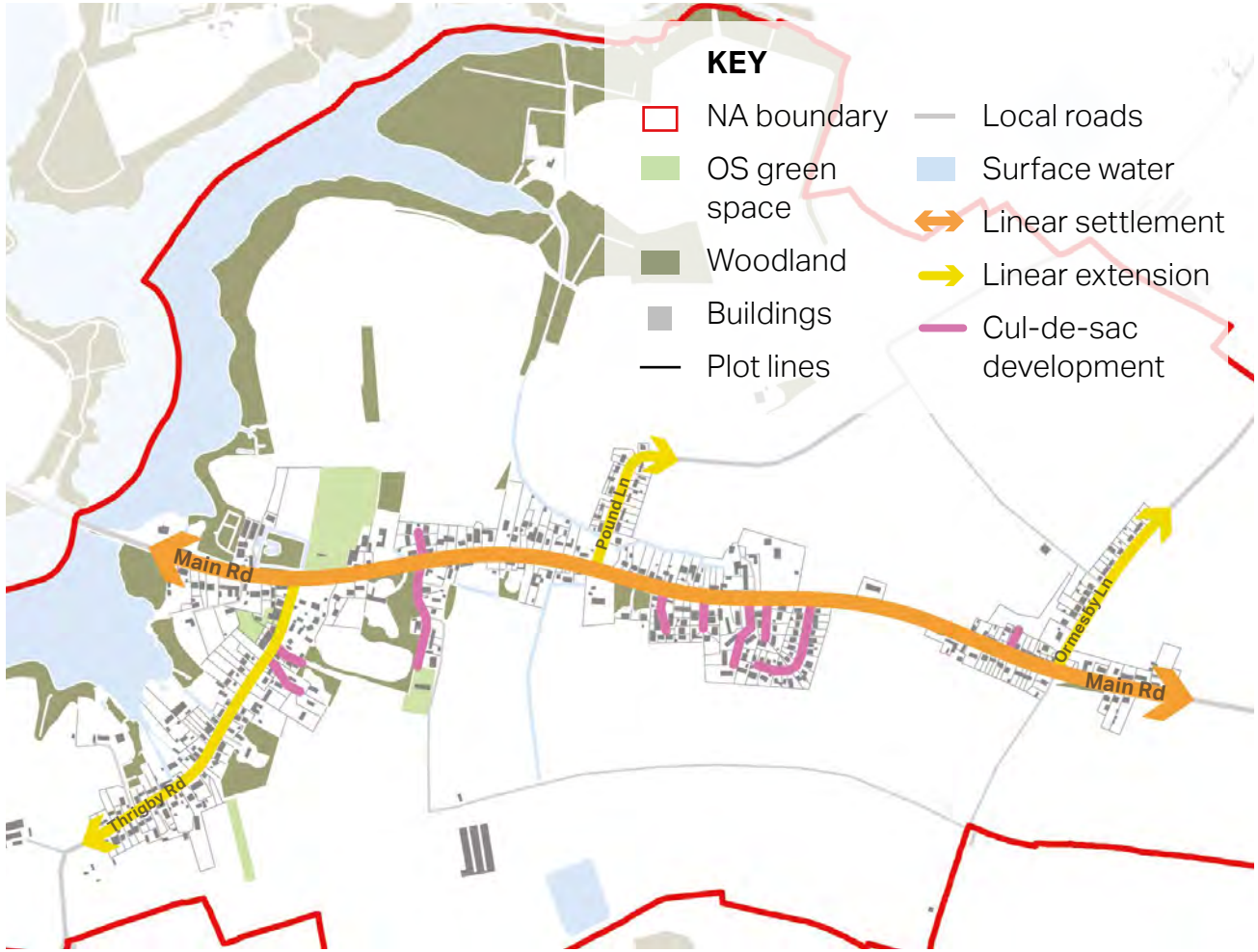


Figure 09: Common settlement pattern types that form the village. *Data source: Esri OS data*

Guidance for building replacement infill can be found in **BA 11 Replacement Building** of *Design Guide and Code for the Broads*

Guidance for development patterns of histroic villages can be found in section **5.10 Historic village centres** of the *Great Yarmouth Design Code*

- The village has linear development along Main Road, Thrigby Lane, Pound Lane and Ormesby Lane. This settlement pattern is a defining characteristic of the village and, where it is established, **must** be reflected by neighbouring development along these streets;
- A defining feature of linear development distinct to Filby is that the dwellings maintain a single-plot depth backing onto the countryside. This settlement pattern helps to regulate density in the village and supplements the rural setting of the village by allowing for long views between dwellings out of the settlement. Where this pattern is established, development **must not** disrupt it by introducing tandem development from these streets;
- Development along the linear extension roads **should** be in the form on individual infill to best preserve the linear settlement pattern. This should only occur where there is an appropriate sized gap between buildings, and ensure that views to the countryside are preserved;
- Cul-de-sac development is found in the village, mostly along Main Road, and may be an acceptable settlement pattern for future development. These **must** maintain a simple, rural character and reflect the existing village cul-de-sacs to avoid being of an overly complex layout;
- Future cul-de-sacs leading from the A1064 must ensure they do not restrict access and movement of the road. The layout and building placement and orientation of the development **should** allow for active frontages fronting onto the A1064 to help discourage speeding;
- A limited depth of cul-de-sac development **should not** exceed 100m in length, as this would help to maintain an organic feel and visual link to the surrounding countryside; and
- The road leading to the cul-de-sac development **should** be narrower than the street it leads off from to signify a hierarchy of road typologies. These streets **must** be wide enough to incorporate pavement that is appropriately accessible for all mobilities.

Figure 10: Linear settlement pattern and development along the A1064 that feeds into linear extension roads and cul-de-sacs.

Figure 11: Example of a cul-de-sac settlement pattern along Poplar Drive, the village's longest and most dense cul-de-sac.

2.3 B. Built Forms (BF)

2.3.1 BF.1 Orientation and positioning of houses and garages

Building placement, setbacks and orientation are all contributing factors to the rural setting of Filby. For instance, an irregular building line with larger gaps between dwellings that provides views of the surrounding countryside will supplement a more rural atmosphere.

Most of Filby's linear development has an irregular building line, with dwellings setback at varying distances from the road to include a front garden and on-plot parking. The cul-de-sac developments are typically less set back and have a much more regular building line. Built gaps between dwellings range widely throughout the entire village. On-plot detached garages are also an occurrence in the village, but mostly appear along Thrigby Road, otherwise these are usually attached to the dwelling.

The guidance and codes in this section will outline best practice building and garage placement and orientation which complements the existing context of Filby.

Figure 12: Building orientation (**yellow**) and garage placements (**pink**). *Data source: Bing Maps satelite imagery*

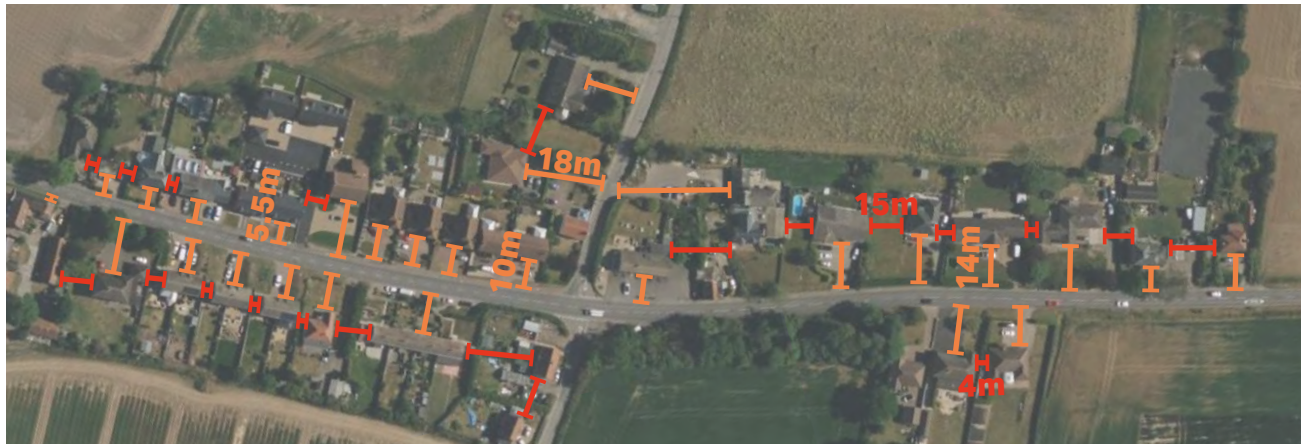


Figure 13: Building gaps (**red**) and dwelling setback distance from the street (**orange**). *Bing Maps satelite imagery*

Guidance for residential densities and plot ratios can be found in section **BF3** of the *Great Yarmouth Design Code*

- The building line slightly varies throughout the village. Within newer developments, the building line is largely more regular and aligned to neighbouring dwellings. All future development **should** follow the pre-existing building line of the surrounding context, but **could** have slight variations to emphasise the rural context and add visual interest;
- Setback of development **must** allow for adequate space to accommodate on-plot parking, and preferably, **should** allow room for a landscaped front garden;
- The massing and placement of development **should** allow for space on all sides of the plot. It does not need to be centred on the plot but **should** allow adequate gaps between development to prevent overlooking;
- Development **must** maintain visual connections to the surrounding landscape and long views out of the settlement by retaining existing separation distances between buildings. Development **should** be oriented to complement views of the church tower;

Guidance for overlooking prevention can be found in section **BD5** of the *Great Yarmouth Design Code*

- Development **should** have an active façade that fronts onto the street. This not only adds visual interest to the streetscape, but also provides pedestrian safety through natural surveillance and traffic calming through speed control;
- The positioning of garages and detached outbuildings to the main building **must** reflect and respect its surrounding context. Generally, these **should** be positioned to the side or rear of development so as to not obscure the street-facing façade and views. These **should** also be positioned and oriented so as to not fill gaps between buildings. For attached garages, best design practice is to have the garage set slightly back from the original building to ensure it is not the dominant built feature;
- Building orientation slightly varies throughout the parish, but generally building frontages **should** be street-facing. This **could** be slightly varied to reflect the more informal building arrangement of the village, especially where this best benefits from solar gain;

Guidance for private amenity space provision can be found in section **BD6** of the *Great Yarmouth Design Code*

Figure 14: Adequate gap between dwellings to preserve views and to ensure that neighbouring dwellings do not overlook.

Figure 15: Detached garage placed to complement the main building from the streetscape and protect built gap views.

Guidance for zero carbon heating, cooling and ventilation systems can be found in sections **CC2** and **CC3** of the *Great Yarmouth Design Code*

Guidance for solar panel placement and design can be found in **BA 30 Solar Panels** of *Design Guide and Code for the Broads*

- Dwellings **should** have a 15 and 40 percent window to wall ratio, balancing Filby's local historical context with local climatic conditions. This is to ensure that windows don't contribute to increased energy demand through excessive heat loss in winter and overheating in summer. Additionally, this ratio is appropriate for controlled property light levels/glare to protect dark skies. Refer to section *EC.4* for dark skies and lighting guidance;
- North-facing single aspect units **should** be avoided or mitigated with the use of reflective light or roof windows; and
- Historic buildings can also be retrofitted in a way that respects both the environment and their historic features to benefit from solar gain, such as solar panel placement. However, any eco-design features **must** be incorporated without visually damaging the historic environment.

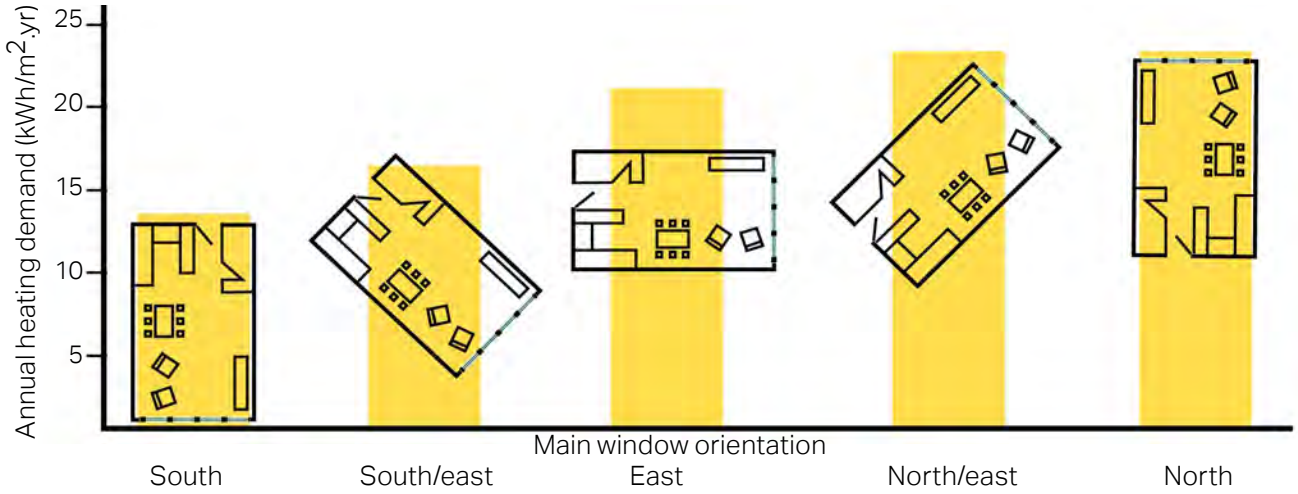


Figure 16: An illustrative graph showing solar orientation of a room against the annual heating demand.

Figure 17: In addition to passive heating through solar gain orientations, landscaping could be used to shade for passive cooling.

Figure 18: The placement of solar panels should be oriented for best solar gain. If these are visible from the street, they could use panels that resemble slate tiles.

2.3.2 BF.2 Architectural vernacular and materiality

This section includes a palette that demonstrates an overview of the highly characteristic material and vernacular use within the parish, analysing features such as roofs, façades and fenestration. Development proposals should demonstrate that the materials used have been selected based on an understanding of the surrounding built environment and refers to the outlined Filby palette.

This includes how listed and locally designated heritage assets can be a reference point for future development in the village, including for extensions and conversions. However, the provided palette should not be used as a justification to replicate historic buildings nor to discourage contemporary design. Rather, the palette should be used to ensure that development is integrated into the historic built form of Filby in well-designed and innovative ways which faithfully complements the heritage assets and rural context.

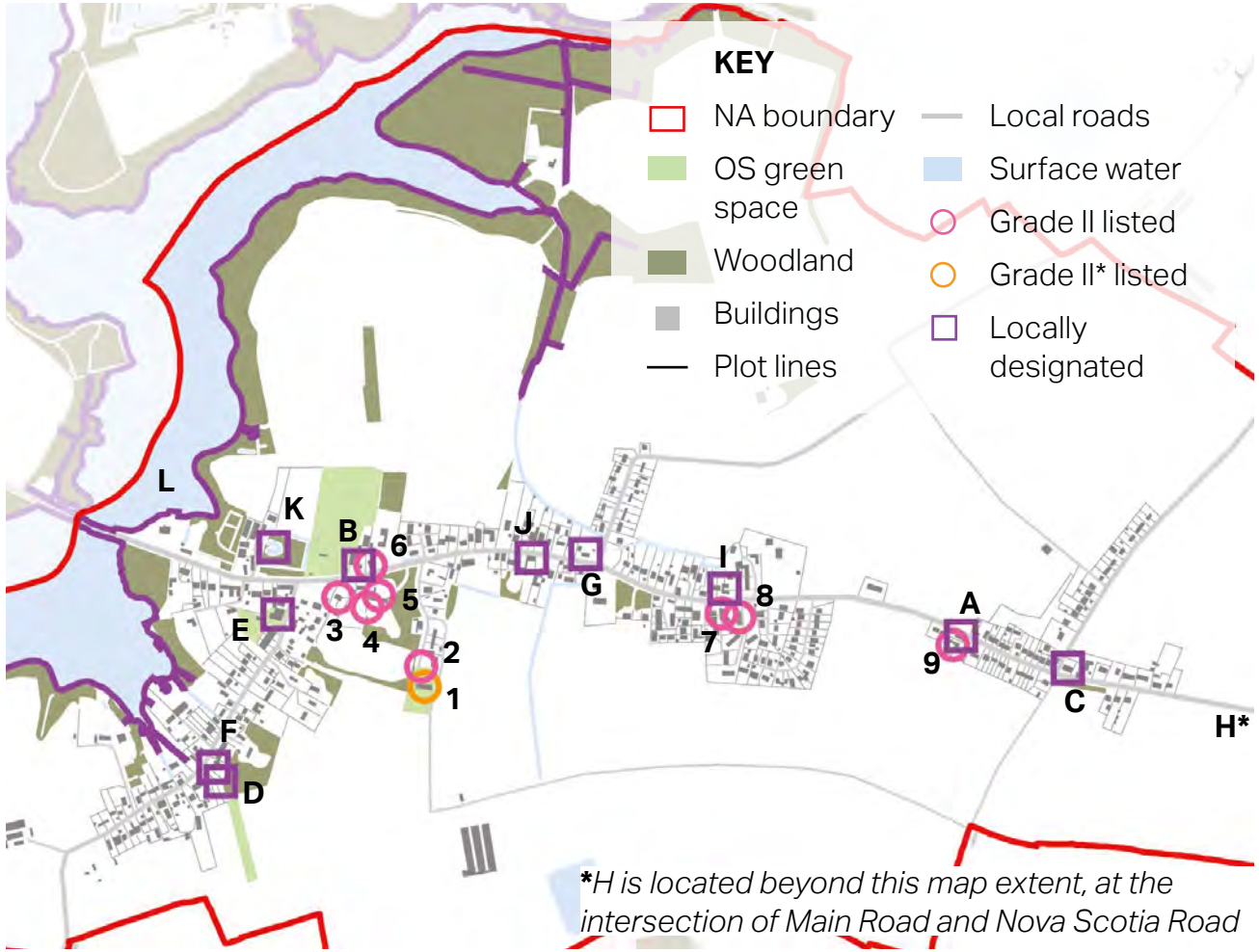


Figure 19: Grade II and II* listed buildings and locally designated heritage assets found within the NA. *Data source: Esri OS data*

Refer to *Figure 19* for the context of these heritage assets within the NA:

Grade II* listed buildings

1. Church of All Saints

Grade II listed buildings

2. Filby War Memorial

3. Summerhouse and Carriage House at Filby House

4. Garden wall at Filby House

5. Filby House

6. Chestnut House

7. Grange Farmhouse

8. Barn at Grange Farm

9. Barn at The Hornestead

Locally designated heritage assets

A. The Homestead

B. Filby Clubroom

C. The King's Head Pub

D. The Dissenters Chapel

E. The Primary School

F. The Raspberry (Jam) Shed

G. Vine Cottage

H. The Toll House

I. White Thatch Cottage

J. The White House

K. Earthworks of a medieval moated site

L. Filby Broad & Ormesby Little Broad

Figure 20: Locally designated heritage asset **I.** White Thatch Cottage, located along Main Road.

Figure 21: Locally designated heritage asset **F.** The Raspberry (Jam) Shed, fronting Thrigby Road.

Guidance for rural building design can be found in **Codes relating to Rural Homes** of *Design Guide and Code for the Broads*

Guidance for historic settlement building design can be found in **Codes relating to Historic Clusters** of *Design Guide and Code for the Broads*

- Proposals **must** reflect the density, height, building type and variety, scale and layout currently present within the parish. Currently, the common building types are detached and semi-detached houses and bungalows. New development **should** encourage a mix of building types, with bungalows being preferred, to create accessible homes for a range of affordability, family sizes and ages;
- The roofline within the parish generally has a maximum height of 2.5 storeys and development **must not** go above this height so as to preserve views of the roofline as well as the historic significance of the Grade II* listed Church of All Saints;
- Development **must** ensure that roof design integrates with the surrounding context, with the scale and pitch referencing neighbouring dwellings. The most common roof typologies in the village are gable, hipped, half-hipped and traditional thatch. A combination of these may be appropriate, however development **should** avoid overly complex roof forms and additions;
- Roof pitch is also related to material, i.e., thatched roofs are likely to have a steeper pitch than slate roofs. Therefore the chosen pitch **should** be suitable to the used roofing material;
- The roofline should have a rhythmic pattern of chimneys as is currently present throughout the village and which **should** be preserved;
- Dormers are a common occurrence throughout the parish and **could** enhance the character of new and retrofitted developments. These **should** be of the forms of the main building roof, such as gable and hipped dormers. These dormers **must** be of an appropriate and proportional size to the original building and not increase the overall height of the dwelling. Additionally these **should** be placed so they are symmetrical to the roof and façade fenestration;
- Concerning rooflights, these **should** be aligned to fenestration on the front façade and be flush to the roof tiles. These **should** be of an appropriate scale and proportionate to other fenestration;

Figure 22: A rhythmic roofline with dwellings having complementary roof height, form, orientation and materiality.

Figure 23: Positive example of dormers that are placed and scaled appropriately and are consistent with other roof forms.

Guidance for vernacular within the broads can be found in sections **BA 16 Materials** and **BA 17 Detailing** of *Design Guide and Code for the Broads*

Guidance for sustainable material use can be found in page **31** of the Broads Authority *Sustainability Guide*

- The proportion, size, symmetry, profile and rhythm of fenestration are all important elements of good building design. New development **should** reference and complement the existing fenestration in the village (especially that of listed and locally listed buildings) based on what is appropriate to the style of the building;
- Most older buildings exhibit flush side-hung casement and sash windows, with casement windows being more common in newer builds. Any new development **should** reference the traditional design of the windows that are found in the surrounding context. Bow windows are occasionally seen throughout the village and **could** be used by new development to break up the bulk of building façades and add visual interest to the streetscape;
- Fenestration, particularly where developments involve multiple houses, **should** all have consistent colour schemes, materiality and thickness of frame and pane detailing across neighbouring façades;
- Newer homes often use white PVC window frames, while many of the traditional windows have timber framing which **should** be used wherever possible in new development. Powder coated aluminium or plastic frames may be appropriate, but **should** be done with consideration for the historic character of the area, such as by having a thinner frame and detailing such as lintels (brick, stone or timber), cills, stone mullions and decorative glazing bars;
- Porches **could** be used for dwellings to add visual variety to the streetscape. These **should** be proportional to the fenestration and fitting with the building materials. These **should** also have a roof form and materiality that matches that of the attached building; and
- Development proposals **must** demonstrate that the building material used has been selected based on an understanding of the surrounding built environment and refers to the outlined Filby material and vernacular palette presented overleaf.

Figure 24: A positive example in Filby of well-proportioned fenestration that are consistent in size, symmetry and alignment.

Figure 25: Entrance porches should have a consistent or complimentary material, colour palette and form to the main building.

Façades

Norfolk stretcher bond red brick and timber weatherboarding

Mix of materials and patterns, such as the English bond brick here

Smooth white render which is often seen in more historic dwellings

Render or painted brick in a light, coloured complementary palette

Stone detailing such as limestone lintels, panes, quoins and mullions

Fenestration

Sash windows with glazing bars and cills and brick, flared lintels

Windows are timber (painted here) and are flush with the facade

Casement windows with consistent muntin pattern and bow window

Dormers of appropriate scale and form (e.g. gable wall dormers)

Dormers consistent with scale and form of windows and porch

Roofing

Gable end roof form with grey and red pantiles and ridge tiles

Cross-gable roof and double Gable (M-Gable) roof types

Hipped roof with concrete red pantiles and half barrel ridge tiles

Half-hipped (jerkinhead) roof form with slate roof tiles

Thatched roof with decorative ridge and dropped eaves

2.3.3 BF.3 Boundary treatments

Boundary treatments can greatly affect the streetscape for aesthetic atmosphere, pedestrian safety and residential privacy. For instance, a street lined with visually impermeable boundary treatments that are placed directly to front a street or pavement may make for a sterile environment. However, a street lined with natural green boundary treatments could result in a leafy setting that complements the countryside and supports local biodiversity efforts.

Filby has a wide range of boundary treatments found along its road network. Positive examples from the NA have been outlined in the examples adjacent, while negative ones have been provided from other parishes with a similar built context.

This section should be used for the placement and design of boundary treatments, but will not include pavement design including dimensions and materiality. Additionally, this section will not include street tree design, but further guidance and codes for this can be found in **Section 2.5**.

Well-defined hedgerow at an appropriate height level and setback

Uncoursed rubble masonry wall inset in red brick dressing

High, non-permeable close boarded fencing fronting the pavement

Low, permeable open boarded fencing backed with landscaping feature

Appropriate height brick wall with permeable paneled timber gate

Solid concrete, render or cement walls with little detailing

Low brick wall backed with well-defined hedgerows

Permeable, landscaped verges and grass verges with trees

Wired mesh fencing which could create a sterile atmosphere

Guidance for pavement materials and specifications can be found in Norfolk's *Pavement design and construction Guide*

- Proposed boundary treatments **should** reflect locally distinctive forms and materials, such as open boarded timber fencing and agricultural style gates or well-defined green boundaries such as hedges. Tall, impermeable boundaries that create a sterile and monotonous street scene **must** be avoided, such as high walls and close boarded fencing. Development **should** refer to the provided boundary treatment positive and negative examples;
- Landscaping and vegetation **should** be prioritised for boundaries to preserve and enhance the overall sense of rural character. Proposals **could** incorporate landscaping and natural features such as trees, both those that are retained and those introduced, shrubbery, grass verges and hedgerow. These also provide the opportunity to complement the ecological network for biodiversity;
- Original boundary treatments of traditional building plots **should** be left intact, and not chopped through or significantly reduced for access;
- Landscaped boundaries **must** be well-defined and **should** avoid being too high so as to not infringe onto pavements and disrupt safe and active travel or be visually obtrusive to vehicles from the street. These **should** be maintained by selecting appropriate flora species for the NA;
- Boundary walls **should** remain under 1.5m in height to retain visual connections to the surrounding countryside;
- Where hard boundary treatments are used, these **should** reflect and complement the local vernacular and building materials. For instance, a open boarded timber gate **could** be more appropriate for a farmstead building, or a tile capped low brick wall for dwellings within the village;
- Boundary treatments **could** be used to screen on-plot parking and **could** combine low walls or fences with soft landscaping to achieve this; and
- Parking areas and driveways **should** be designed to minimise impervious surfaces through the use of permeable, porous paving and soft landscaping.

Figure 26: Example of a poorly maintained landscaped boundary using a plant species inappropriate to the context of this area.

Figure 27: Positive example of a well-landscaped boundary, appropriate hard boundaries and uses permeable paving.

Guidance for farmstead design can be found in **Codes relating to Farmsteads** of *Design Guide and Code for the Broads*

Guidance for farmstead conversion can be found in **section 3** of Historic England's *Adapting Traditional Farm Buildings*

2.3.4 BP.4 Extensions and conversions

Extensions and conversions are typically the most commonly occurring type of development within the NA. Conversions will typically affect farmstead buildings and will have a greater impact on the countryside, while extensions occur in and affect the village. The guidance and codes in this section will focus on how this development can best fit within the context of Filby.

Conversions and extensions also provide an opportunity for contemporary design that is appropriate within the historic setting, working from features of the existing structure as a reference for materiality, form and bespoke detailing which will be covered in this section through case studies.

It is important to note that many household extensions are covered by permitted development and so do not require planning permission. However, due consideration to the following should be prioritised to ensure that good design is implemented throughout the parish.

- Extensions **must** be appropriate to the scale, massing and layout of the main building. The general dimensions (width, depth and height) of the extension **should** be less than the original building. The original building **should** remain the dominant element of the property, in terms of form, style and fenestration, regardless of the number of extensions;
- Overly complicated extensions and associated roof forms that may overshadow the character of the original building **should** be avoided;
- Extensions **must not** result in a significant loss to the privacy and loss of amenity to neighbouring properties or the streetscape, in particular overshadowing is not acceptable;
- All modifications to listed and locally designated buildings **should** preserve and, if possible, enhance the existing building's architectural style. In occasional cases, it **could** be appropriate for modifications to be stylistically different to create distinction from the original building and make it stand out;
- Development should retain original features (such as openings, which should not be filled in, as well as ventilation slots, timber frames, brickwork patterns and inscriptions). If there is a dominant feature of strong historical character on the original building, the addition **should** be more modest to accentuate this feature;
- The layout of buildings that are characteristic of historic working buildings **must** be retained and not filled in with infill development. For example, farmsteads that utilise a courtyard style layout would be expected to retain this;
- Contemporary designs for barn conversions **could** be a welcome addition if designed sensitively to the context. Case studies for this are found overleaf; and
- Contemporary conversions **should** ensure that excess glazing does not negatively affect dark skies. This **could** be achieved through limiting operating hours for business buildings or designing a way to cover glazing, such as use of original barn doors.

Case studies of contemporary barn conversions:

Barn Conversion

Oxfordshire, UK

This barn conversion is designed to retain elements of the original barn both within the interior and exterior. The layout of the farmstead is a courtyard and sensitive landscaping efforts preserved the historic setting of this barn. The interior retains historic assets such as structural timber beams and engravings. The exterior utilises complementary materials in a style that mimics the original design, such as a re-imagined barn door entrance, which can be closed to control internal lighting for dark skies.

Source: https://ksrarchitects.com/architecture-project/barn-conversion

Ditchling Museum of Art + Craft

East Sussex, UK

This Victorian building has been sensitively redesigned by Adam Richards Architects to create a community focused museum. The design allows for glimpses of the village from various points in the museum, enabling the works to be seen in the context in which they were created. The space also acts as new community centre, shop, cafe and village green. As this is a commercial addition, controlled operating hours ensure light pollution does not infringe into the night sky.

Source: https://www.ditchlingmuseumartcraft.org.uk/our-collection/history/

Oak Barn in Deben Penninsula

Suffolk, UK

This conversion is an example of how the design can benefit and improve the streetscene. By incorporating glazing through the building mass on a dual aspect level, this allows for a continuous view of the surrounding landscape where originally there was an inactive frontage. By incorporating the barn doors into the design, this allows for an option to close them for increased privacy for the resident and control internal lighting to maintain dark skies.

Source: https://www.suffolklatchcompany.com/blogs/news/renovated-oak-barn

2.4 C. Public Realm (PR)

2.4.1 PR.1 Traffic calming interventions

As the A1064 (Main Road) crosses through the village as the primary through-route, there is the potential of pedestrian safety issues and road disruption as a result of traffic. These guidance and codes will focus on the integration of interventions to the existing road network to support the Filby Neighbourhood Plan vision to 'ensure that the impact on tranquility of the heavy traffic flows through the parish are minimised'.

It will not focus on road design such as dimensions and materiality or traffic control through lighting, signage or pedestrian crossing placements as these are issues to be addressed by highways planning. It will also not propose the specific addition or removal of any new roads.

Rather, the interventions suggested are focused on changes to the public realm that can be achieved through methods such as landscaping, enclosure and promoting sustainable active transport as an alternative to personal vehicle reliance.

- Streets **should** be considered a 'place' to be and contribute to the local character of the village. A good understanding of the existing street typologies and characteristics, widths and enclosure is needed so that any new design or retrofits reflect the existing rurality. It is essential that the design of new development incorporates the needs of pedestrians, cyclists, and if applicable, public transport users as a priority;
- Development along the A1064 **should** be accessed directly onto the road, rather than through a shared driveway or estate street. These driveways **should** be simple in form and not have obstructed views of the road. These dwellings will create an active frontage onto the road which may reduce speeding and increase caution;
- Lane width **could** vary to discourage speeding and introduce a more informal and intimate character with increased enclosure. Additionally, landscaping additions, such as street trees planters or green verges **could** be used to increase enclosure and increase biodiversity;

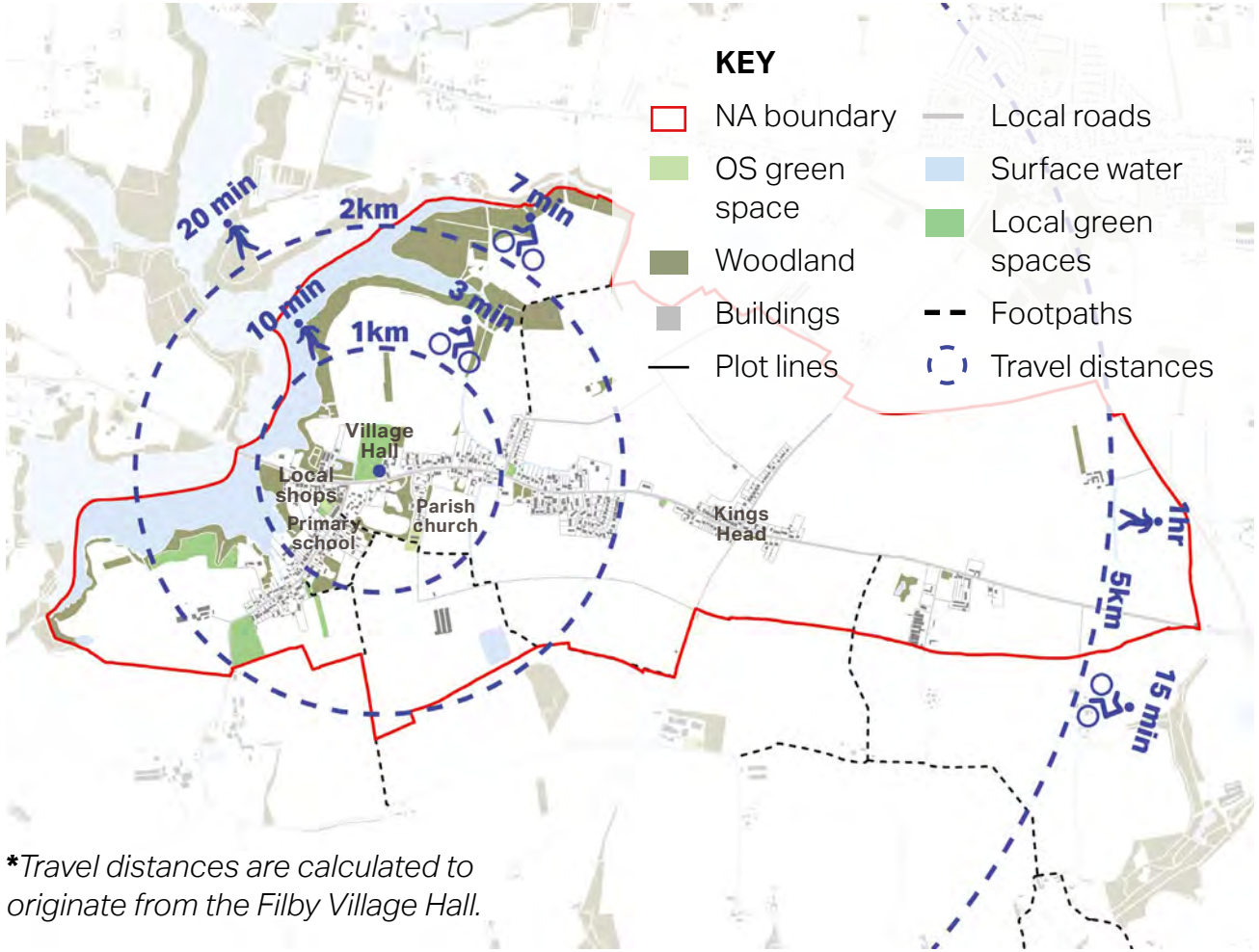
Figure 28: Landscaping that narrows the street width for traffic calming and supplements the area's rural setting.

Figure 29: Dwellings accessed directly onto the A1064 with simple form driveways, which may be used as traffic calming.

Guidance for pedestrian/cycle streets can be found in sections **SM1** and **SM2** of the *Great Yarmouth Design Code*

Guidance for enclosure and active frontages can be found in section **BF2** and **BD1** of the *Great Yarmouth Design Code*

- Sustainable active travel **should** be encouraged wherever possible to reduce car reliance for local destinations and relieve the streets from traffic congestion. The Department for Transport Manual for Streets (2007) suggests that in lightly used streets, the minimum width for pedestrians **should** generally be 2m to facilitate mobilities, such as buggies, mobility scooters and wheelchairs;
- Carriageways **should** be designed to be shared between motor vehicles and cyclists, which could also act as a traffic calmer. Where routes are shared by pedestrians and cyclists, widths **should** be a minimum of 3m – ideally 4m; and
- Vertical traffic calming features such as raised tables **could** be introduced at key locations such as junctions and pedestrian crossings. However, these **must** be designed to complement the rural nature of Filby, using materials such as stone and brick rather than tarmac. Avoid using forms of engineered traffic calming like plastic humps, cushions and chicanes.



*****Travel distances are calculated to originate from the Filby Village Hall.*

Figure 30: Distance and travel times for sustainable active transport within the NA. *Data source: Esri OS data*

Guidance for parking quantity can be found in the *Norfolk County Council Street Lighting Developer Specification*

Guidance for cycle storage and parking can be found in section **SM4** of the *Great Yarmouth Design Code*

2.4.2 PR.2 Parking provision

The design of parking provision can greatly impact the public realm, not only by the visual appearance of vehicles on the road and fronting properties, but also elements such as pedestrian movement and safety.

The guidance and codes provided will focus on both on-plot and street parking. This should not be used as a recommendation for street parking, but rather a guide for how this could be best designed if it is unavoidable for approved development.

Additionally, the design of garages will also be provided in this section as well as possible alternatives that may be more fitting for the rural context of Filby.

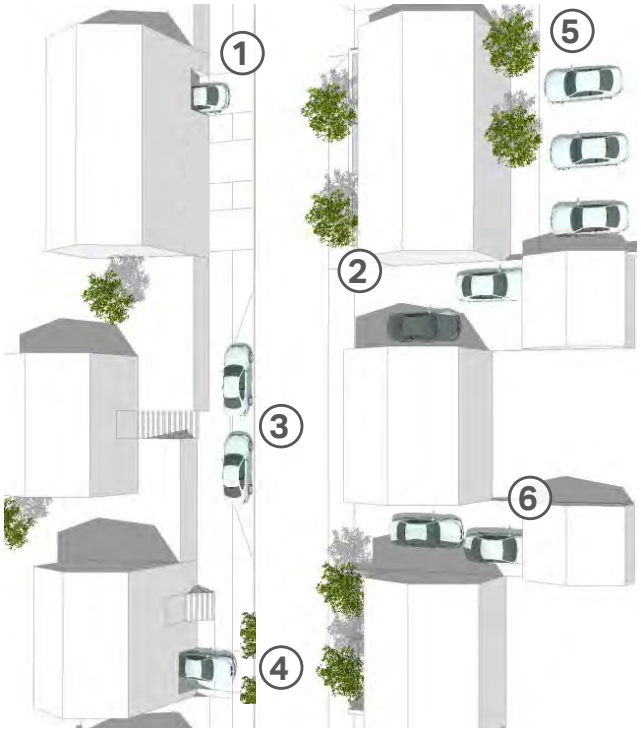
Please note, this design guide should not be used to determine the number of on-plot parking spaces for each dwelling, but rather be used for the design of parking provision. Both Norfolk County Council and Great Yarmouth Borough Council provide guidelines for determining the number of spaces to be provided by development.

- Parking **should** be integrated on-plot and with spaces set behind the building line, generally to the side of the plot being preferable. Where front-of-building parking is the only possible option, these **must** ensure manoeuvring areas for the parking does not dominate the street frontage. Parking areas **should not** be placed in front of ground floor windows;
- Street parking **should** be avoided wherever possible as this may create traffic congestion and an unattractive streetscape, as well as posing potential pedestrian movement constraints;
- Where on-street parking is unavoidable, parking spaces **must** be integrated within the streetscape and be parallel to the street. These **should** be combined with generous planting to provide visual screening. It is important that on-street parking is more formalised so as to not impede the access of pedestrians and vehicles, therefore there **must not** be more than 3 spaces in a row without a break. These breaks **could** be indicated through street trees or planters;

Figure 31: Positive example in Filby of on-plot parking placement that is well-screened and not obstructive to streetscape movement.

Figure 32: Negative example of on-plot parking with a dominating manoeuvring area to the streetscape and obscures windows.

- Parking courts **should only** be utilised for building clusters. Permeable paving **should** be used for surfacing to preserve the rural setting and assist with flood mitigation and these spaces **should** be landscaped for screening. These spaces **must** be overlooked by properties to increase natural surveillance.
- Garages **should** not dominate the appearance of dwellings and therefore **should** be set behind the building line or to the rear of the plot. Additionally, garages **should** be constructed with the same architectural features and materials as the main building;
- Car ports **could** be a good addition to create formalised parking for plots of more than one dwelling. These **should** be designed so as to sensitively complement the setting , considering form, materiality and placement; and
- EV charging points **should** be integrated into the design of new developments. These **should** be unobtrusive, placed to the rear and side of the plot or within structures and not contribute to glare from built-in lights.



1. Attached garage
2. Side of the plot
3. Formalised parking with gap
4. Landscape screening
5. Back of plot
6. Car port / detached garage

Figure 33: Illustrative diagram outlining preferred car parking arrangements.

Figure 34: Positive example of a parking court that is well-landscaped, uses a permeable surface and is well-overlooked.

Figure 35: Positive example of a car port that complements the surrounding context (roof form, orientation, materials, etc).

2.5 D. Ecology, biodiversity and sustainability (EC)

2.5.1 EC.1 Habitats and biodiversity corridors

The design guidance and codes in this section will be used to support the vision and objectives of the Filby Neighbourhood Plan by promoting 'a more coherent, connected and expansive ecological network of key habitats that delivers a significant net ecological gain for wildlife'.

The focus of this section will be to promote and enhance the expansive existing ecological networks within the NA. This includes access to wildlife corridors, physical and visual connectivity to the landscape and sensitive development to promote increased biodiversity.

For further information and guidance relating to this theme, The Broads Authority *Local Plan* and *Design Guide and Code* documents should be referred. Additionally, the *Great Yarmouth Borough Landscape Character Assessment* and Broads Authority Landscape Character Assessment areas 24 and 25 should be read parallel with this section.

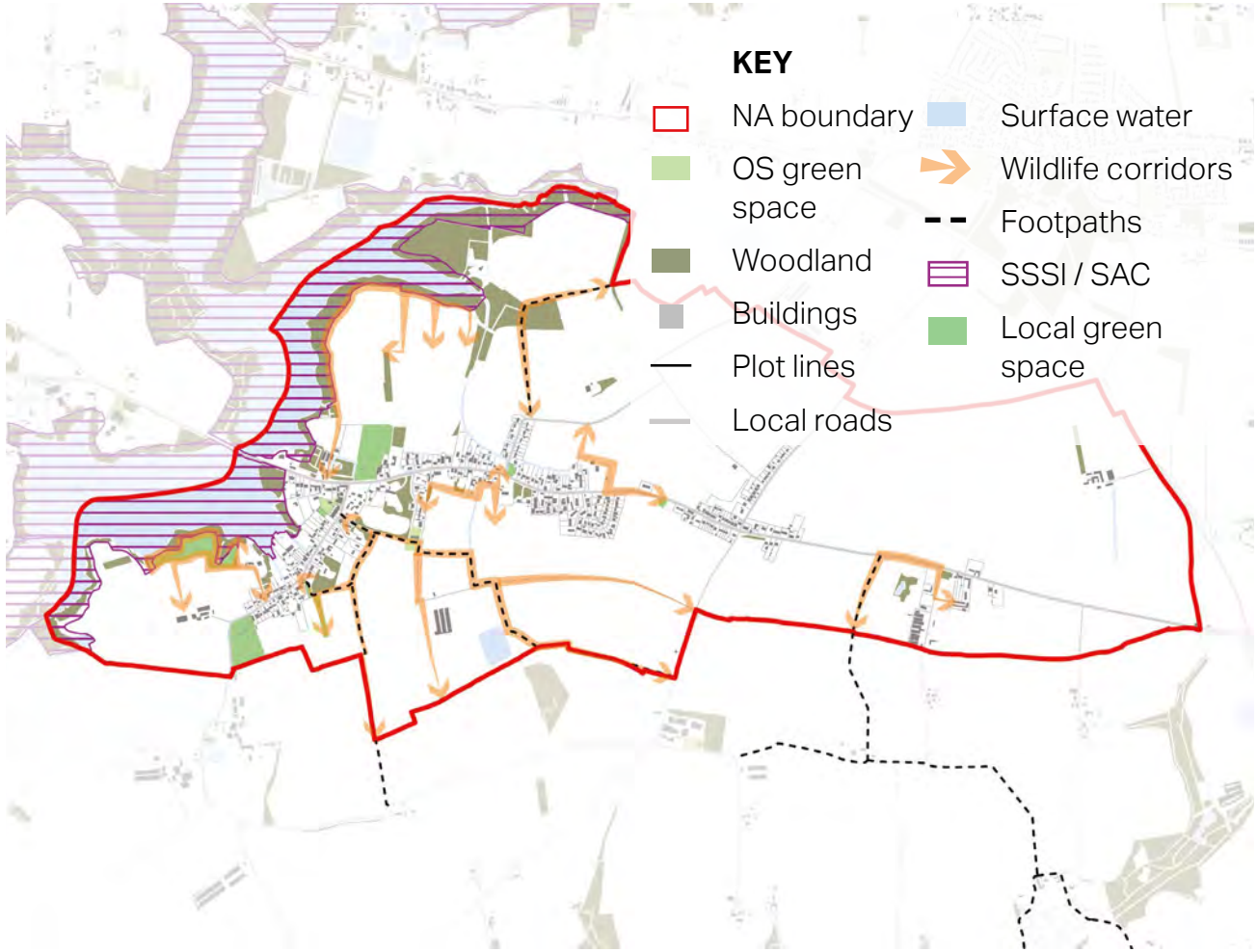


Figure 36: Wildlife corridors, landscape designations and PRoW footpaths within the NA. *Data source: Esri OS data*

Guidance for public open space and green infrastructure can be found in section **PS2** of the *Great Yarmouth Design Code*

- All existing biodiversity features such as wildlife corridors, ponds, orchards and OS /local green spaces **should** be preserved and enhanced by development. This **could** include making connections to these features more accessible by ensuring that development overlooks these areas for safety, has street furniture readily available and provides appropriate wayfinding signs;
- Development that fronts or backs onto biodiversity features, especially ponds, wetlands or swales, **should** maximise the use of permeable paving materials and soft landscaping. This will benefit biodiversity efforts and relief flooding;
- Development **could** expand upon existing wildlife corridors by linking them together. This **could** be achieved by linking to and creating new rights of ways along these corridors. These **could** be placed where existing green and blue infrastructure already exists as a guide, for example along the tributary river at the intersection of Main Road and Pound Lane that leads to Filby Broad;
- Development **should** consider how layouts can create new wildlife corridors by linking green spaces to create a blue and green infrastructure network. For example, this **could** be achieved by aligning rear gardens, connecting gardens to open spaces and providing access to the countryside and Filby Broad through undisrupted building gaps;
- Landscaping design **should** be layered with a variety of native species suitable for the local wildlife, soil conditions and climate. Development **should** avoid low maintenance, hard landscaped gardens, which are harmful to wildlife and reduce biodiversity opportunities; and
- Open spaces and gardens **should** be designed with wildlife in mind by incorporating a range of small-scale biodiversity improvements which **could** include: nest boxes, bird feeders, bug hotels, hedgehog holes, bat boxes, log piles, pollinator nest sites and wildflower planting. These improvements **should** be carefully planned to support native flora and fauna species.

Figure 37: Example of wildlife biodiversity opportunities such as a bug hotel (left) and hedgehog holes in boundaries (right).

Figure 38: Entrance to a wildlife corridor along a footpath that is marked with signage and distinct biodiversity features (floral wall).

2.5.2 EC.2 Trees and hedgerows

This section provides guidance and codes on street tree planting and within open spaces as well as the type of trees and hedgerows that can be planted to best support biodiversity in the NA. The guidance will focus on best practice to ensure appropriate scale and number, the placement for shading and overlooking and using them as a tool for wayfinding.

Due to Filby's close relationship with the natural environment, there are also a notably high number of Tree Protection Orders (TPOs) that can be found within the village. These are most commonly found in copses along Main Street and Thrigby Road. Although this document can not influence the designation of TPOs, it can provide guidance for development to enhance and protect these natural assets.

For more information of TPO locations and designations within the NA, visit Great Yarmouth Borough Council's webpage.[1]

[1] Source: https://www.great-yarmouth.gov.uk/article/2478/Tree-Preservation-Orders

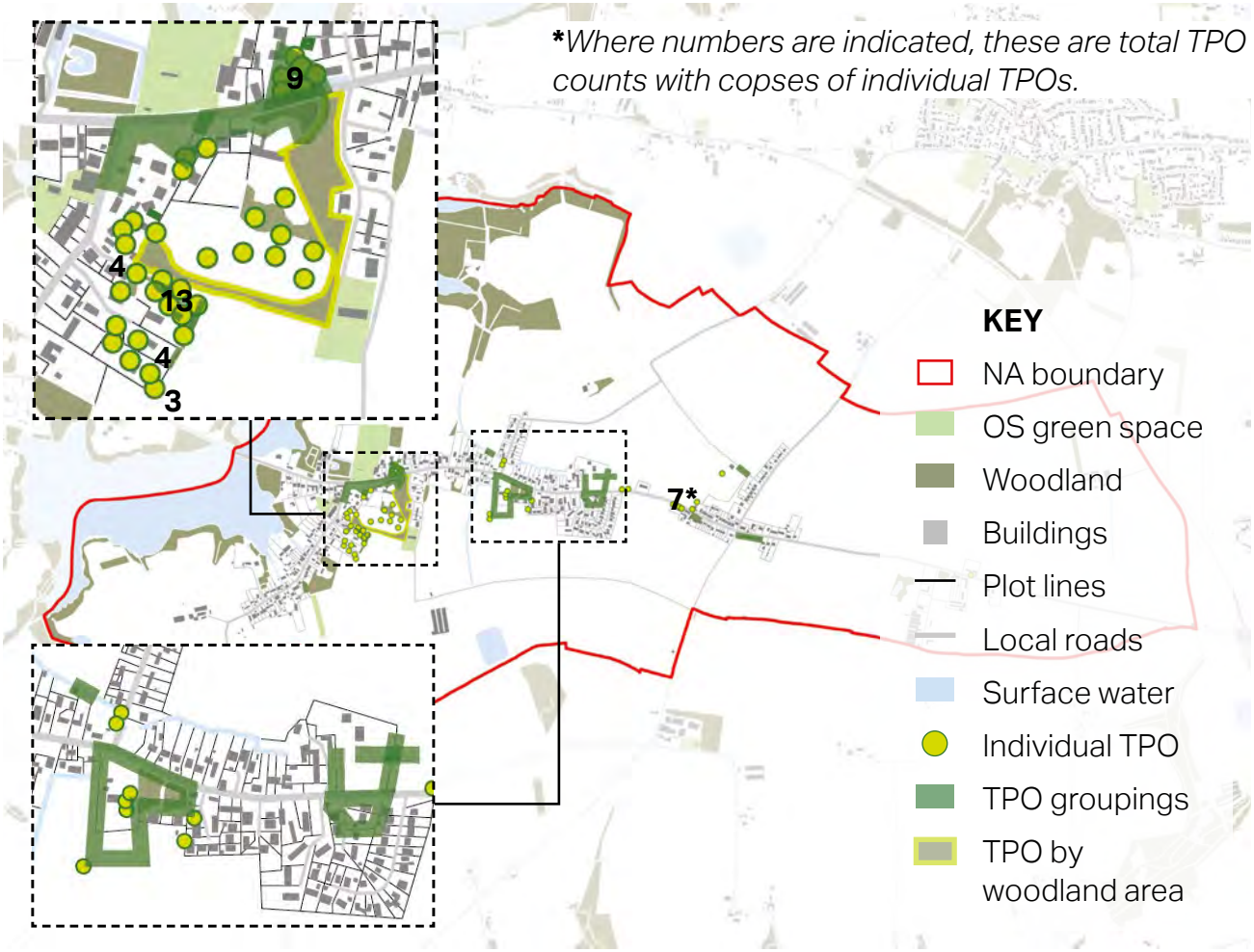


Figure 39: TPO locations within the NA, with zoomed in sections for clarity. *Data source: Esri OS data*

- Development **should** preserve all trees, shrubbery and hedgerow wherever possible as these contribute to the rural, natural character of the village and aid in temperature control and CO2 absorption. Where preservation is unavoidable, developers **must** replace trees lost. These **could** be incorporated into development through tree-lined streets. A positive example is Hall Farm House setback from Main Road;
- TPOs within the NA **must** be preserved by all development unless a valid reason is provided. Protected trees by the Broads Authority and Great Yarmouth, notably belts of mature and veteran oaks, **should** be preserved by all development;
- New tree placement **must** be designed with sufficient space around them, laid out in a way that leaves room for appropriate buffer zones to have the opportunity to mature to their full size. Generally, larger trees with more canopy coverage **should** be used rather than multiple small trees. Large trees in particular **could** be used as a landmark and can also provide shading;
- Trees within open spaces **must** be placed to ensure that they do not overly obstruct natural surveillance. These **should** be placed centrally to open spaces or dispersed around the edge to provide natural barriers and entrances from the street;
- Hedgerows and landscaping along pavements **must** be well-defined so as to not obstruct pedestrian movement. These **should** avoid being too high so as to not infringe onto the public realm and obstruct views of the road and traffic; and
- Filby parish currently has approximately 8km total of hedgerows. Every effort **must** be taken to preserve these hedgerows and to integrate them in future development, such as through boundary treatments or reinforcing existing rows by filling recorded gaps. Introduced hedges **should** be of a native British species and be consistent with the surrounding context. Hedgerows in the countryside are of particular importance for long views and wildlife corridors, such as those located along Pound Lane.

Figure 40: Positive example of a tree-lined street leading to Hall Farm House off of Main Road, with a large number of mature trees.

Figure 41: Hedgerows along Pound Lane which show an opportunity to fill in gaps in the hedges through future development.

2.5.3 EC.3 Sustainable Drainage Systems (SuDS)

The area to the west of Thrigby Road, and a smaller area to the west of Pound Lane are identified as being within fluvial flood risk zones 2 and 3, medium and high risk. Additionally, there is surface water flooding along the main A1064 and Mill Lane, Green Lane and Filby Lane.

The guidance and codes in this section will focus on SuDS integration to relieve Filby's drainage infrastructure system. This will in particular be used for the management of surface water overflow from flooding due to heavy rainfall, which is becoming an increasing issue due to factors resulting from climate change.

The SuDS provided in this section will focus on best practice schemes which can be incorporated into all new developments or to retrofit existing streets and properties. It will also be used to further strengthen Filby's biodiversity efforts and to take advantage of the natural asset of the vast surrounding countryside.

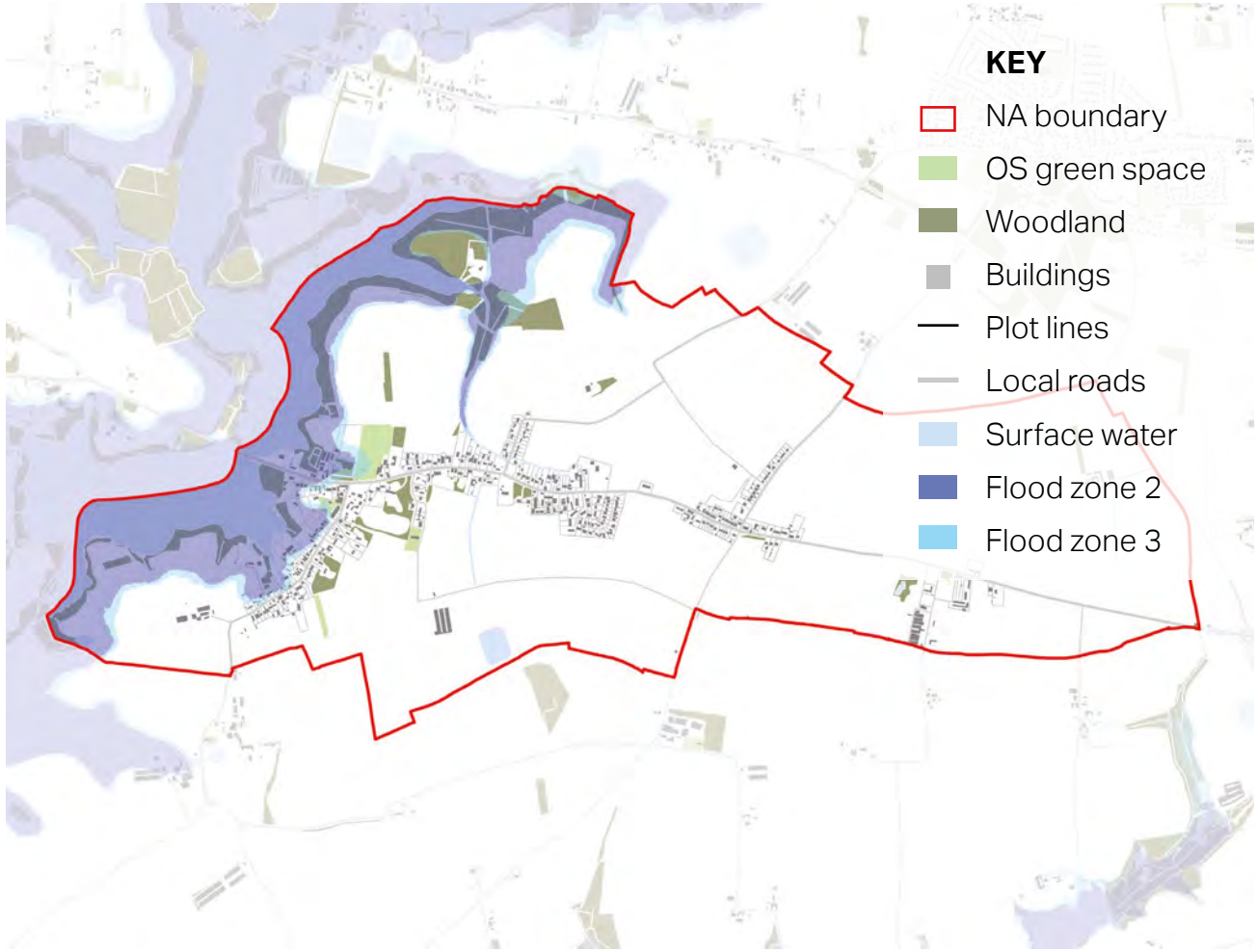


Figure 42: Areas at risk of flooding through Flood zones 2 and 3 within the NA. *Data source: Esri OS data*

Guidance for water management and contamination can be found in **pages 22–26** of the Broads Authority *Sustainability Guide*

Guidance for raised floors and drainage can be found in **BA 24 Flood risk** and **82 BA 25 Drainage** of the *Design Guide and Code for the Broads*

- New developments **should** be sited away from any high-risk flood areas and mitigate increased risk of storms or flooding with SuDS;
- Best practice SuDS schemes **should** link to the water cycle to make the most efficient use of water resources. Typically, the most sustainable option is the collection of surface water to reuse, for example, in a water butt or rainwater harvesting system, as these have the added benefit of reducing pressure on important water sources;
- New housing **should** demonstrate how rainwater will be stored and reused as grey water to reduce demand on main supplies, such as through water heating through underground pumps;
- Swales, basins, and ponds **could** also be integrated on site for more substantial landscaped areas to assist with greater instances of water run-off. These also **should** be set within high quality soft landscaping, abundant in native species and provide biodiversity benefits;
- Sustainable drainage interventions **should** therefore be integrated alongside appropriate soft landscaping. Rain gardens could be a primary consideration for these types of interventions;
- Runoff rates **could** be reduced by facilitating infiltration into the ground or by providing attenuation that stores water to help slow its flow so that it does not overwhelm water courses or the sewer network;
- Water quality **could** be improved by filtering pollutants to help avoid environmental contamination. Effective SuDS are vegetated, using natural processes to slow and clean water; and
- Standards and guidelines to permeable paving and sustainable drainage listed below **should** be referred to:
  - Sustainable Drainage Systems - non-statutory technical standards for sustainable drainage systems;
  - The SuDS Manual (C753); and
  - Guidance on the Permeable Surfacing for Front Gardens.

Figure 43: Filby Broad, part of the Trinity Broads, is a key asset for natural surface water collection and disposal.

Figure 44: A network of swales takes the water north and then west in stages until it discharges into the Trinity Broads.

SuDS implementation strategies:

Green roofs and walls: Provide capacity to hold and attenuate water run-off as well as ecological and leisure benefits.

Street tree planting: SuDS designed into highway provision can provide dual-use benefits when integrated with street tree provision.

Swales: Shallow channels that provide attenuation while also channelling water to other features such as ponds.

Rain capture: Water butts and other rainwater harvesting systems collect rainwater for use in gardens or for non-potable uses reducing water consumption.

Reed beds and wetlands: Topography can be used to create wetlands that provide attenuation capacity as well as filtering out pollutants and providing habitat for wildlife.

Basins and ponds: Attenuation ponds that are normally dry but fill during a rain event and then either store or gradually discharge water to the system.

Rain gardens: Containers and ditches with native drought tolerant plants release water gradually and filter pollutants.

Permeable surfacing: Surfaces that allow water to percolate into the ground including natural surfaces, gravel and low traffic volume engineered road surfaces and hard-standings in gardens.

2.5.4 EC.4 Dark skies and lighting

Street and development lighting is needed for pedestrian safety, to promote active travel and illuminate public spaced when daylight hours are shorter. Filby is valued by its residents for its tranquil atmosphere supplemented by a lack of streetlights which enhances the dark skies at night. Additionally, light pollution is detrimental to wildlife populations and wellbeing.

According to Council for the Preservation of Rural England (CPRE) light pollution level scale for dark skies, Filby village falls into 1–2 NanoWatts/cm$^{2/sr}$, which falls between 'Darkest' (<0.25) and 'Brighter' (2–4) levels, with the surrounding countryside mostly comprising level 0.5–1. Therefore, along with evidence base provided by The Broads, Filby is identified as an intrinsically dark landscape which must be preserved.

To check light pollution levels, refer to the CPRE website[1] which maps England's light pollution and dark skies.

[1]Source: https://www.cpre.org.uk/light-pollution-dark-skies-map/

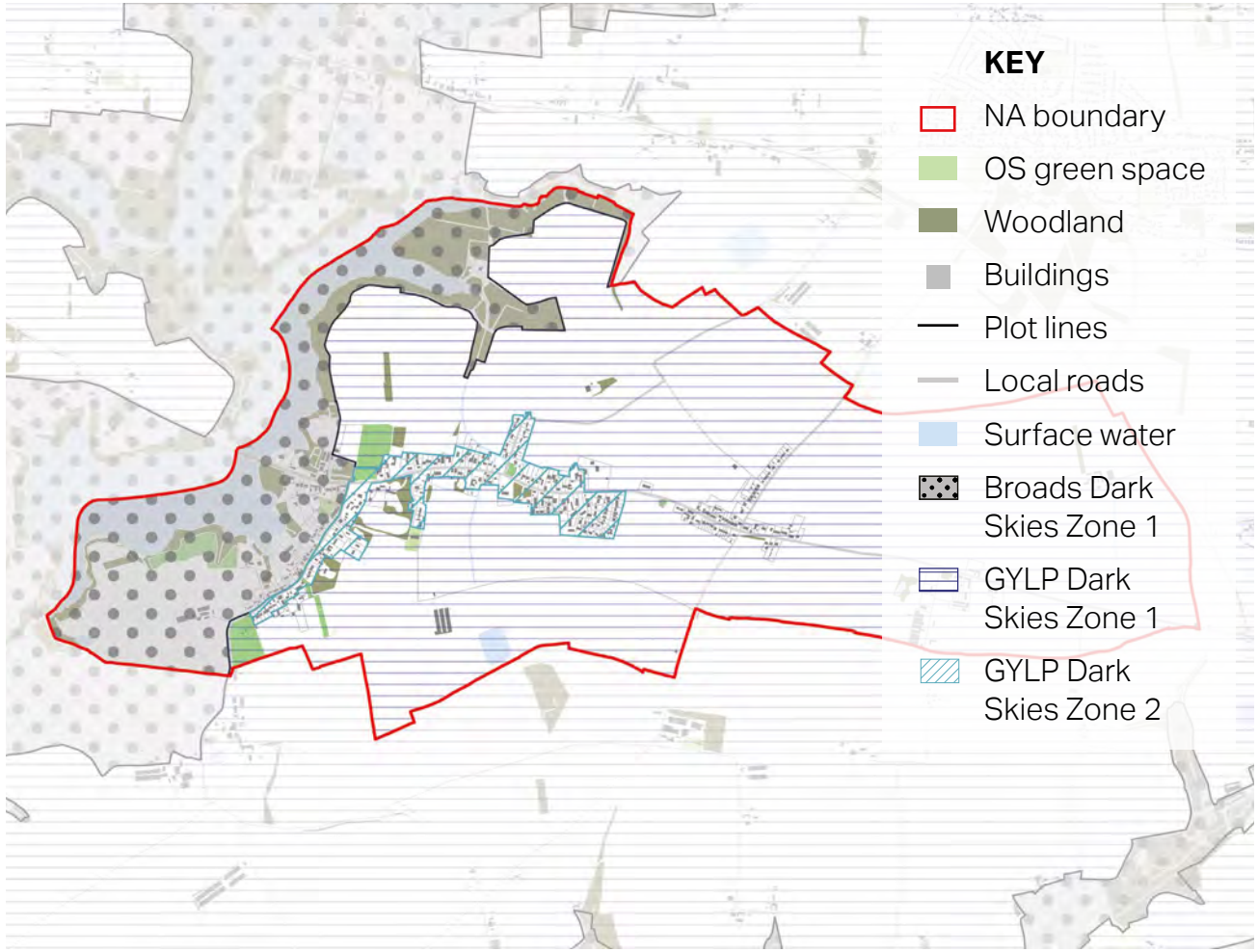


Figure 45: The Broads have designated this section of the National Park as Dark Skies Zone 1. *Data source: Esri OS data*

Guidance for domestic/household lighting design can be found in the Broads lighting guide *Towards A Dark Sky Standard*

- Dwellings **should** complete a home lighting assessment, in line with the International Dark Sky Association flow chart[1], to determine whether or not existing light fixtures are dark sky friendly and for guidance on how to address disruptive lighting;
- Lighting schemes that could be turned off when not needed ('part-night lighting') to reduce any potential adverse effects, i.e. when a business is closed, **should** be considered. Impact on sensitive wildlife receptors throughout the year, or at particular times (e.g. on migration routes), **could** be mitigated by the design of the lighting or by turning it off or down at sensitive times;
- External lighting with an output of more than 500 lumens **must** be pointed downwards and fully shielded, warm light sources of between 2700K and 3000K on the Kelvin scale **must** only be used;

[1]Source: https://darksky.org/app/uploads/2020/01/Home-Lighting-Assessment-Print.pdf

Guidance for street lighting can be found in section **5.0 Design** of the *Norfolk County Council Street Lighting Developer Specification*

- External lighting **should** be low-lying and only be considered for new development where it is necessary for security and safety and to illuminate shop fronts and community spaces such as the village hall and parking area;
- External lighting **should** be kept minimal, at low level and at low intensity, with hoods and baffles used to direct the light to where it is required to ensure that no light is emitted upward;

Guidance for dark skies can be found in **Policy NAT9** of the emerging *Great Yarmouth Local Plan*

- Glare **must** be avoided for safety reasons. This is the uncomfortable brightness of a light source due to the excessive contrast between bright and dark areas in the field of view; and
- Foot/cycle path lighting **should** be introduced sensitively within the landscape. Fittings such as solar cat's-eye lighting, reflective paint and ground-based lighting **could** be introduced. Full-height lighting **should** be avoided.

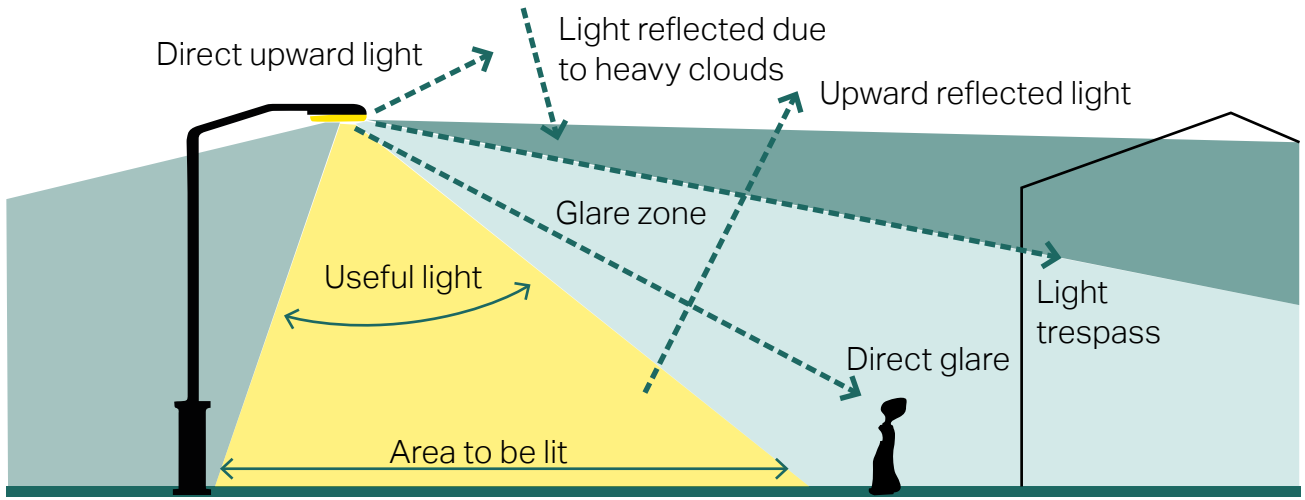


Figure 46: Diagram to illustrate the different components of light pollution and what 'good' lighting means for dark skies.

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