LONG STRATTON
Design Guidelines

AECOM

FINAL REPORT UPDATE

November 2020

locality
the power of community

Quality information

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Revision History

Revision	Revision date	Details	Name	Position
3	30-11-2020	Review	Annabel Osborne	Neighbourhood Planning Officer
2	26-11-2020	Final report update	Jimmy Lu	Senior Urban Designer
1	03-11-2020	Review	Rachel Hogger	Planning Consultant for Long Stratton Town Council
0	20-10-2020	Final report update	Jimmy Lu	Senior Urban Designer

Contents

1. Introduction

This section provides context and general information to introduce the project and its location.

1.1. Introduction

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

The Neighbourhood Plan Steering Group is making good progress in the production of its Neighbourhood Plan. The Town Council has requested to access professional advice on design guidelines for new developments between the existing settlement and the planned A140 bypass road to the west and east of the village. The village extension is the subject of two active planning applications, which each include a design code, a green infrastructure and open space strategy, and a design and access statement.

Long Stratton Town Council has published a list of planning comments regarding the planning applications following their submission. Design elements of the applications that are of particular concern to the Town Council include: the design of new roads and parking bays in relation with vehicle and pedestrian accessibility; pedestrian and cycle connections with the existing settlement; and severances at the boundaries between the existing and proposed settlements.

This document provides advice in addressing the Town Council's concern on the aforementioned design elements and should be read jointly with any area-wide design code that is agreed by South Norfolk District Council in connection with a planning consent for the strategic site. It also supports Neighbourhood Plan policies that guide the design of any future development proposals in order to create distinctive places that are well integrated with the existing settlement.

1.2. Objective

The main objectives of this report is: to develop design guidelines for the neighbourhood plan; to inform the design of future planning applications and residential developments in Long Stratton; and to complement the design code work being undertaken as part of plans for the village extension. In particular, it elaborates key aspects of the design code that were agreed with the Neighbourhood Plan Steering Group at the outset of the project, namely:

– Pedestrian and cycle links and connectivity;

– Boundary treatments between the proposed and existing settlements;

– Road dimensions and vehicle access;

– Vehicle parking solutions;

– Architectural details and material palette; and

– Sustainable design.

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1.3. Process

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

– Initial meeting and site visit;

– Urban design analysis;

– Preparation of design principles and guidelines to be used to inform the design of the village extension and future developments;

– Draft report with design guidelines;

– Final report; and

– Final report update (October 2020).

This commission adds to previous work undertaken by AECOM for Long Stratton Parish Council in 2017-2018 in support of the Neighbourhood Plan. The objective of this previous work was to advise on how the Neighbourhood Plan Steering Group can use the planned re-routing of the A140 as a catalyst to remodel the public realm in the village centre in a more people-friendly way. AECOM's analysis and recommendations are summarised in a separate report and will not be the subject of this report.

In 2020, the final report was amended following feedback from South Norfolk District Council to ensure compliance with the newly published National Design Guide and to reflect changes to planning policy and planning approach towards the urban extensions.

Figure 1: Long Stratton proposed bypass and development areas, as proposed in planning application ref. 2018/0111 and not yet consented (source: accessed via South Norfolk Council website on the online planning system on 02/10/2020, South Norfolk District Council). The masterplan is for information purposes only and has no status as it is related to a scheme not yet determined.

1.4. Area of Study

This study focuses on the area covered by the proposed village extension to the east and north-west of the village of Long Stratton, and on its interface with the existing settlement.

The South Norfolk parish of Long Stratton lies about 16 km south of Norwich, 15 km north of Diss, and about 45 km north east of Bury St Edmunds. At the 2011 census the population of the parish was 4,424. The settlement grew from a linear village centre that stretches along a Roman road that runs between Colchester and Norwich. It is currently a traffic-heavy main road that forms part of the A140. Outside the village centre, the settled area consists mainly of 20th century single-family detached and semi-detached properties, and is surrounded by arable farmland. The Grade I listed St Mary's Church serves as the parish church. Other community facilities include a Village Hall, a library, a post office, and a leisure centre. Schools in the parish include St Mary's Church of England Junior School, Manor Field Infant School, and Long Stratton High School. The parish is also home to South Norfolk Council offices. The nearest train stations are located in Norwich and Diss. Bus stops are located along the A140 and Swan Lane, with services to Norwich, Harleston, and Diss.

A new A140 bypass road and village extension for Long Stratton have been allocated in the Local Plan. The A140 bypass road will relieve congestion and improve the quality of life in the village centre, with opportunities for significant streetscape improvements. The village extension will comprise of 1,800 new homes, a school, a community hub, an employment area, and accompanying green infrastructure.

1.5. Village Extension Planning Applications

The village extension proposed in the Joint Core Strategy is the subject of two active planning applications to the north-west and the east of the A140, which together will deliver 1,800 new homes in Long Stratton. Both applications were submitted and validated between January and February 2018, and are pending consideration. The consultation period is understood to be still open, with comments published on 5th April 2019. Apart from the relief road and the roundabout, only the first phase of housing has been submitted for detailed planning approval.

Land East Of The A140 Long Stratton Norfolk (Planning Ref. 2018/0111)

The hybrid application is seeking outline planning for a 109.7 ha site east of the A140 for 1,275 dwellings, 8 ha of employment land for uses within Classes B1, B2, and B8, a 2 ha primary school site, community facilities site, and associated infrastructure and public open space. The application includes an application for full permission for a bypass road with associated roundabouts and junctions.

The design documents submitted include: a masterplan; design code; Stage 3 design report; heritage statement; green infrastructure and open space strategy; and design and access statement.

North West Of The A140 Long Stratton Norfolk (Planning Ref. 2018/0112)

The hybrid application is seeking outline planning permission for a 45.2 ha site west of the A140 for 387 dwellings, 1.5 ha of Class B1 employment land, and associated infrastructure and public open space. The application includes an application for full planning permission for a western relief road (including a roundabout access to the A140 and a priority junction access to Swan Lane) and the detail for the first phase of the development comprising 213 houses with 12 No. 1 bedroom, 60 No. 2 bedroom, 88 No. 3 bedroom and 53 No. 4 bedroom.

The design documents submitted include: a masterplan; design code; heritage statement; green infrastructure and open space strategy; design and access statement; and landscaping details and a landscaping infrastructure masterplan.

Area hatched in red denotes housing within the 55 db zone which requires mitigation to the road facing facades by application of triple glazed windows with acoustic ventilators to not affect the dwelling amenity

Brand's Lane

Poultry Farm

Western Relief Road

Sewerage Treatment Plant

Existing floodplain meadow to be used as ecological mitigation

E1 - possible area for residential care home with associated parking and gardens and mixed employment usage

Ecological constraint - area of existing wetland

Neighbouring site by others - currently under construction

Northern Gateway

Church Lane

Area A - 5.66 Ha
203 dwellings @36.4 dwellings/Ha

Stratton St Michael

Ecological constraint - retain existing field

A140

Area B - 7.8 Ha
283 dwellings @36.4 dwellings/Ha

School

Rhees Green Roundabout

Rhees Green

Area C - 5.47 Ha
199 dwellings @36.4 dwellings/Ha

Community Hub

Area D - 5.0 Ha
182 dwellings @36.4 dwellings/Ha

Area E - 5.5 Ha
200 dwellings @36.4 dwellings/Ha

Hall Lane

Hall Lane Roundabout

Area F - 5.7 Ha
207 dwellings @36.4 dwellings/Ha

Mill Road

E2 - area for Class B1 offices outlined in blue

Parker's Lane re-routed

Southern Gateway

Wood Green

E3 - 7.0 Ha Class B1 use employment

Parker's Lane

Figure 2: Proposed masterplan for the village extension, as proposed in planning application ref. 2018/0111 and not yet consented (source: accessed via South Norfolk Council website on the online planning system on 02/10/2020, South Norfolk District Council). The masterplan is for information purposes only and has no status as it is related to a scheme not yet determined.

Brand's Lane

A140

Stratton St Michael

Phase 4

Phase 3

Phase 2

Phase A

Swan Lane

Phase 1

LONG STRATTON

Phase B

Rhees Green

Phase C

Edges Lane

Phase D

Star Lane

Phase E

The Mill

Phase F

Hall Lane

Haynton's Lane

Wacton

Wood Green

E2
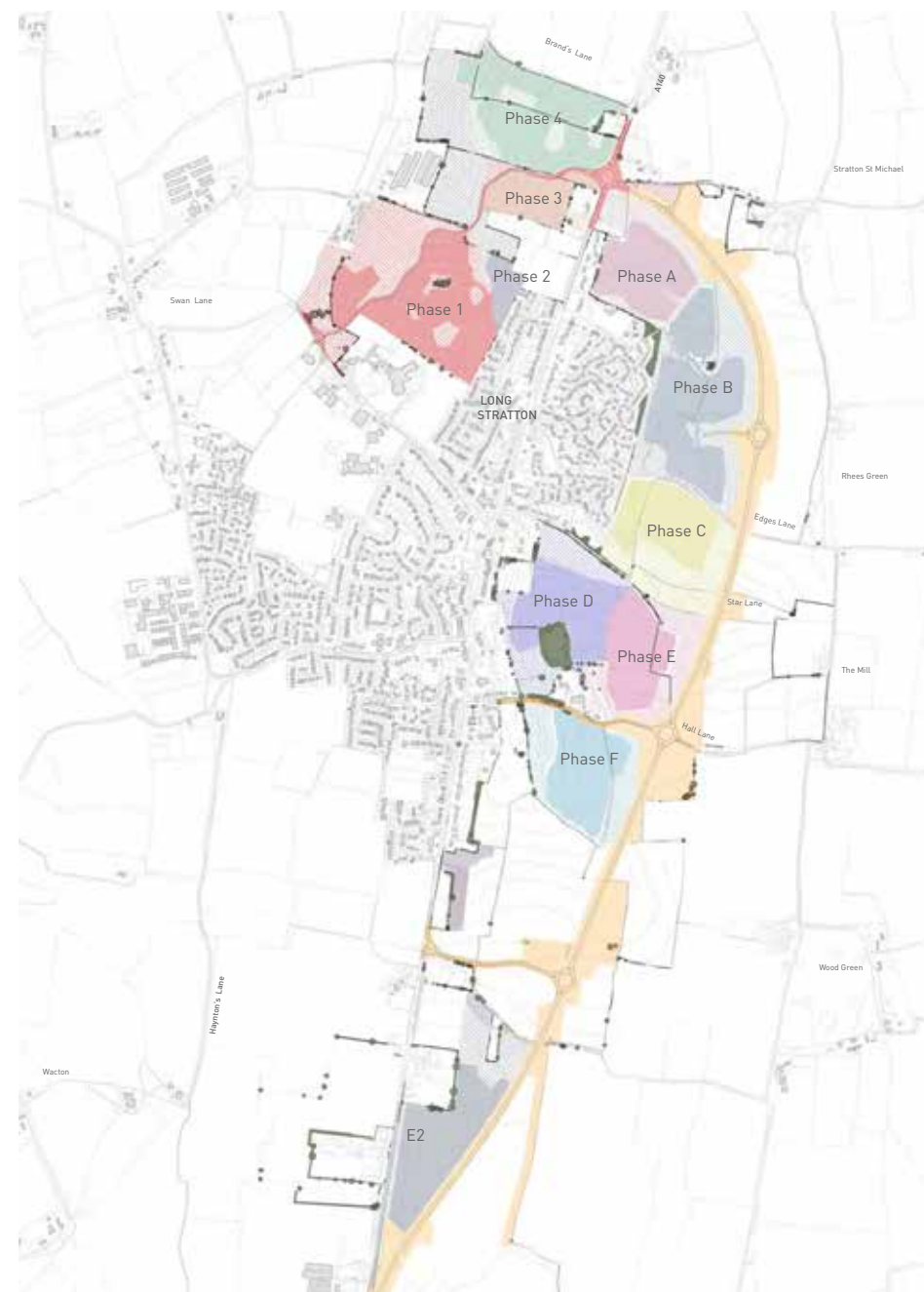
Figure 3: Proposed phasing plan for the village extension, as proposed in planning application ref. 2018/0111 and not yet consented (source: accessed via South Norfolk Council website on the online planning system on 02/10/2020, South Norfolk District Council). The masterplan is for information purposes only and has no status as it is related to a scheme not yet determined.

2. Local Character Analysis

This section outlines the broad physical, historical and contextual characteristics of Long Stratton that have informed the design guidelines in the next chapter. Images in this section have been used to portray the built form of Long Stratton.

2.1. Introduction

The array of listed buildings reflects the architectural diversity and historic quality of Long Stratton. The Long Stratton Conservation Area was established in 1975 and covers most of the village centre. As of 2013 it contained 54 listed buildings, most of which are located along The Street (A140). In addition, there are a number of noteworthy (unlisted) buildings such as the Guild House and the Wesleyan Chapel.

Figure 4: Red brick façade of the Wesleyan Chapel.

Figure 5: Small public space at the junction between The Street and Star Lane.

Figure 6: Contemporary residential development on Oakfield Road.

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Figure 7: Flint wall and post box set into a red brick pillar.

Figure 8: Eastward view into the open countryside from The Street.

Figure 9: Houses with off-white rendered walls and glazed pantile roofs.

Figure 10: Sign for the Swan Inn on The Street.

2.2. Local Character Analysis

Streets and Public Realm

Traditional streets patterns are organic and seemingly evolved from historic routes, natural features, and topography. For instance, the roads that form the A140 (Ipswich Road, The Street, and Norwich Road) follow a Roman road connecting Colchester and Norwich. Because they form the central spine of the village, they face issues such as heavy traffic and noise pollution, which will decrease after the opening of the bypass road, as well as having narrow pavements in key locations. 20th century residential streets outside the historic core are organised in cul-de-sacs and loops. Streets are bordered directly by buildings in the village core, and a mix of hedges, soft landscaping, low metal fences, and brick walls in more recent residential areas. Smaller roads such as Star Lane have no pavements.

Pattern and Layout of Buildings

The historic centre has a strong linear settlement pattern with buildings clustered along the A140. At the level of the junctions with Star Lane and Swan Lane, The Street widens to form an informal marketplace bordered by mostly continuous street walls and smaller boundary setbacks.

20th and 21st century development is characterised mainly by infilling along the A140 as well as large expansions to the west and north-east of the village. Most residential buildings are detached and semi-detached houses arranged in clusters and loops, with individual front and back gardens and on-plot parking.

Outside the settlement boundaries, the settlement pattern is characterised by dispersed farmsteads.

Building Height and Roofline

Building heights typically vary between one and two storeys. Typically the roofline is pitched and many buildings have prominent chimneys. There is a high diversity of roof and gable orientation, height, and materials - the most common being the local clay and glazed pantiles. The undulating topography to the north of the village contributes to the visual interest of the roofline.

Car Parking

The prevalence of large parcels enable either on plot front yard parking or garage parking adjacent to houses. Front yard parking is more common in more recent developments away from the A140. On-street parking is more common outside the village core, in the form of parking bays and inset bays. Pavement parking is a problem in parts of the village where carriageways are narrow. The village has some surface car parks at the back of the Swan Lane junction.

Open Space & Landscape

The village is set in an undulating landscape. Due to the linear settlement pattern, there are few open spaces along the A140 apart from the church yard. Residential streets outside the village core are bordered by hedges and low-level planting. The more recently built residential neighbourhoods are interspersed with small local green spaces, some with play areas for children. A few mature trees border The Streets farther away from the village core. The edges of the built-up areas are defined by tall hedges that partly screens the buildings from the open countryside.

Figure 11: Residential boundaries formed of hedges, low walls, and metal fences along Star Lane.

Figure 12: Small neighbourhood "green" on Oakfield Road.

Figure 13: Quasi-continuous street frontages along the central section of The Street create a high sense of enclosure in the village centre.

Figure 14: View of the existing settlement edge with the open countryside.

Figure 15: Long Stratton Parish area (source: Google Earth).

2.3. Architectural Details

The following section showcases some local building details which should be considered as positive examples to inform the design guidelines that follow.

Gabled porch with flint infill and white Gault brick quoins.

Round flint clock tower with Gothic fenestration, St Mary's Church.

Clay pantile roof with decorated steeple and dormer.

White Gault brick bay window with decorated cornice.

Bay window and jettying upper storey.

House with thatched roof and brick Tudor chimney.

Brick Tudor chimneys and dormer with clay hung tiles.

Brick parapet gable with oeil-de-boeuf windows.

Terracotta frieze.

Painted detail on a red brick keystone.

Red brick Dutch gable.

Crenelated brick parapet.

3. Design Guidelines

This section outlines key design elements and principles to complement the village extension application and to consider when assessing any other design proposals.

3.1. Introduction

The aim of this section is to ensure that future developments consider local character and through design proposals they can further enhance local distinctiveness by creating good quality developments, thriving communities and prosperous places to live. It is set out in a way that is straightforward to interpret. It is accompanied by descriptive text, general guidelines and principles, images from Long Stratton or other relevant case studies, illustrations, and diagrams.

The design elements that this section covers are organised according to the following themes:

– Pedestrian and cycle connectivity;

– Edge treatments between the proposed and existing settlements;

– Road dimensions and vehicle access;

– Vehicle parking solutions;

– Built form, including architectural details and material palette; and

– Sustainability.

3.2. South Norfolk Place-Making Guide

The principles of the Long Stratton Design Guidelines comply with the existing South Norfolk Place-Making Guide. The table on the opposite page shows the interlinkages between the two documents. The column to the left delineates all the principles highlighted by this document while the column to the right illustrates the links to the existing South Norfolk Place-Making Guide.

Long Stratton Design Guidelines		South Norfolk Place-Making Guide
3.2 Pedestrian and Cycle Connectivity		3.2.1 Community facilities 3.3.1 Public Transport 3.3.2 Integrate with surroundings 3.6.1 Street network 3.7.1 Supervision of streets 3.7.3 Street design
3.3 Settlement Edges		3.3.2 Integrate with surroundings 3.4.1 Existing features 3.4.2 Site-wide environmental features 3.8.1 Public spaces
3.4 Streets	– Primary Roads – Secondary Roads – Tertiary Roads – Lanes/Private Drives – Edge Lanes – Junction and Pedestrian Crossings	3.3.2 Integrate with surroundings 3.4.1 Existing features 3.6.1 Street network 3.6.2 Development blocks 3.7.3 Street design
3.5 Vehicle Parking	– On-Plot Side or Front Parking – On-Plot Garages – Mews, Lanes and Courts – On-Street Parking	3.4.2 Site-wide environmental features 3.6.1 Street network 3.6.2 Development blocks 3.7.1 Supervision of streets 3.7.2 Car Parking
3.6 Built Form	– Public Realm and Streetscape – Local Green Spaces, Views and Character – Pattern and Layout of Buildings – Enclosure – Building Height/Roofline – Building Scale and Massing – Gateway and Access Features – Building Line and Front Boundary Treatments – Fenestration – Norfolk Traditional Architecture – Contemporary Take on Traditional Architecture – Materials and Building Details	3.2.1 Community facilities 3.2.2 Mix of uses 3.3.1 Public Transport 3.3.2 Integrate with surroundings 3.4.1 Existing features 3.4.2 Site-wide environmental features 3.5.1 Distinctive character 3.5.2 Scheme-specific design 3.6.1 Street network 3.6.2 Development blocks 3.6.3 Legibility 3.7.1 Supervision of streets 3.7.3 Street design 3.8.1 Public spaces 3.8.2 Architectural quality 3.9.1 Adaptability
3.7 Sustainability	– Eco Design – Solar Roof Panels – Rainwater Harvesting – Cycle Parking – Street Lighting – Servicing – Permeable Paving	3.4.1 Existing features 3.4.2 Site-wide environmental features 3.9.1 Adaptability 3.9.2 Innovation in construction 3.9.3 Building performance.

3.3. Pedestrian and Cycle Connectivity

– It is important that all newly developed areas should provide direct and attractive footpaths between neighbouring streets and local facilities. Streets should be designed to prioritise the needs of pedestrians and cyclists. Establishing a robust pedestrian network a) across any new development and b) among new and existing development is key in achieving good levels of permeability among any part of Long Stratton.

– Pedestrian paths should be included in new developments and be integrated with the existing pedestrian routes.

– A permeable street network at all levels provides people with a choice of different routes and allows traffic to be distributed in general more evenly across the network rather than concentrated on to heavily trafficked roads.

– Design features such as barriers to vehicle movement, gates to new developments or footpaths between high fences should be kept at a minimum and the latter should be avoided.

– On high-traffic and/or high-speed roads, cyclists should be kept away from moving traffic and parked vehicles as much as possible through the use of traffic calming, physical separation, and road markings and signage. On streets with lower traffic and speed limits no higher than 20 mph, the road can be shared between different modes.

– The downgrading of the village spine as a result of the A140 bypass provides a unique opportunity to improve pedestrian and cycling conditions along The Street, Norwich Road, and Ipswich Road. The former A140 route could be transformed into the main north-south connector in the village with widened footways and dedicated cycling infrastructure.

Figure 16: Pedestrian- and cyclist-only connection at the back of a development.

Figure 17: Pedestrian wayfinding post at the back of Star Lane.

Pedestrian crossing 1

Pedestrian crossing 2

Main footpath route

Main cycleway route

Connection from/to existing town centre

Public right of way

Proposed footpath
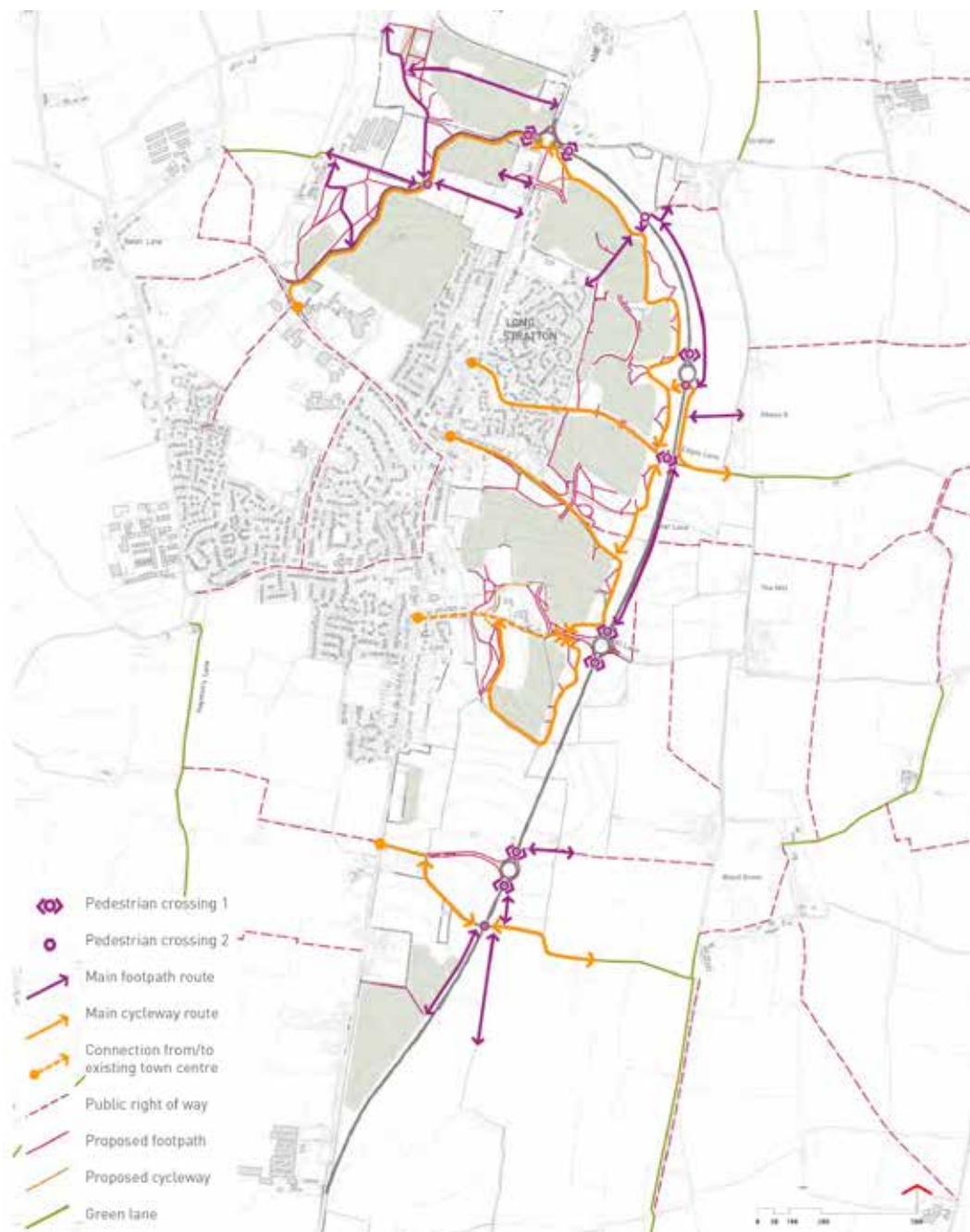
Proposed cycleway

Green lane

Figure 18: Pedestrian and cycle connections proposed in the planning application, as proposed in planning application ref. 2018/0111 and not yet consented (source: accessed via South Norfolk Council website on the online planning system on 02/10/2020, South Norfolk District Council). The masterplan is for information purposes only and has no status as it is related to a scheme not yet determined.

Figure 19: Proposed locations of additional shared pedestrian and cycle connections (green line), and main cycle routes (orange lines), with The Street serving as the main walking and cycling connector (red). Adapted from pedestrian and cycle connections proposed in the planning application, as proposed in planning application ref. 2018/0111 and not yet consented (source: accessed via South Norfolk Council website on the online planning system on 02/10/2020, South Norfolk District Council).

3.4. Settlement Edges

– Interfaces between the existing settlement edges and the eastern village extension should be carefully designed to integrate new and existing communities. This is particularly important where new residential buildings will face existing residential properties that until now back onto open fields.

– Edges should be designed to link rather than segregate existing and new neighbourhoods. The current belt of hedges that defines the existing settlement edge can be integrated into a new north-south green corridor along the border between existing and new neighbourhoods. This corridor can provide an additional pedestrian and cycle link that will contribute to the successful integration with the village. The new link should strike an appropriate balance between openness and enclosure that invite residents through the settlement. A balance should also be sought between back garden privacy and natural surveillance.

– The illustrations and map on the opposite page present design principles to connect the new and existing settlements through a new green link. The design proposes a gently meandering new green pedestrian and cycle link running parallel to the existing hedgerow. It also includes green verges of varying widths on both sides of the shared path, and low-traffic lanes fronted by new houses.

Figure 20: Northward view of the existing village edge at the east of Hill Farm Road showing the planted edge at the back of private gardens.
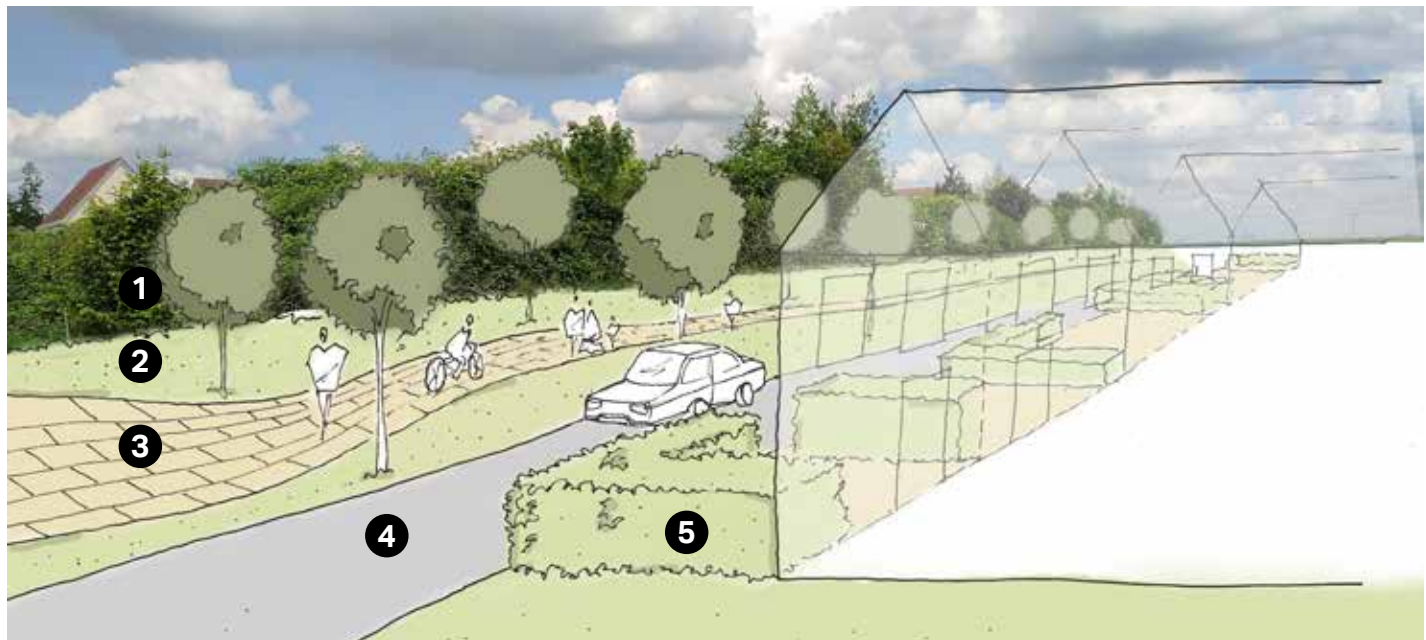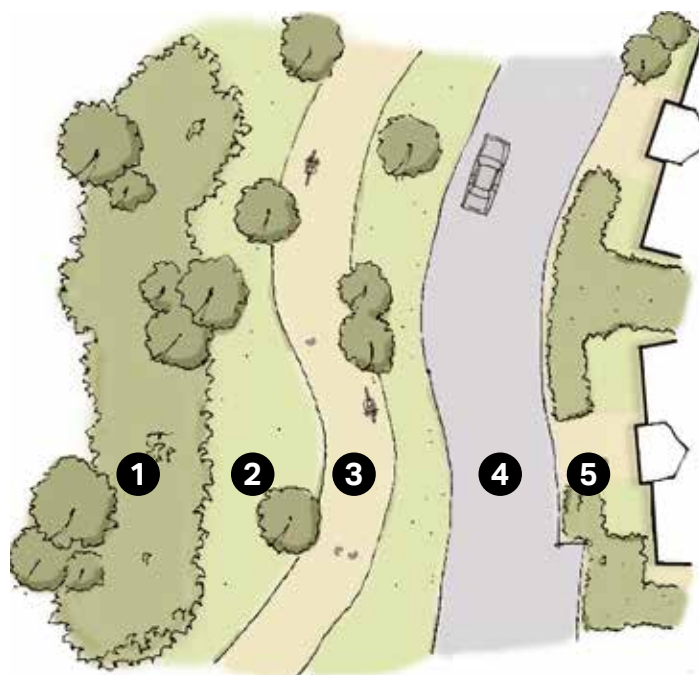

Figure 21: Plan sketches of potential edges with the new settlement. The opposite page provides brief descriptions of the design elements numbered in the drawing.

Figure 22: Plan sketches of potential edges with the new settlement.

1. Retained green hedges at the back of existing properties.
2. New green verge with trees on both sides of the green link serving as an additional buffer (width varies).
3. New north-south pedestrian and cycle green link.
4. New private drive or edge lane (see pp 20-21 for details).
5. New residential frontage with boundary hedges and front gardens.
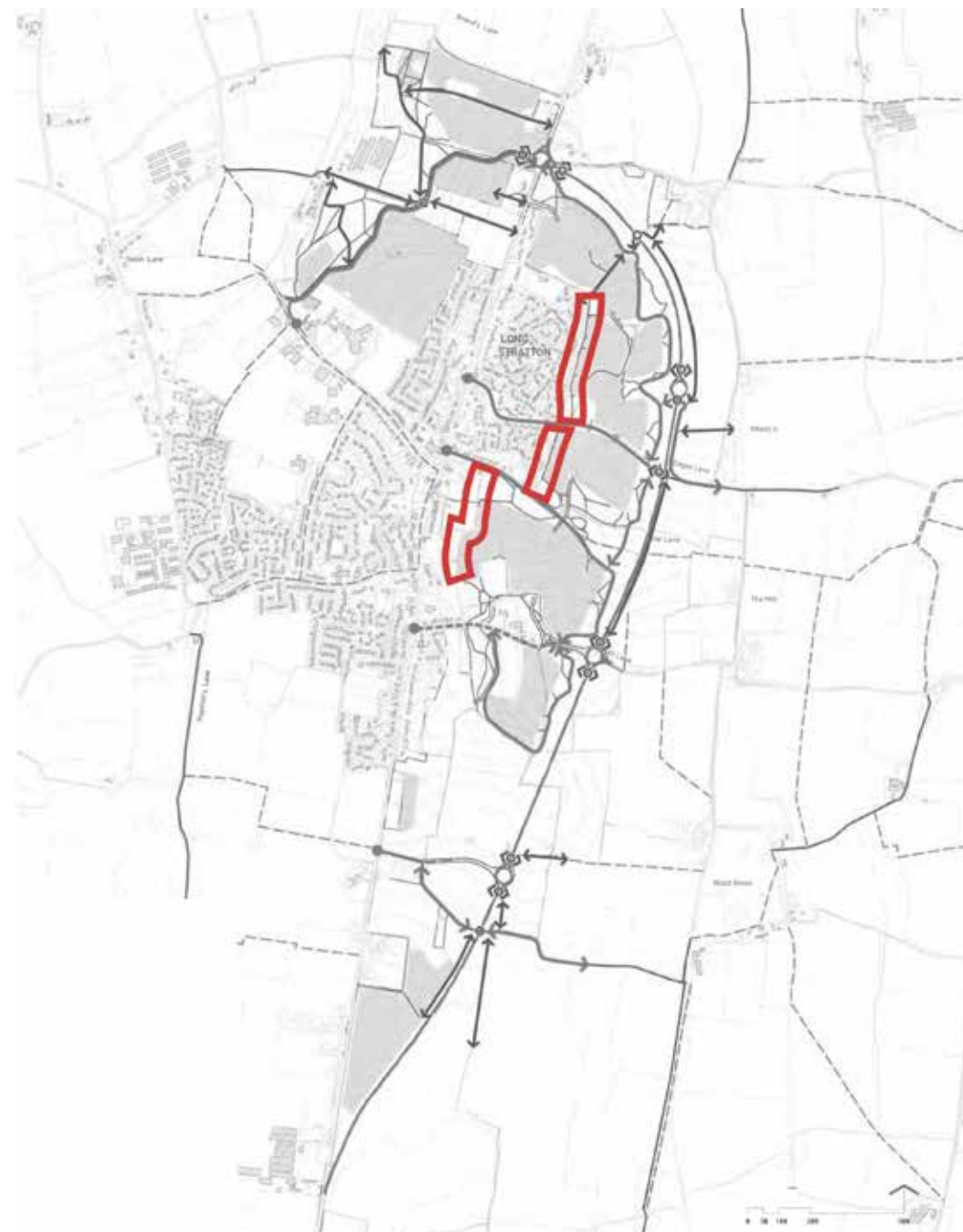
Figure 23: Proposed locations of potential edges (areas highlighted in red) with the new settlement. Adapted from pedestrian and cycle connections proposed in the planning application, as proposed in planning application ref. 2018/0111 and not yet consented (source: accessed via South Norfolk Council website on the online planning system on 02/10/2020, South Norfolk District Council).

3.5. Streets

- Streets must meet the technical highways requirements as well as be considered a 'place' to be used by all, not just motor vehicles. It is essential that the design of new development should include streets and junctions that incorporate the needs of pedestrians, cyclists, and if applicable public transport users. It is also important that on-street parking, where introduced, does not impede the access of pedestrians and other vehicles.

- Within the settlement boundaries, streets should not be built to maximise vehicle speed or capacity. Streets and junctions should be designed with the safety and accessibility of vulnerable groups such as children and wheelchair users in mind, and may introduce a range of traffic calming measures.

- New streets should tend to be linear with gentle meandering, providing interest and evolving views while helping with orientation. Routes should be laid out in a permeable pattern allowing for multiple connections and choice of routes, particularly on foot. Any cul-de-sacs should be relatively short and provide onward pedestrian links where is it is acceptable in terms of secure by design. Separate footpaths should be provided to the side of private drives where required to ensure pedestrian safety.

- The distribution of land uses should respect the general character of the area and street network, and take into account the degree of isolation, lack of light pollution, and levels of tranquillity. Pedestrian access to properties should be from The Street where possible.

- Streets should incorporate opportunities for landscaping, green infrastructure, and sustainable drainage.

Legend:
- Bypass and western relief road
- Primary roads
- Secondary roads
- Tertiary roads
- Private drives
- Links to existing roads/lanes
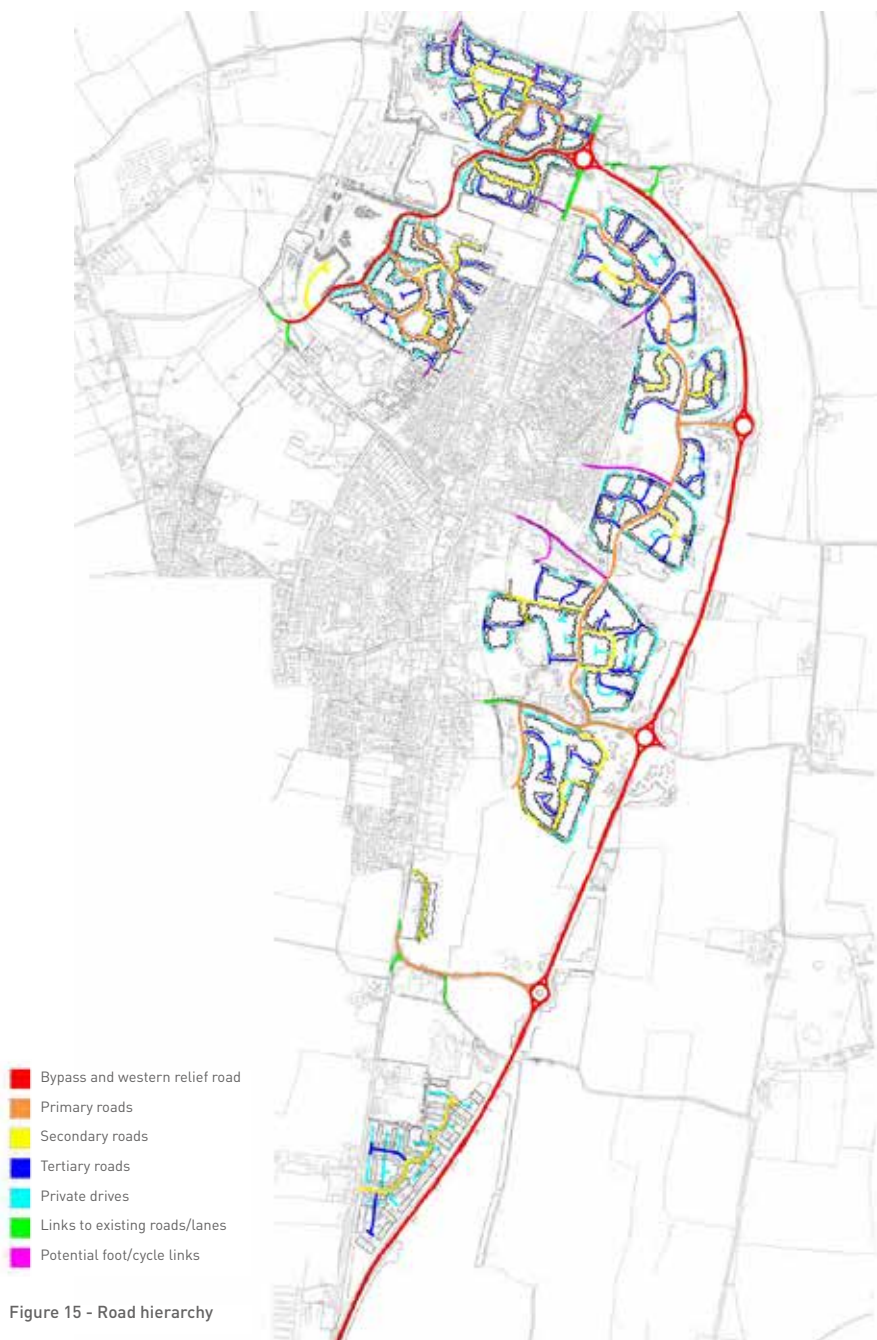- Potential foot/cycle links
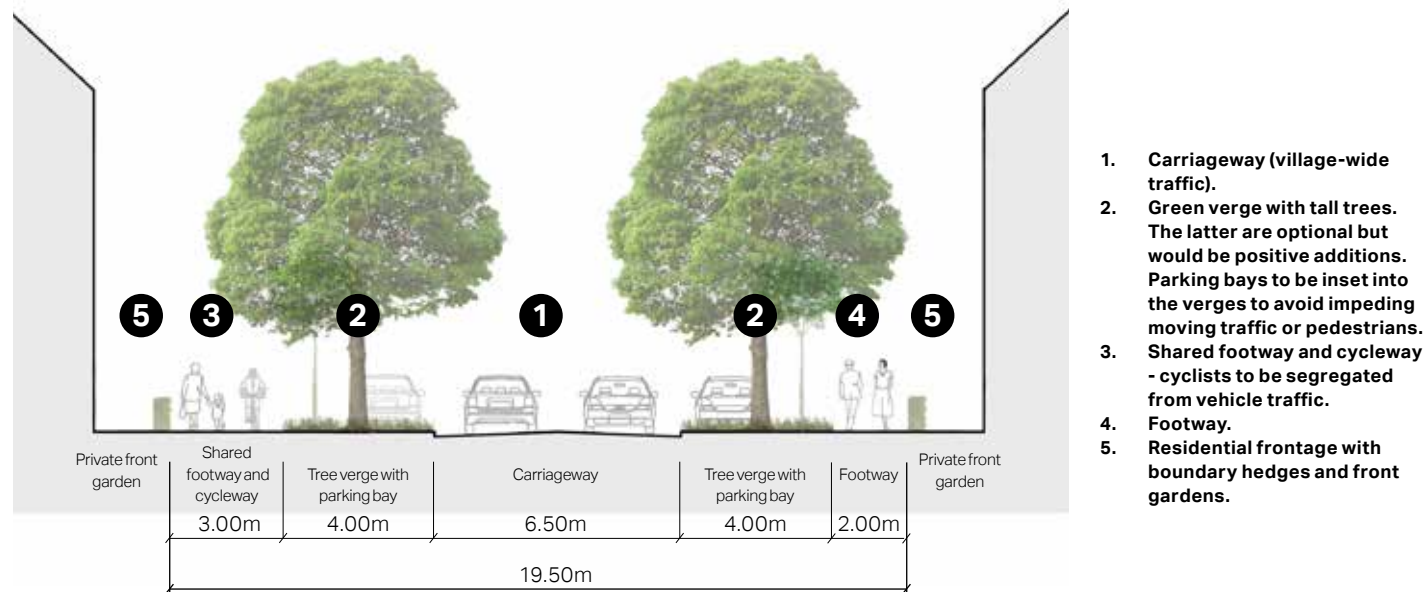
Figure 15 - Road hierarchy

Figure 24: Proposed masterplan for the village extension showing The Street hierarchy, as proposed in planning application ref. 2018/0111 and not yet consented (source: accessed via South Norfolk Council website on the online planning system on 02/10/2020, South Norfolk District Council). The masterplan is for information purposes only and has no status as it is related to a scheme not yet determined.

The next pages introduce suggested guidelines and design features including a range of indicative dimensions for street types in the new residential areas:

Primary Roads

– Primary roads are the widest neighbourhood roads and constitute the main accesses into the village extension, connecting the neighbourhoods with each other. They are also the main routes used for utility and emergency vehicles, as well as buses if any.

– The design and character of primary roads should strike an optimum balance between their place-making role at the heart of the new community and their role as supporting through routes.

– Primary roads should be defined by strong building lines with generous set-backs. Blank frontages should be avoided. The quality of the public realm should be of a high standard and consistent throughout the whole primary road, for example through the planting of trees and/or green verges along the road.

– Because primary roads are designed for comparatively higher speed and traffic volumes, they are more appropriate locations for cycle ways that are segregated from traffic, for instance in the form of green ways shared between cyclists and pedestrians.

– Direct access to individual residential car parking should be avoided to minimise disruptions to the relatively high levels of traffic on primary roads. Access to parking servicing buildings that front primary roads can instead be provided via parallel lanes, side streets, or from the rear.

Private front garden	Shared footway and cycleway	Tree verge with parking bay	Carriageway	Tree verge with parking bay	Footway	Private front garden
	3.00m	4.00m	6.50m	4.00m	2.00m	

19.50m

1. **Carriageway (village-wide traffic).**
2. **Green verge with tall trees. The latter are optional but would be positive additions. Parking bays to be inset into the verges to avoid impeding moving traffic or pedestrians.**
3. **Shared footway and cycleway - cyclists to be segregated from vehicle traffic.**
4. **Footway.**
5. **Residential frontage with boundary hedges and front gardens.**

Figure 25: Section showing indicative dimensions for primary roads. In some places trees may be omitted from one or both sides although they help with placemaking, contribute to local biodiversity, and create a positive micro-climate.

Figure 26: Primary road framed by wide tree verges in a residential neighbourhood. It is recommended that cycle provisions are separated from moving traffic and that parking bays, where required, are inset into the verges to avoid impeding the movement of pedestrians and vehicles.

Secondary Roads

– Secondary roads provide access between primary roads and neighbourhoods and clusters. They should emphasise the human scale and be designed for lower traffic volumes compared to primary roads.

– Secondary roads should accommodate carriageways wide enough for two-way traffic and on-street parallel car parking bays. They may also include tree verges on one or both sides. On-street parking may consist either in marked bays or spaces inset into green verges.

– Carriageways should be designed to be shared between motor vehicles and cyclists. Vertical traffic calming features such as raised tables may be introduced at key locations such as junctions and pedestrian crossings.
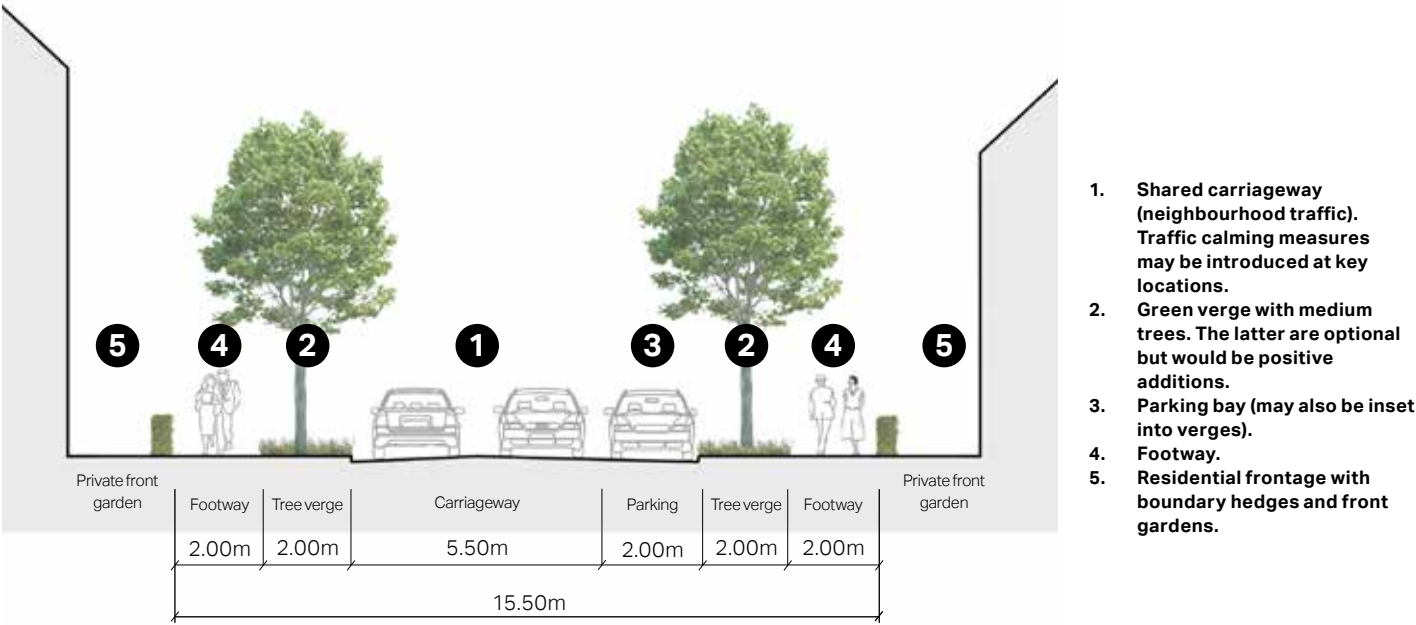

1. **Shared carriageway (neighbourhood traffic). Traffic calming measures may be introduced at key locations.**
2. **Green verge with medium trees. The latter are optional but would be positive additions.**
3. **Parking bay (may also be inset into verges).**
4. **Footway.**
5. **Residential frontage with boundary hedges and front gardens.**

Footway	Tree verge	Carriageway	Parking	Tree verge	Footway
2.00m	2.00m	5.50m	2.00m	2.00m	2.00m

15.50m

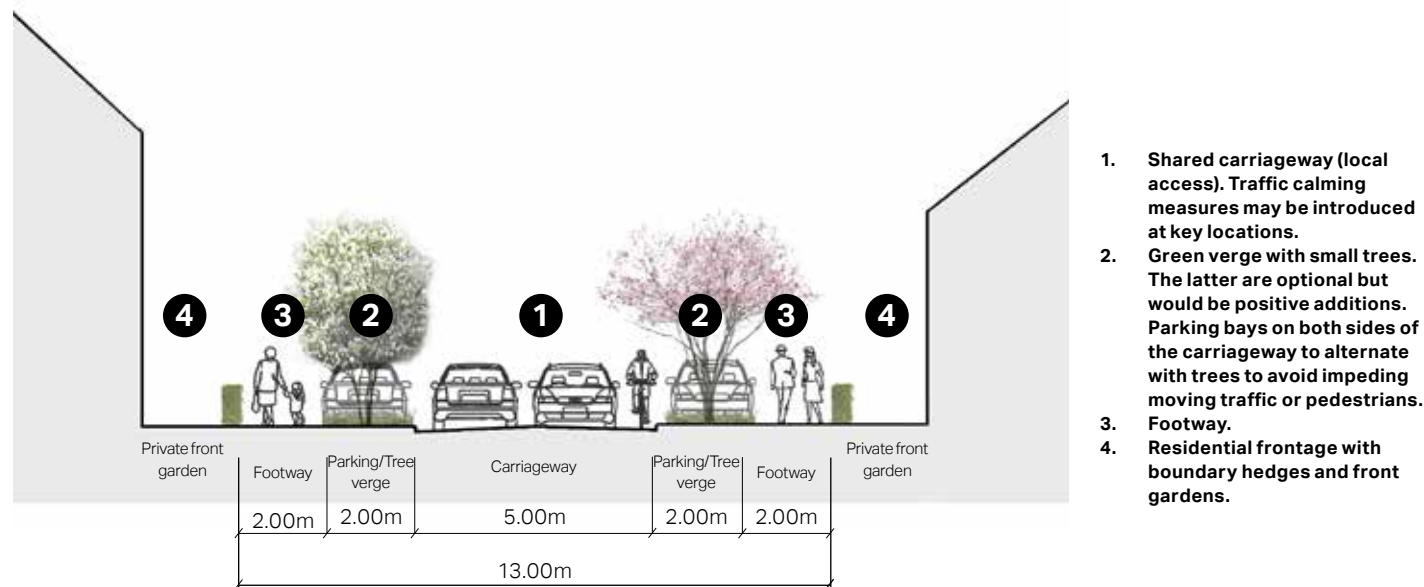**Figure 27: Section showing indicative dimensions for secondary roads. In some places tree verges may be omitted from one or both sides, and parking bays may alternate with tree verges.**

Figure 28: Example of a secondary road, Brentham (note: parking bays may be inset into verges).

Tertiary Roads

– Tertiary roads have a strong residential character and provide direct access to residences from the secondary roads. They should be designed for low traffic volumes and low speed.

– Carriageways should accommodate two-way traffic and parking bays. They may also include green verges with small trees on one or both sides. Verges may alternate with parking to form inset parking bays. These roads should also accommodate footways with a 2m minimum width on either side, and should be designed for cyclists to mix with motor vehicles. Traffic calming features such as raised tables can be used to prevent speeding.

Private front garden	Footway	Parking/Tree verge	Carriageway	Parking/Tree verge	Footway	Private front garden
	2.00m	2.00m	5.00m	2.00m	2.00m	

13.00m

1. **Shared carriageway (local access). Traffic calming measures may be introduced at key locations.**
2. **Green verge with small trees. The latter are optional but would be positive additions. Parking bays on both sides of the carriageway to alternate with trees to avoid impeding moving traffic or pedestrians.**
3. **Footway.**
4. **Residential frontage with boundary hedges and front gardens.**

Figure 29: Section showing indicative dimensions for tertiary roads. In some places tree verges may be omitted from one or both sides.


Figure 30: Tertiary road with inset parking bays and footways framed by planted hedges and low metal fences. It is recommended that green verges are introduced along the carriageway and that footways are minimum 2m wide.

Lanes/Private Drives

– Lanes and private drives are the access only types of streets that usually serve a small number of houses. They should be minimum 6m wide and serve all types of transport modes including walking and cycling, and allow sufficient space for parking manoeuvre. Separate footpaths should be provided to the side of private drives where required to ensure pedestrian safety.

– Opportunities to include green infrastructure, hedges, and/or private gardens to soften the edges should be maximised.
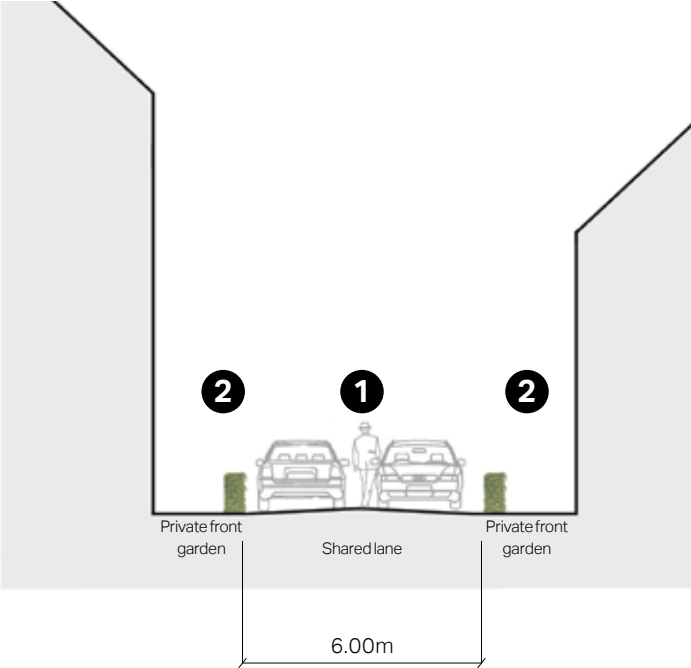
1. **Shared lane (local vehicle access, cyclists, and pedestrians).**
2. **Residential frontage with front hedges and gardens**

Private front garden   Shared lane   Private front garden

6.00m

Figure 31: Section showing indicative dimensions for lanes and private drives.

Figure 32: Star Lane, a low traffic lane shared between vehicles, cyclists, and pedestrians.

Figure 33: Example of a lane/ private drive in Cambridge, with a shared surface for all road users.

Edge Lanes

– Edge lanes are low-speed and low-traffic roads that front houses with gardens on one side and a green space on the other. Carriageways typically consist of a single lane of traffic in either direction and are shared with cyclists.

– The lane width can vary to discourage speeding and introduce a more informal and intimate character. Variations in paving materials and textures can be used instead of kerbs or road markings.
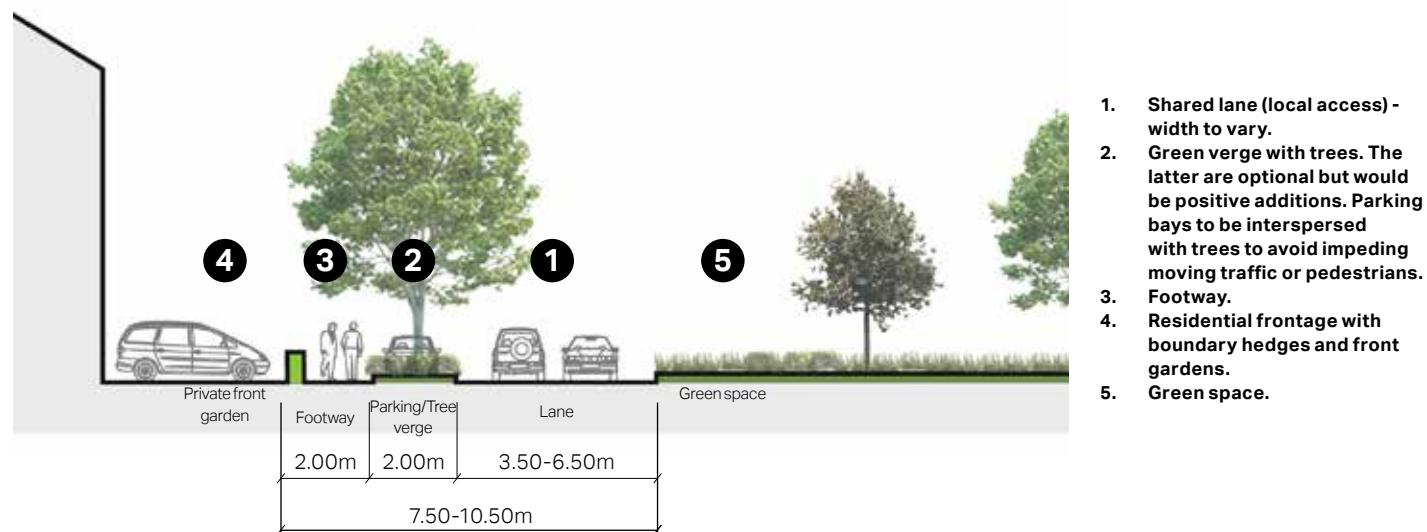

Private front garden | Footway | Parking/Tree verge | Lane | Green space

Footway	Parking/Tree verge	Lane
2.00m	2.00m	3.50-6.50m

7.50-10.50m

1. **Shared lane (local access) - width to vary.**
2. **Green verge with trees. The latter are optional but would be positive additions. Parking bays to be interspersed with trees to avoid impeding moving traffic or pedestrians.**
3. **Footway.**
4. **Residential frontage with boundary hedges and front gardens.**
5. **Green space.**

Figure 34: Section showing indicative dimensions for edge lanes. The lane width may vary to discourage speeding or provide space for parking.

Figure 35: Examples of edge lanes in Dorchester, with low-speed roads shared between motor vehicles and cyclists, and opportunities for on-street parking (note: some localities may prefer clearly defined footways and parking bays).

Junctions and Pedestrian Crossings

– Crossing points that are safe, convenient, and accessible for pedestrians of all abilities should be placed at frequent intervals on pedestrian desire lines and at key nodes.

– Junctions should enable good visibility between vehicles and pedestrians. For this purpose, street furniture, planting, and parked cars should be kept away from visibility splays to avoid obstructing sight lines - see table and diagram opposite.

– Traffic calming measures should be introduced at crossing points to increase safety and discourage speeding. Along major streets, for example, kerb build outs can be used reduce pedestrian crossing distances. At junctions with minor roads, the carriageway surface can be raised across a pedestrian crossing to prioritise pedestrian movements.

– Traffic signals, where they are introduced, should be timed to enable the elderly, children, and disabled to cross safely.

– Along low-traffic lanes and residential streets, crossing points can be more informal. For example, pedestrians may cross at any section of a street whose surface is shared between different users.

Figure 36: Example of a raised mid-block pedestrian crossing on a 20 mph street on Goldsmith Street, Norwich (note: many councils require blister tactile pavers at crossings to guide visually disabled pedestrians).

Figure 37: Example of a raised crossing across a main road in Cambridge, with contrasting paving materials and space for low-level planting and street furniture.

The stopping sight distance (SSD) is the distance within which drivers need to be able to see ahead and stop from a given speed. The SSDs for various speeds between 16-60kph (10-37mph) as held within Manual for Streets (MfS) are as shown in the table below.

The distance back along the minor arm from which visibility is measured is known as the X distance; MfS states that an X distance of 2.4m should normally be used in most built-up situations, as this represents a reasonable maximum distance between the front of the car and the driver's eye.

The Y distance represents the distance that a driver who is about to exit from the minor arm can see to his left and right along the main alignment In accordance with MfS, the required visibility splay for a junction within an area where 85th percentile vehicle speeds are 30mph is 2.4m x 43m.

25m

Adjusted stopping sight distance at 20 mph
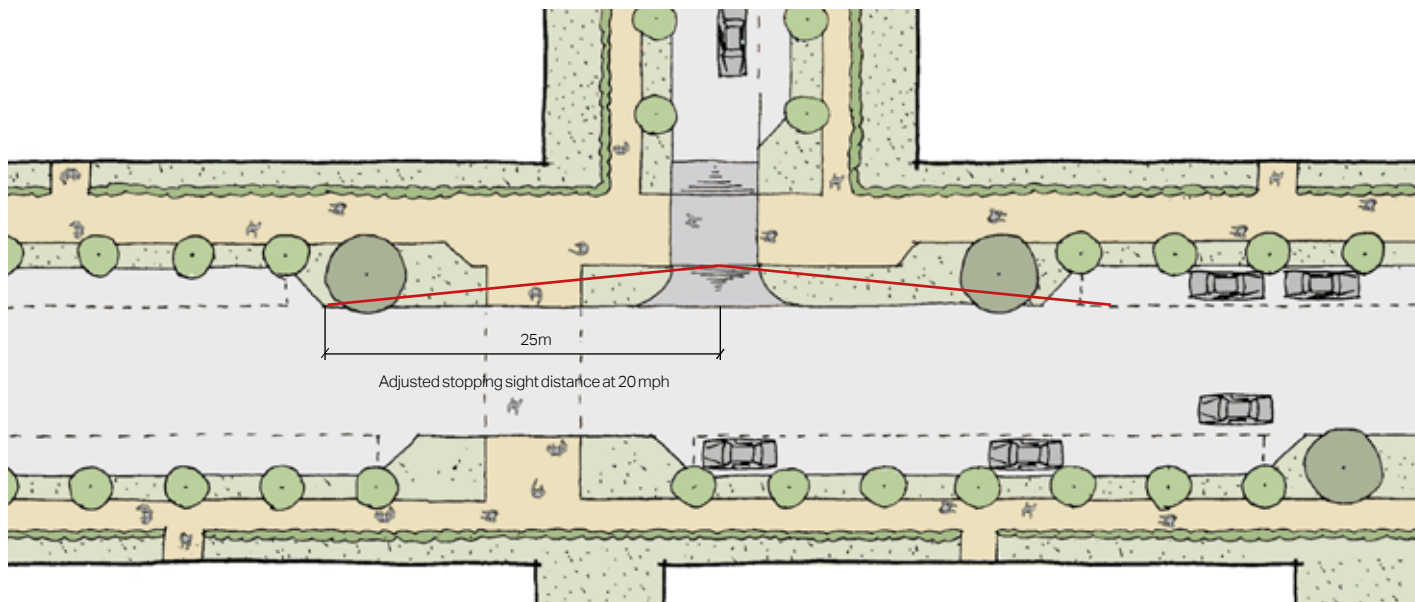
Figure 38: Indicative plan of a junction showing a visibility splay at a junction along a 20 mph primary road - see table below for details. Across the major arm, kerbs are built out to shorten pedestrian crossing distances. Across the minor arm, the carriageway is raised along the pedestrian crossing and can be built with contrasting materials for higher awareness.

Speed	**Kilometre per hour**	16	20	24	25	30	32	40	45	48	50	60
	Miles per hour	10	12	15	16	19	20	25	28	30	31	37
Stopping sight distance (SSD) in metres		9	12	15	16	20	22	31	36	40	43	56
Stopping sight distance adjusted for bonnet length		11	14	17	18	23	25	33	39	43	45	59

Figure 39: Stopping sight distances (SSD) for visibility splays (source: Department for Transport).

3.6. Vehicle Parking

- When needed, residential car parking can be a mix of on-plot side, front, garage, and courtyard parking, and complemented by on-street parking.

- For family homes, cars should be placed at the side (preferably) or front of the property. For small pockets of housing, a rear court is acceptable. For rear parking, parking squares are preferred and fenced in rear parking courts should be avoided. Multiple garage parking is encouraged.

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

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

- When placing parking at the front, the area should be designed to minimise visual impact and to blend with the existing streetscape and materials. The aim is to keep a sense of enclosure and to break the potential of a continuous area of car parking in front of the dwellings. This can be achieved by means of walls, hedging, planting, and the use of quality paving materials.

- Parking bays and spaces should be designed for easy access by wheelchairs, loading carts, and buggies.

- The following pages provide an array of complementary car parking solutions that can be employed in Long Stratton.

Figure 40: Side on-plot residential parking (right) and courtyard with garages (left) on Hill Farm Road.

Figure 41: Effective use of hedges (right) to screen driveways and on-plot parking along Star Lane.

Figure 42: Example of an inset parking bay on Hill Farm Road.

Figure 43: Disabled parking bay in Cambridge with a ramp for easy wheelchair access.

On-Plot Side or Front Parking

– On-plot parking can be visually attractive when it is combined with high quality and well-designed soft landscaping. Front garden depth from pavement back should be sufficient for a large family car.

– Boundary treatment is the key element to help avoid a car-dominated character. This can be achieved by using elements such as hedges, trees, flower beds, low walls, and high quality paving materials between the private and public space.

– Hard standing and driveways should be constructed from porous materials to minimise surface water run-off, as encouraged by the South Norfolk Place-Making Guide (Section 3.7.2 - Car Parking).

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

Figure 44: Informal front and side parking in Cliffe, with landscaped property boundaries preventing a car-dominated character.
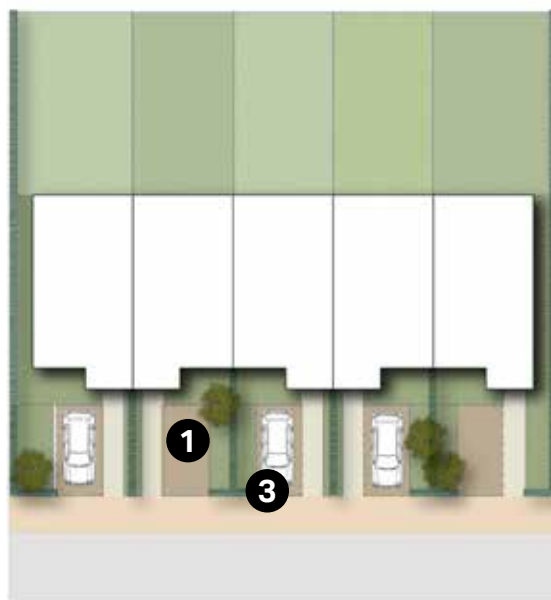
Figure 45: Illustrative diagram showing an indicative layout of on-plot front parking.
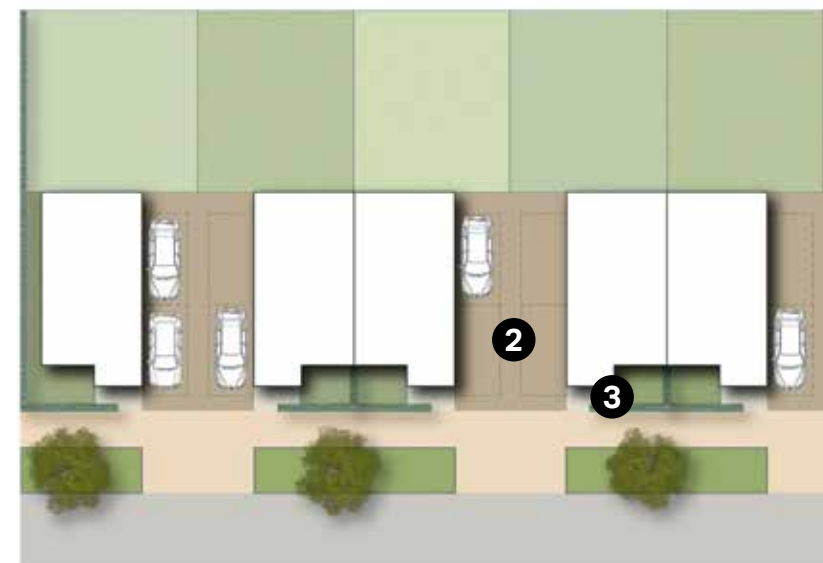
Figure 46: Illustrative diagram showing an indicative layout of on-plot side parking.

On-Plot Garages

– Where provided, garages should be designed either as free standing structures or as additive form to the main building. In both situations, it should complement and harmonise with the architectural style of the main building rather than forming a mismatched unit.

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

– It should be noted that many garages are not used for storing vehicles, and so may not be the best use of space.

– Considerations should be given to the integration of bicycle parking and/or waste storage into garages.

Figure 47: Side garages designed as a secondary mass to the main residential building, and built with a traditional Norfolk materials palette.

1. Side parking set back from the main building line. Permeable pavement to be used whenever possible.
2. Garage structure set back from main building line. Height to be no higher than the main roofline.
3. Boundary hedges to screen vehicles and parking spaces.
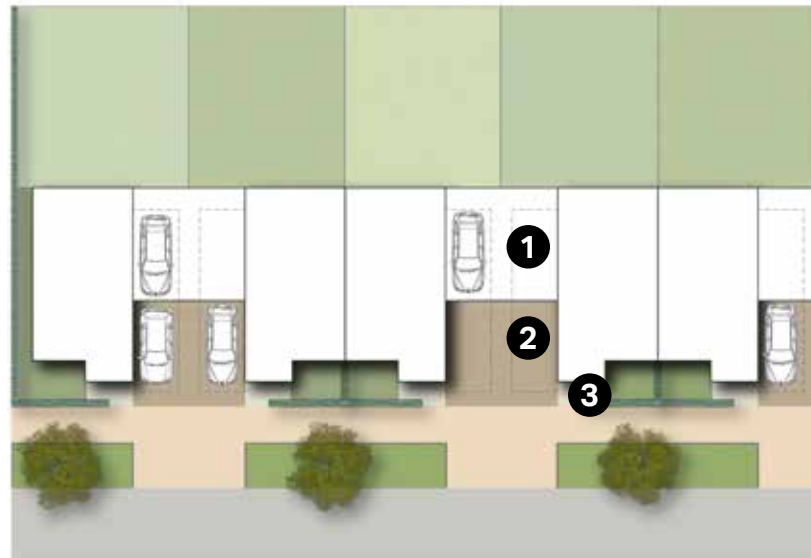
Figure 48: Illustrative diagram showing an indicative layout of on-plot parking with garages.

Mews, Lanes, and Courts

– These parking arrangements can be appropriate for a wide range of land uses. They are especially suitable for apartments and townhouses fronting busier roads where it is impossible to provide direct access to individual parking spaces. Parking can be provided as a combination of on-street (parallel or perpendicular) parking, sheltered garages, and car ports. These typologies can produce layouts that offer flexibility to adapt to a variety of residential forms and parking needs.

– To ensure good natural surveillance, buildings and windows should be placed to overlook common areas. Opportunities to introduce well-lit mid-block pedestrian connections should also be sought. For even more natural surveillance, consideration could also be given to the inclusion of flats over garages within development schemes.

– The overall layout should create an environment to be shared with pedestrians and cyclists. High-quality design and materials, both for hard and soft landscaping elements, should be used. The arrangement of buildings, parking, and landscaping should create natural traffic calming that encourages motorists to travel at low speed and to yield to pedestrians.

Figure 49: On-street parking and garages in a lane overlooked by residential properties in Poundbury, Dorchester.

Figure 50: Illustrative diagram showing an indicative layout of mews parking with flats over garages.
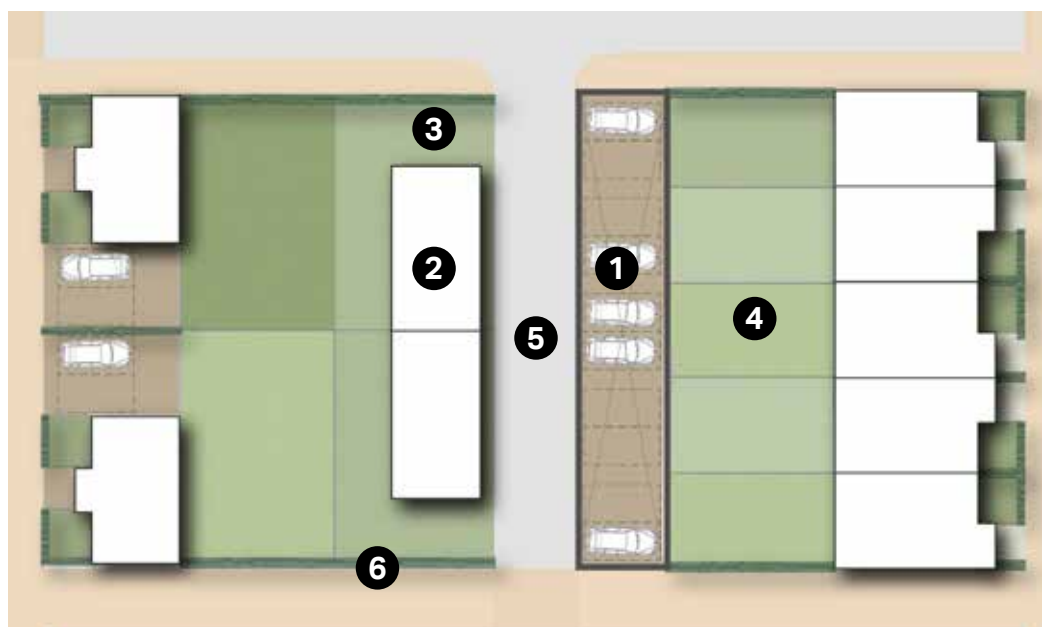
1. **Rear perpendicular parking (soft landscaping encouraged). Parking bays to be arranged in clusters of maximum 4 spaces maximum. Permeable pavement to be used whenever possible.**
2. **Garages with upper storey flats to improve natural surveillance.**
3. **Trees and/or soft landscaping to prevent car dominance and add shading.**
4. **Rear of residential properties - balance to be sought between natural surveillance and privacy.**
5. **Vehicle space - width to vary depending on typology - to be shared with pedestrians and cyclists.**
6. **Boundary hedges to screen vehicles and parking spaces.**

On-street Parking

As we move forward into a future of electric vehicles, every opportunity should be taken to integrate charging technologies into the fabric of road and street furniture, including induction plate technologies and street lamp hook ups alongside independent charging posts as standard street furniture in the public realm.

– On-street parking can be arranged either perpendicular or parallel to the carriageway.

– On-street parking should be designed to avoid impeding the flow of pedestrians, cyclists, and other vehicles, and can serve a useful informal traffic calming function.

– Parking bays can be inset between kerb build outs or street trees. Kerb build outs between parking bays can shorten pedestrian crossing distances and can host street furniture or green infrastructure. They should be sufficiently wide to shelter the entire parking bay in order to avoid impeding traffic.

– On low-traffic residential streets or lanes that are shared between vehicles and pedestrians, parking bays can be clearly marked using changes of construction material instead of markings but should be of a different level to the pedestrian way e.g. with a kerb. This will provide drivers with an indication of where to park. The street should be sufficiently wide so that parked vehicles do not impede motor vehicles or pedestrians.

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

Figure 51: Parking bays arranged between street trees in Dorchester.

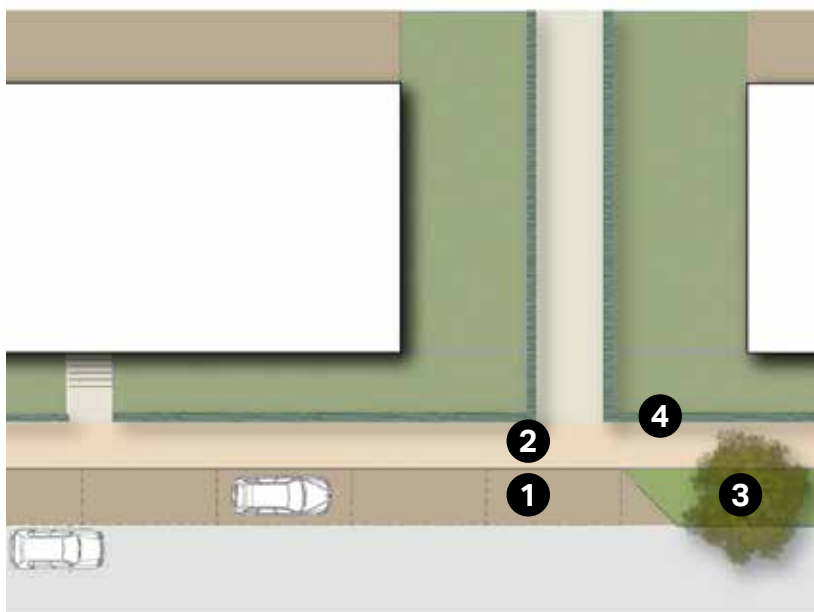Figure 52: Inset parking with electric vehicle charging points.

Figure 53: Illustrative diagram showing an indicative layout of on-street inset parking.

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

3.7. Built Form

Public Realm and Streetscape

–   High quality landscaping and building materials should be used across the new development. Care should be taken when selecting the materials that will be used for the paved areas.

–   High quality stone, gravel, granite, and bricks can provide durable and attractive hard surface throughout the public realm. Special materials such as sandstone and limestone could also be used to further enhance the quality of particular spaces.

–   Variations in materials, colours, and textures can be used to define boundaries between different highway uses - pavements, parking bays, cycleways, and carriageway. Special care should be taken when considering finishes and textures to avoid impeding the mobility and safety of disabled and visually impaired users.

Figure 54: Vegetation-screened on plot parking along Star Lane.

Figure 55: Raised table constructed with imitation stone setts.

Local Green Spaces, Views and Character

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

– Any trees or woodland lost to new development should be replaced. Native trees and shrubs should be used to reinforce the rural character of the village.

– The spacing of development should reflect the rural character and allow for long distance views of the countryside from the public realm. Trees and landscaping should be incorporated in the design.

– The existing quiet and peaceful atmosphere of Long Stratton should be preserved.

– Landscape schemes should be designed and integrated with the open fields that currently border the village.

– Trees with protection rights need to remain. Tree preservation orders should be honoured.

Figure 56: Green space and retention pond at the back of Oakfield Road, providing a neighbourhood gathering space and sustainable drainage benefits.

Figure 57: Local green area at the junction of Hill Farm Road and Weatherfield Way.

Pattern and Layout of Buildings

– The existing rural character should be appreciated when contemplating new development, whatever its size or purpose.

– Where an intrinsic part of local character, properties should be clustered in small pockets showing a variety of types. The use of a repeating type of dwelling along the entirety of a street should be avoided.

– Boundaries such as walls or hedgerows, whichever is appropriate to A140, should enclose and define each street along the back edge of the highway, adhering to a consistent property line for each development group.

– Properties should aim to provide rear and front gardens or at least a small buffer to the public sphere where the provision of a garden is not possible.

Figure 58: Continuous street frontage along The Street exemplifying the linear development pattern of the historic core of Long Stratton.

Figure 59: Street-facing detached farm building on The Street, built on a larger plot with access to a smaller house at the back of the property.

Figure 60: Contemporary development patterns showing meandering streets and houses with different orientations.

Enclosure

Focal points and public squares and spaces in new developments should be designed in good proportions and maximise opportunities to provide active frontages and natural surveillance. Clearly defined spaces help in achieving cohesive and attractive urban form, and help in creating an appropriate sense of enclosure.

The following principles serve as general guidelines that should be considered towards achieving satisfactory sense of enclosure:

– The width of the street should be proportionate to the height of the buildings that front it. In most cases that ratio should be between 1:1 and 1:2, assuming that the scale of new buildings is appropriate to the existing context. Some diagrams illustrating different levels of enclosure are shown opposite.

– Buildings should be designed to turn corners and terminate views.

– Generally, building façades should front onto streets. Variation to the building line can be introduced to create an informal character.

– In case of terraced buildings, it is recommended that a variety of plot widths, land use and façade depth should be considered during the design process to create an attractive townscape.

– A physical context with high levels of street enclosure may also bring traffic calming benefits as they often act as psychological incentives to lower vehicle speeds.
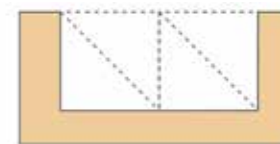

Figure 61: Wide footways on The Street near Cooper Court: a section with a higher degree of openness compared to narrower residential street fronted by buildings of similar height.

Figure 62: Hill Farm Road, a narrower residential street with a higher degree of enclosure.
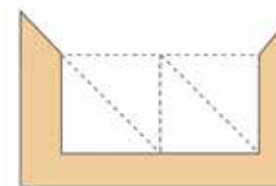

Generally effective 1:1 ratio

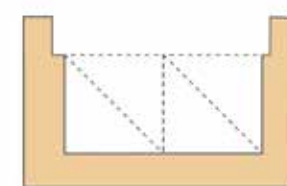**Generally effective 1:2 ratio**

Maximum squares (+ very wide streets) 1:6 ratio

Spatial definition by tree canopy

Spatial definition by building height

Spatial definition by recess line

Images from Urban Design Compendium (Homes England)

Building Heights/ Roofline

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

– The scale of the roof should always be in proportion with the dimensions of the building itself;

– Subtle changes in roofline should be ensured during the design process;

– New developments should demonstrate an intelligent interpretation of local traditional roof detailing elements; and

– Dormers can be used as a design element to add variety and interest to roofs.

Figure 63: Contemporary development on Hill Farm Road with a dynamic roofline showing variations in height, colours, eave treatments, and fenestration.

Figure 64: Historic streetscape along The Street showing a dynamic roofline reinforced by the uneven topography of the settlement.

Building Scale and Massing

– Single-family residential buildings should be sympathetic in scale to the surrounding context and should not pass 2-2.5 storey in residential areas. Multi-family buildings may reach 3-3.5 storeys if they do not overshadow neighbouring buildings and respect the neighbourhood character.

– Subtle variation in height is encouraged to add visual interest, such as altering eaves and ridge heights. Another way of doing it could be by variation of frontage widths and plan forms. The application of a uniform building type throughout a development should be avoided.

– The massing of new buildings should ensure adequate privacy and access to natural light for their occupants, and avoid overshadowing existing buildings.

Figure 65: Contemporary house with a taller main mass (left) and secondary mass (right)

Figure 66: Examples of historic buildings showing a variety of orientations, heights, and plans.

Gateway and Access Features

– In the case of any future development, the design proposals should consider placing gateway and built elements highlighting the access or arrival to the new developed site.

– The gateway buildings or features should reflect local character. This could mean larger houses in local materials with emphasis on the design of chimneys and fenestration, as well as well laid and cared for landscape. A gateway or legible corner building can also be marked by change in building type or materials and not necessarily a change in height.

– Besides building elements acting as gateways, high quality landscaping features could be considered appropriate to fulfil the same role.

Figure 67: Corner building marking the corner of a residential street intersecting with Goldsmith Street in Norwich.

Figure 68: Small public space on The Street with an opportunity to play a more prominent role as a gateway to Star Lane and the planned village extension to the east of the existing settlement.

Building Line and Front Boundary Treatments

– Buildings should have their main façade and entrance facing the A140 where this is in keeping with local character. The building line should have subtle variations in the form of recesses and protrusions but will generally form a unified whole.

– Buildings should be designed to ensure that streets and/ or public spaces have good levels of natural surveillance from buildings. This can be ensured by placing ground floor habitable rooms and upper floor windows facing the A140.

– Front boundary treatments should reinforce the sense of continuity of the building line and help define the A140, appropriate to the rural character of the area. They should be mainly continuous hedges with a minority of low walls made of flint with red brick cap on top or lined with bricks standing perpendicular to the wall. The use of either panel fencing or concrete walls in these publicly visible boundaries should be avoided. Also, boundary treatments should not impair natural surveillance.

– Front gardens should be included where this is characteristic of Long Stratton.

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

– On-plot residential parking, whenever possible, should be set back from the main building line and screened with high quality boundary treatments to avoid a car-dominated street character.

Figure 69: Contemporary development with property boundaries defined by landscaped hedges.

Figure 70: Continuous building line in the historic village centre, with articulation provided by ground floor display windows.

Figure 71: Articulated building line in a contemporary development, with boundaries defined by a mix of low metal fences and landscaped hedges.

Fenestration

– Fenestration on public/private spaces increase the natural surveillance and enhance the attractiveness of the place. Long stretches of blank (windowless) walls should be minimised. Overall, considerations for natural surveillance, interaction, and privacy should be carefully balanced.

– Windows should be of sufficient size and number to let abundant natural light inside the buildings.

– Site layout and building massing should ensure access to sunshine and avoid overshadowing as many buildings as possible. New developments should also maximise opportunities for long distance views.

– Consistent window styles and shapes should be used across one façade to avoid visual clutter.

– In proximity to historic areas, fenestration should reflect an understanding of locally distinctive features such as scale, proportions, rhythm, materials, ornamentations, and articulation.

Figure 72: House displaying consistent window and door colour and styles.

Figure 73: Building displaying a consistent traditional window style and shapes across the main elevation.

Norfolk Traditional Architecture

The gradual evolution of the parish over the centuries has resulted in an organic character to development. Each building has its own individuality resulting in variations in construction materials, height, the pattern of openings, and detailing. Buildings are predominantly 1 or 2 storeys. Changes in roof heights and the presence of chimneys contribute to the visual interest of the historic village.

Figure 74: Examples of regional traditional architecture in Long Stratton.

Contemporary Take on Traditional Architecture

Within and around the parish there are a few examples of successful contemporary architecture, including conversions and extensions of older buildings. Although some have contemporary designs, they demonstrate an intelligent understanding of materials, massing, and local traditional architecture that blends harmoniously with their physical context.

It is suggested that this trend continues to further expand with additional eco design features incorporated in future developments.

Figure 75: Renovated historic building in Diss, with new houses in the background.

Figure 76: New house with traditional Norfolk architectural elements such as pantile roofing, high-pitched gables, gabled porch, and off-white render.

Figure 77: New terrace houses in Diss with traditional Norfolk architecture such as pantile roofing, gabled porches, black weatherboarding, and bracketed door hoods.

Materials and Building Details

The materials and architectural detailing used throughout Long Stratton contribute to the rural character of the area and the local vernacular. It is therefore important that the materials used in proposed development are of a high quality and reinforce local distinctiveness. Any future development proposals should demonstrate that the palette of materials has been selected based on an understanding of the surrounding built environment.

This section includes examples of building material that contribute to the local vernacular of Long Stratton which could be used to inform future development. This list is not exhaustive and each design proposal should explain its material strategy and how it fits within the context of the village and the area.

Red brick

Coarse field flint wall with red brick trim and cap
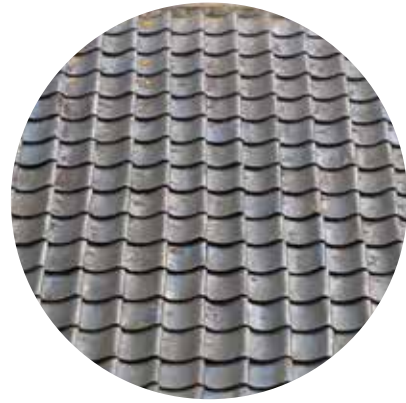

White Gault brick

Coarse field flints - limited use

Clay pantile roof

Flint with red brick trim - limited use

Off-white render

Black glazed pantile roof

Yellow ochre render

Brick central chimney

Gabled dormer

Shed dormer

Gabled porch

Black painted building plinth

White painted brick

Clay plaintile roof

Decorative window hood mould

3.8. Sustainability

Eco Design

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

Starting from the design stage there are strategies that should be incorporated towards passive solar heating, cooling and energy efficient landscaping which are determined by local climate and site conditions.

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

Developers should include driveway charging infrastructure to all properties with parking provision either through future proof induction plates or domestic hook up points. They should also look into provision charging hook up points into communal parking areas.

Figure 78: Examples of ecological housing using traditional and contemporary materials. © BBM Sustainable Design (top left); Wikimedia Commons (top right); Studio Partington (bottom).

Solar Roof Panels

The aesthetics of solar panels over a rooftop can be a matter of concern for many homeowners. Some hesitate to incorporate them because they believe these diminish the home aesthetics in a context where looks are often a matter of pride among the owners. This is especially acute in the case of historic buildings and conservation areas, where there has been a lot of objection for setting up solar panels on visible roof areas. Thus some solutions are suggested as follows:

On new builds:

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

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

On retrofits:

− Analyse the proportions of the building and roof surface in order to identify the best location and sizing of panels;

− Aim to conceal wiring and other necessary installations;

− Consider introducing other tile or slate colours to create a composition with the solar panel materials; and

− Conversely, aim to introduce contrast and boldness with proportion. For example, there has been increased interest in black panels due to their more attractive appearance. Black solar panels with black mounting systems and frames can be an appealing alternative to blue panels.

Figure 79: New building with photovoltaic roof panels in Diss.

Figure 80: Existing building retrofitted with photovoltaic panels in Eye.

Rainwater Harvesting

Rainwater harvesting refers to the systems allowing to capture and store rainwater as well as those enabling the reuse in-situ of grey water. These systems involve pipes and storage devices that could be unsightly if added without an integral vision for design. Therefore some design recommendation would be to:

– Conceal tanks by cladding them in complementary materials;

– Use attractive materials or finishing for pipes;

– Combine landscape/planters with water capture systems;

– Underground tanks; and

– Utilise water bodies for storage.

Figure 81: Examples of tanks used for rainwater harvesting © Wikimedia Commons (right).

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.

For residential units, where there is no garage on plot, covered and secured cycle parking should be provided within the domestic curtilage. The use of planting and smaller trees alongside cycle parking can be used to mitigate any visual impact on adjacent spaces or buildings.

Figure 82: Example of public cycle parking (left) and sheltered cycle parking garage (right) in Cambridge.

Figure 83: On-street cycle stands.

Street Lighting

Artificial light provides valuable benefits to society, for example extending opportunities for sport and recreation, and can be essential to a new development.

Equally, artificial light is not always necessary, has the potential to become what is termed 'light pollution' or 'obtrusive light' and not all modern lighting is suitable in all locations. It can be a source of annoyance to people, harmful to wildlife, undermine enjoyment of the countryside or detract from enjoyment of the night sky.

For maximum benefit, the best use of artificial light is about getting the right light, in the right place and providing light at the right time. Lighting schemes can be costly and difficult to change, so getting the design right and setting appropriate conditions at the design stage is important. The following guidelines aim to ensure there is enough consideration given at the design stage.

- Ensure that lighting schemes will not cause unacceptable levels of light pollution particularly in intrinsically dark areas. These can be areas very close to the countryside or where dark skies are enjoyed;

- Consider 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 or, in outdoor areas, switching-off at quiet times between midnight and 5am or 6am. Planning conditions could potentially be used to enforce this;

- Impact on sensitive wildlife receptors throughout the year, or at particular times (e.g. on migration routes), may be mitigated by the design of the lighting or by turning it off or down at sensitive times;

- Glare should be avoided, particularly 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. Consequently, the perceived glare depends on the brightness of the background against which it is viewed. It is affected by the quantity and directional attributes of the source. Where appropriate, lighting schemes could include 'dimming' to lower the level of lighting (e.g. during periods of reduced use of an area, when higher lighting levels are not needed);

- The needs of particular individuals or groups should be considered where appropriate (e.g. the safety of pedestrians and cyclists). Schemes designed for those more likely to be older or visually impaired may require higher levels of light and enhanced contrast, together with more control, as the negative effects of glare also increase with age;

- Consider the location of premises where high levels of light may be required for operation or security reasons, such as transfer depots, sports fields, airports and the like.

Figure 84: Example of lighting columns set at heights and positions to provide light to both pedestrian areas and the carriageway. It is recommended that LED lighting is used due to higher energy efficiency and power cost savings.

Figure 85: Lighting columns in some places are decorated with the locality's crest, an example of the integration of lighting and other street furniture items into the town's overarching placemaking strategy.
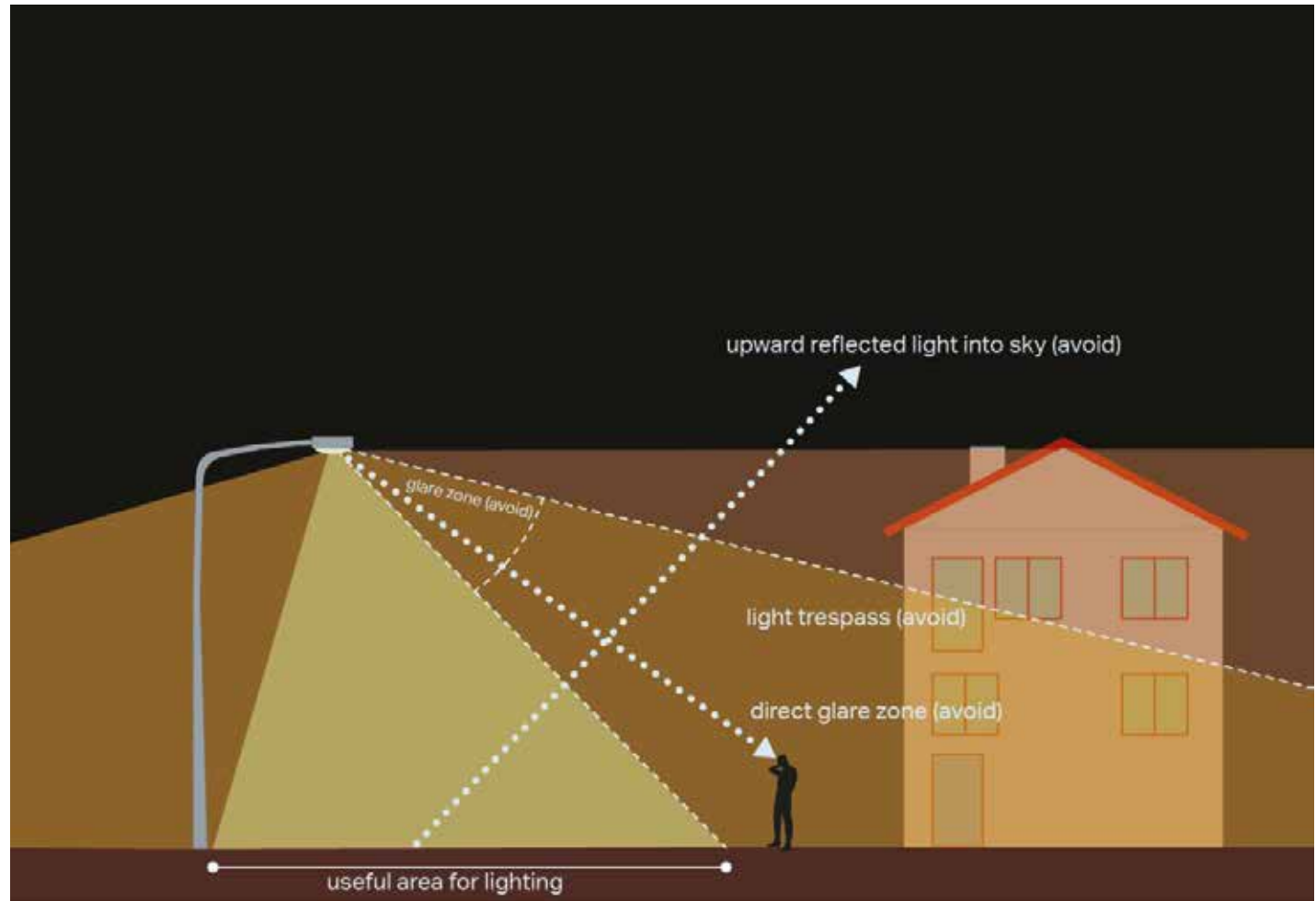

upward reflected light into sky (avoid)

glare zone (avoid)

light trespass (avoid)

direct glare zone (avoid)

useful area for lighting

Figure 86: Diagram showing lighting considerations to avoid light pollution.

Servicing

With modern requirements for waste separation and recycling, the number of household bins and size have increased. This issue poses a problem in relation to the aesthetics of the property if bins are left without a design solution.

Waste and cycle storage, if placed on the property boundary, should be integrated with the overall design of the boundary design. A range of hard and soft landscaping treatments such as hedges, trees, flower beds, low walls, and high quality paving materials could be used to minimise the visual impact of bins and recycling containers.

Opportunities to integrate underground bin storage solutions into new developments should be considered. These solutions reduce the need for refuse vehicle trips as well as clutter in the public realm by consolidating waste collection points.

Figure 87: Example of bin storage solutions at the side of a property.

Figure 88: Example of underground bin storage solutions in Cambridge.
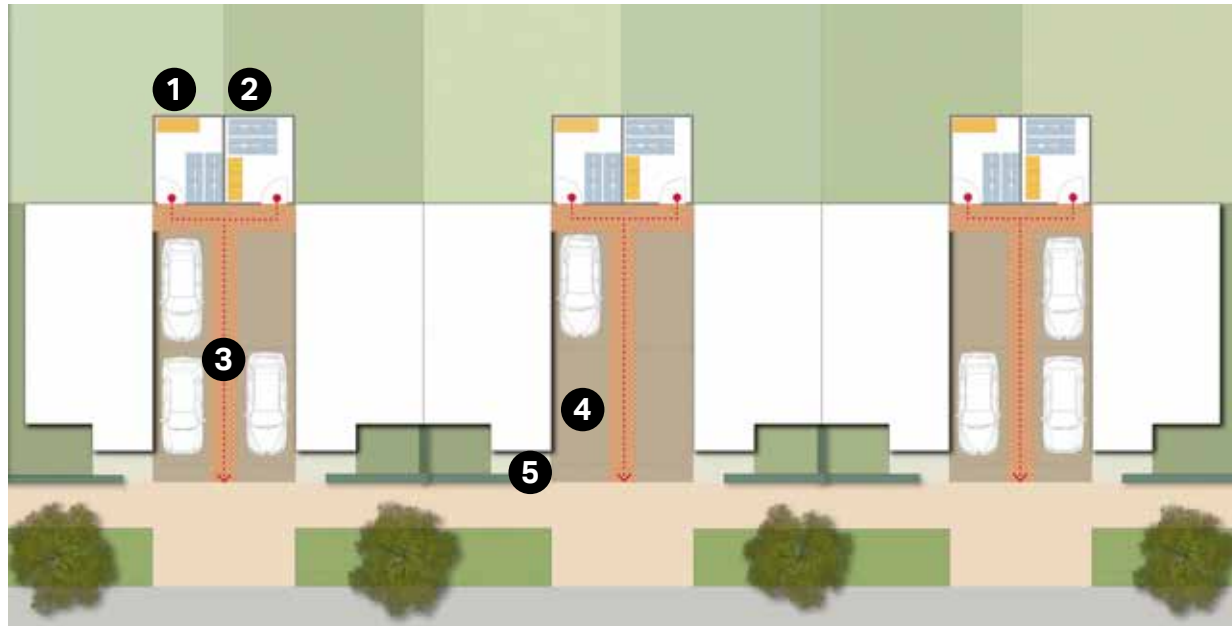
Figure 89: Indicative layout of a bicycle and bin storage areas at the back of properties.

1. Bin storage area.
2. Bicycle storage area.
3. Path for bins and bicycles to be kept clear.
4. Vehicle parking area set back from the main building line.
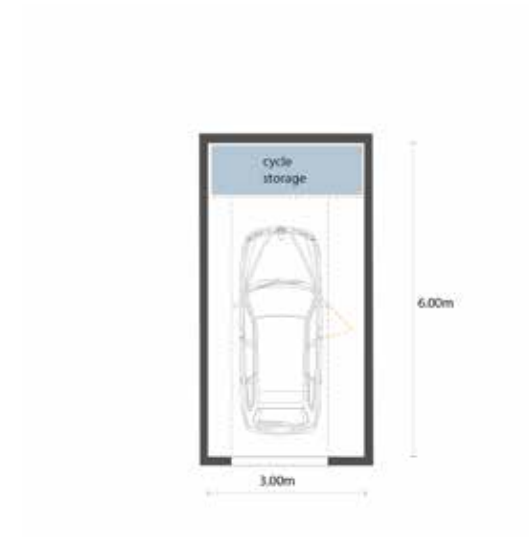5. Boundary hedges to screen vehicles and parking spaces.

Figure 90: Indicative layout of a garage with a cycle storage area.

Permeable Paving

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

- Respect the material palette;

- Help to frame the building;

- Create an arrival statement;

- Be in harmony with the landscape treatment of the property; and

- Help define the property boundary.

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

- Flood and Water Management Act 2010, Schedule 3[1];

- The Building Regulations Part H – Drainage and Waste Disposal[2];

- Town and Country Planning (General Permitted Development) (England) Order 2015[3];

- Sustainable Drainage Systems - non-statutory technical standards for sustainable drainage systems[4];

- The SuDS Manual (C753)[5];

- BS 8582:2013 Code of practice for surface water management for development sites[6];

- BS 7533-13:2009 Pavements constructed with clay, natural stone or concrete pavers[7]; and

- Guidance on the Permeable Surfacing of Front Gardens[8].

In addition, the South Norfolk Place-Making Guide encourages the use of porous materials for hard standing and driveways to minimise surface water run-off (Section 3.7.2 - Car Parking).

Figure 91: Examples of permeable paving options (© Wikimedia Commons).

1 Great Britain (2010). *Flood and Water Management Act, Schedule 3*. Available at: http://www.legislation.gov.uk/ukpga/2010/29/schedule/3
2 Great Britain (2010). *The Building Regulations Part H – Drainage and Waste Disposal*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/442889/BR_PDF_AD_H_2015.pdf
3 Great Britain (2015). *Town and Country Planning (General Permitted Development) (England) Order 2015*. Available at: http://www.legislation.gov.uk/uksi/2015/596/pdfs/uksi_20150596_en.pdf

4 Great Britain. Department for Environment, Food and Rural Affairs (2015). *Sustainable drainage systems – non-statutory technical standards for sustainable drainage systems*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/415773/sustainable-drainage-technical-standards.pdf
5 CIRIA (2015). *The SuDS Manual (C753)*.
6 British Standards Institution (2013). *BS 8582:2013 Code of practice for surface water management for development sites*. Available at: https://shop.bsigroup.com/ProductDetail/?pid=000000000030253266
7 British Standards Institution (2009). *BS 7533-13:2009 Pavements constructed with clay, natural stone or concrete pavers*. Available at: https://shop.bsigroup.com/ProductDetail/?pid=000000000030159352
8 Great Britain. Ministry of Housing, Communities & Local Government (2008). *Guidance on the Permeable Surfacing of Front Gardens*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7728/pavingfrontgardens.pdf

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

Because the design guidelines in this section cannot cover all design eventualities, this section provides a number of questions based on established good practice against which the design proposal should be evaluated. The aim is to assess all proposals by objectively answering the questions below. Not all the questions will apply to every development. It is up to the Town Council to decide the ones that are relevant to each specific case.

As a first step there are a number of ideas or principles that should be present in the proposals. The proposals or design should:

1. Integrate with existing paths, streets, circulation networks and patterns of activity;

2. Reinforce or enhance the established village character of streets, greens, and other spaces;

3. Respect the rural character of views and gaps;

4. Harmonise and enhance existing settlement in terms of physical form, architecture and land use;

5. Relate well to local topography and landscape features, including prominent ridge lines and long distance views;

6. Reflect, respect, and reinforce local architecture and historic distinctiveness;

7. Retain and incorporate important existing features into the development;

8. Respect surrounding buildings in terms of scale, height, form and massing;

9. Adopt contextually appropriate materials and details;

10. Provide adequate open space for the development in terms of both quantity and quality;

11. Incorporate necessary services and drainage infrastructure without causing unacceptable harm to retained features;

12. Ensure all components e.g. buildings, landscapes, access routes, parking and open space are well related to each other;

13. 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; and

14. Positively integrate energy efficient technologies.

Street Grid and Layout

– Does it favour accessibility and connectivity over traditional cul-de-sac models? If not, why?

– Do the new points of access and street layout have regard for all users of the development; in particular pedestrians, cyclists, and those with disabilities?

– What are the essential characteristics of the existing street pattern? Are these reflected in the proposal?

– How will the new design or extension integrate with the existing street arrangement?

– Are the new points of access appropriate in terms of patterns of movement?

– Do the points of access conform to the statutory technical requirements?

Local Green Spaces, Views and Character

– What are the particular characteristics of this area which have been taken into account in the design; i.e. what are the landscape qualities of the area?

– Does the proposal maintain or enhance any identified views or views in general?

– How does the proposal affect the trees on or adjacent to the site?

– Has the proposal been considered in its widest context?

- Has the impact on the landscape quality of the area been taken into account?

- In rural locations, has the impact of the development on the tranquillity of the area been fully considered?

- How does the proposal affect the character of a rural location?

- How does the proposal impact on existing views which are important to the area and how are these views incorporated in the design?

- Can any new views be created?

- Is there adequate amenity space for the development?

- Does the new development respect and enhance existing amenity space?

- Have opportunities for enhancing existing amenity spaces been explored?

- Will any communal amenity spaces be created? If so, how will this be used by the new owners and how will it be managed?

Gateway and Access Features

- What is the arrival point, how is it designed?

- Does the proposal maintain or enhance the existing gaps between villages?

- Does the proposal affect or change the setting of a listed building or listed landscape?

- Is the landscaping to be hard or soft?

Buildings Layout and Grouping

- What are the typical groupings of buildings?

- How have the existing groupings been reflected in the proposal?

- Are proposed groups of buildings offering variety and texture to the townscape?

- What effect would the proposal have on The Streetscape?

- Does the proposal maintain the character of dwelling clusters stemming from the main road?

- Does the proposal overlook any adjacent properties or gardens? How is this mitigated?

Building Line and Boundary Treatment

- What are the characteristics of the building line?

- How has the building line been respected in the proposals?

- Have the appropriateness of the boundary treatments been considered in the context of the site?

Building Heights and Roofline

- What are the characteristics of the roofline?

- Have the proposals paid careful attention to height, form, massing, and scale?

- If a higher than average building is proposed, what would be the reason for making the development higher?

Household Extensions

–   Does the proposed design respect the character of the area and the immediate neighbourhood, or does it have an adverse impact on neighbouring properties in relation to privacy, overbearing, or overshadowing impact?

–   Is the roof form of the extension appropriate to the original dwelling (considering angle of pitch)?

–   Do the proposed materials complement and harmonise with those of the existing dwelling?

–   In case of side extension, does it retain important gaps within The Street scene and avoid a 'terracing effect'?

–   Are there any proposed dormer roof extensions set within the roof slope?

–   Does the proposed extension respond to the existing pattern of window and door openings?

–   Is the side extension set back from the front of the house?

Building Materials and Surface Treatment

–   What is the distinctive material in the area, if any?

–   Does the proposed material harmonise with the local material?

–   Does the proposal use high quality materials?

–   Have the details of the windows, doors, eaves, and roof been addressed in the context of the overall design?

–   Do the new proposed materials respect or enhance the existing area or adversely change its character?

Car Parking Solutions

–   What parking solutions have been considered?

–   Are the car spaces located and arranged in a way that is not dominant or detrimental to the sense of place?

–   Has planting been considered to soften the presence of cars?

–   Does the proposed car parking compromise the amenity of adjoining properties?

–   Have the needs of wheelchair users been considered?

Architectural Details and Contemporary Design

–   If the proposal is within a conservation area, how are the characteristics reflected in the design?

–   Does the proposal harmonise with the adjacent properties? This means that it follows the height, massing, and general proportions of adjacent buildings and how it takes cues from materials and other physical characteristics.

–   Does the proposal maintain or enhance the existing landscape features?

–   Has the local architectural character and precedent been demonstrated in the proposals?

–   If the proposal is a contemporary design, are the details and materials of a sufficiently high enough quality and does it relate specifically to the architectural characteristics and scale of the site?

4. Next Steps/Delivery

This section concludes the report with recommendations on how to embed findings in the Neighbourhood Plan and engage with South Norfolk Council to develop policies supporting the guidelines.

The design guidelines will be a valuable tool in securing context-driven, high quality developments on the sites in question. They will be used in different ways by different actors in the planning and development process, as summarised in the table below.

4.1. Embed the masterplan and guidelines in the Draft Neighbourhood Plan

The report can be used as evidence to support the forthcoming Neighbourhood Plan (and its draft policies) where the analysis highlights relevant issues and opportunities that can be influenced by land use planning interventions.

The focus of this report has primarily been on important local character assets and urban design guidelines to complement the design documents already submitted for the village extension applications. The design guidelines must also be considered in other potential development proposals. These suggestions should be studied alongside other non-design interventions, such as exploring opportunities for supporting or restricting certain types of development/land uses and allocating the key sites identified for development. Any policies put forward must be capable of meeting the basic conditions (e.g. having regard to national policies and general conformity with the strategic policies contained in the development plan).

4.2. Engage with the Council to develop policies supporting the proposals

The inputs from the Council's policy and development management specialists would be invaluable in advance of formal consultation and submission. The Neighbourhood Plan Steering Group should consider how our recommendations can be transposed into policy through discussions with South Norfolk Council and use the best practice guidance from Locality to prepare draft policies for consultation. Locality's 'Writing Planning Policies' guidance sets out of how different planning policies are designed to achieve different things. The guide describes the three most common as:

Generic – a simple policy which applies universally to development across the entire Neighbourhood Plan area;

Criteria based – a policy with a series of requirements that should be met by development proposals. These can be set out as separate bullet points; and

Site specific – this is where a policy applies to particular areas of land. One of the most powerful tools for a Neighbourhood Plan is to allocate land for a particular type of development. As well as allocating land for development, the neighbourhood plan can set principles which are required to be followed in developing a particular site. This might include specifying what needs to be covered in a design brief to accompany any planning application. If you have site specific policies then you need to include a clear map showing the location and boundaries.

Site specific allocations are the hardest to do well. They require significant work and evidence to support the policy. They would generally include associated policy related to land use, quantum of development, configuration, and design.

The Town Council should check with the Local Planning Authority that the emerging preferred options in the Neighbourhood Plan are planning-related matters (i.e. suitable for inclusion as land use planning policy). Those that are not can be considered as community projects or neighbourhood infrastructure aspirations to be included within a delivery and implementation section of the Neighbourhood Plan.

4.3. Delivery

The table below summarises how different actors will use the design guidelines presented in this report in the development process.

Actors	How They Will Use the Design Guidelines
Applicants, developers, and landowners	As a guide to community and Local Planning Authority expectations on design, allowing a degree of certainty – they will be expected to follow the Guidelines as planning consent is sought.
Local Planning Authority	As a reference point, embedded in policy, against which to assess planning applications. The Design Guidelines should be discussed with applicants during any pre-application discussions.
Town Council	As a guide when commenting on planning applications, ensuring that the Design Guidelines are complied with.
Community organisations	As a tool to promote community-backed development and to inform comments on planning applications.
Statutory consultees	As a reference point when commenting on planning applications.

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