



Watermead

Design Guidelines and Codes

Final Report

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Delivering a better world

Quality information

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Introduction

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1. Introduction

Through the Department for Levelling Up, Housing and Communities (DLUHC) Neighbourhood Planning Programme led by Locality, AECOM was commissioned to provide design support to Watermead Parish Council.

1.1 The importance of good design

The National Planning Policy Framework (NPPF) (paragraph 126) 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*'.

Research for the Government's Commission for Architecture and the Built Environment (now part of the Design Council) has shown that good design of buildings and places can improve health and well-being, increase civic pride and cultural activity and reduce crime and anti-social behaviour.¹

This design code aims to show how good design, and the creation of great places, can make future development in Watermead attractive, popular and sustainable.

Based on our study of the Parish (via site visits and discussions with the Neighbourhood Plan Group) elements of good design have been identified and inform the design principles and codes set out below.

1.2 What is a design code

The Government's Planning Policy Guidance defines design codes as:

*'... a set of illustrated design requirements that provide specific, detailed parameters for the physical development of a site or area. The graphic and written components of the code should be proportionate and build upon a design vision, such as a masterplan or other design and development framework for a site or area. Their content should also be informed by the 10 characteristics of good places set out in the National Design Guide. They can be ... appended to a Neighbourhood Plan...'.*²

1.3 The purpose of this document

The NPPF 2021, paragraphs 127-128 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...'

'To provide maximum clarity about design expectations at an early stage, plans ... should use visual tools such as design guides and codes. These provide a framework for creating distinctive places, with a consistent and high-quality standard of design. However their level of detail and

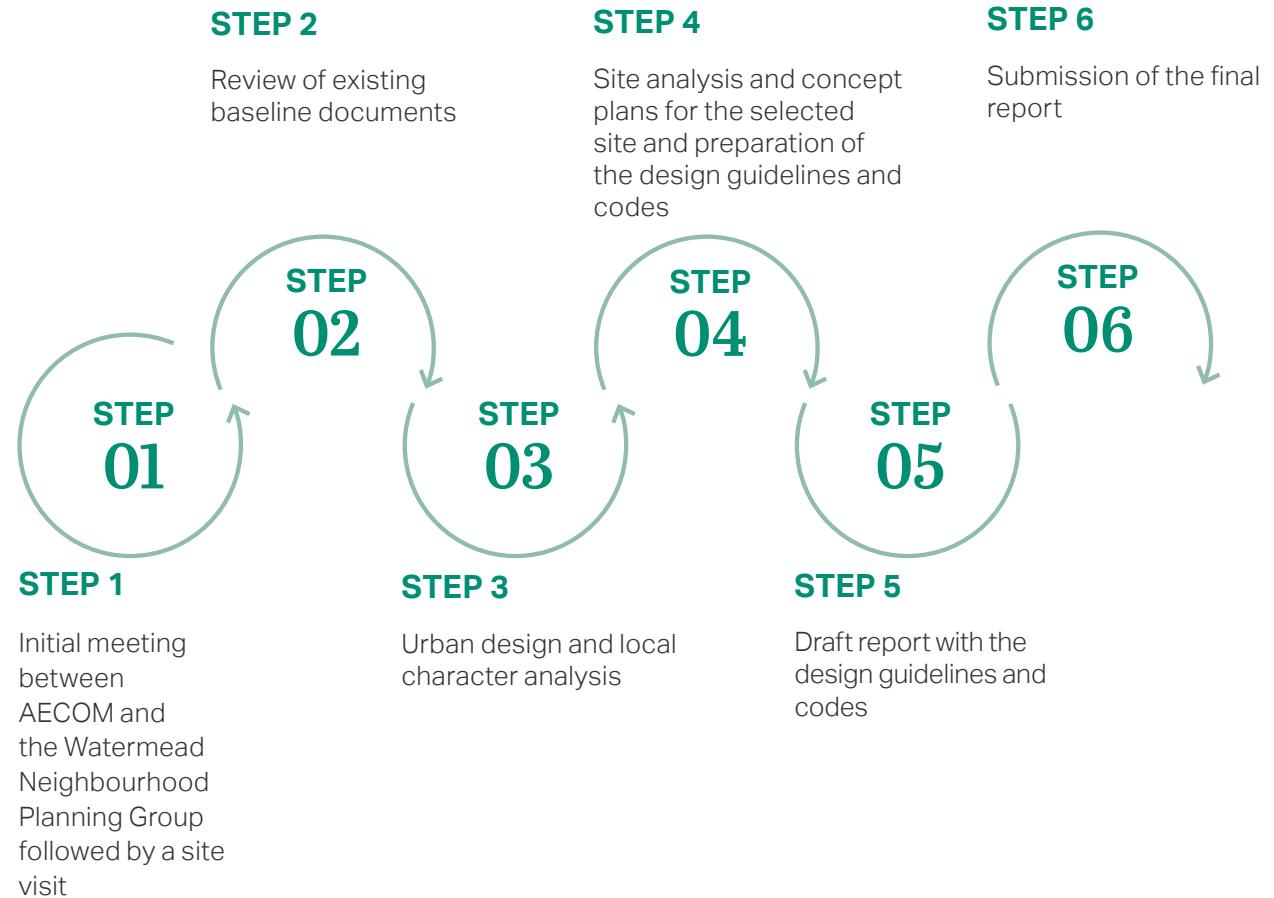
degree of prescription should be tailored to the circumstances in each place, and should allow a suitable degree of variety where this would be justified.'

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

It is intended that the Watermead Design Guidelines and Codes report becomes an integral part of the Neighbourhood Plan and be given weight in the planning process. The Government plans to make it clear that decisions on design should be made in line with the policies and supporting evidence included within Neighbourhood Plans, including design codes.

1.4 Preparing the design code

Following an inception meeting with the Neighbourhood Plan Group, and a subsequent site visit, the following steps were agreed with the Group to produce this report:



1.5 Area of study

Watermead is a village and civil parish which is located on the northern edge of Aylesbury, a town in Buckinghamshire. This allows the area to benefit from a rural feel while remaining close to amenities and transport connections.

The parish is bordered by the A413 which links the village to Aylesbury town centre to the south as well as Buckingham and Milton Keynes to the North. Just south of the parish there is the A41, cutting through the middle of the town, connecting the area with Bicester to the west and London to the east. The two Aylesbury stations provide another route to the capital on the London-Aylesbury line via Amersham, terminating at London Marylebone. The stations are just a 10 minute drive from Watermead Village Hall. In terms of local public transport, there is a local bus service that connects the village with the central Aylesbury station running every half hour.

Plans for Watermead Village were made by Royco in the 1980s with the idea of creating

a self-contained, executive village that would bring new sports facilities, accessible green spaces, and a better quality of housing to the town of Aylesbury. At the planning stage the designers were required to pay heed to the ecology and the flood plain. Central to the plans therefore was an extensive lake that would become a haven for wildlife and many wild birds. The lakes also provided a flood defence which was essential given the fact that Watermead was built on a flood plain. Today the lake is privately owned and is often used for water sports such as paddle boarding and kayaking.

The parish is host to several amenities such as restaurants, a post office, a pub, a nursing home, as well as the aforementioned lake which hosts water-based activities. Further amenities can be found in Aylesbury town centre, which is just a short bus ride or drive away from Watermead parish.



Figure 01: The village edge of the lake in Watermead.



Figure 02: Building from the original development in Watermead.

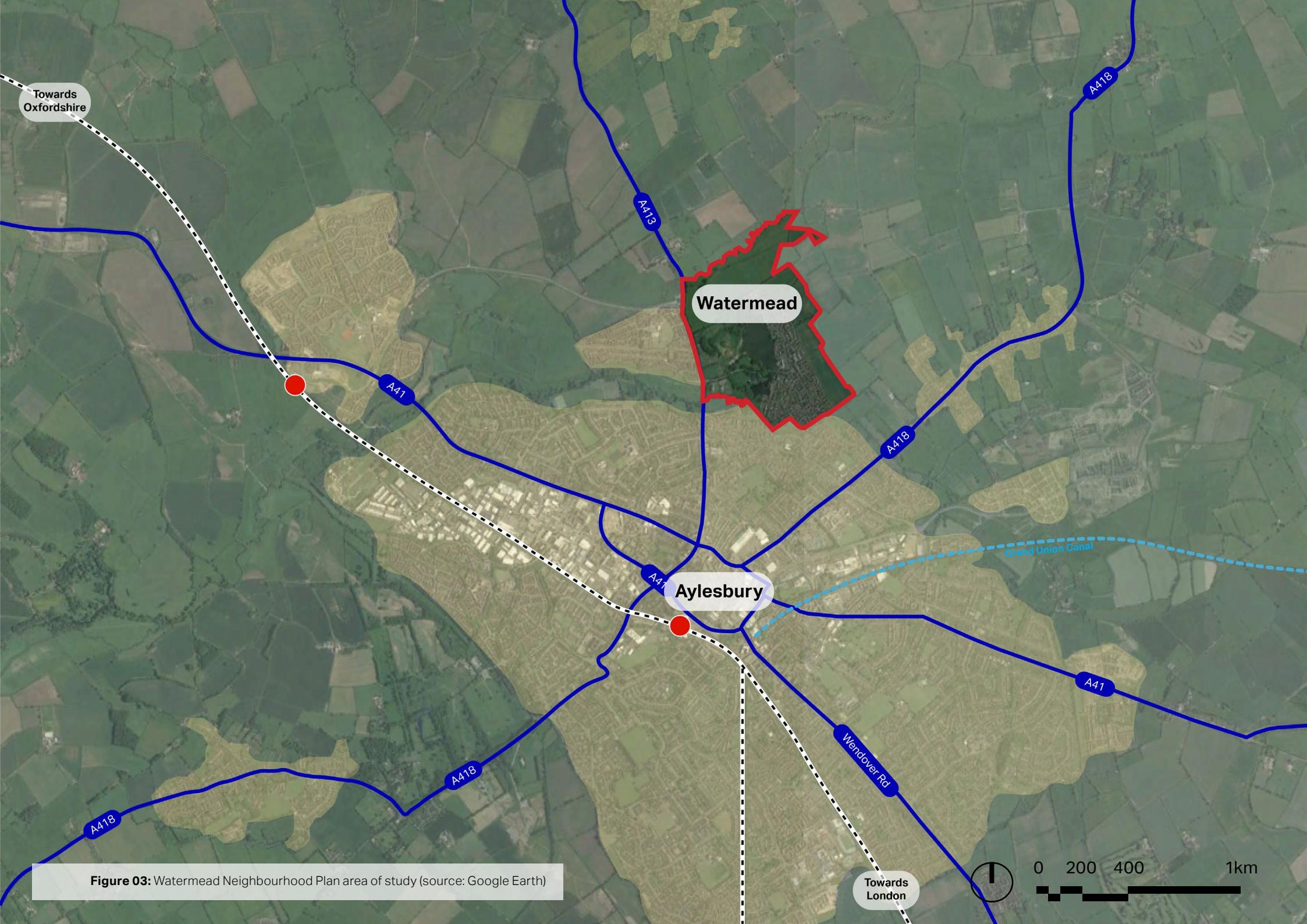


Figure 03: Watermead Neighbourhood Plan area of study (source: Google Earth)

1.6 Planning policy and guidance

This section summarises the relevant design policy and guidance produced at national and local levels which have informed this design guidance and codes document. It specifies how the relevant policies and guidelines have been incorporated in the production of the design codes included in this document. Any new development application should be familiar with those documents.

National Planning Policy and guidance

The following section summarises key relevant policy and guidance documents at the national level.

2021 National Model Design Code

DLUCH

This report provides detailed guidance on the production of design codes, guides and policies to promote successful design. It expands on 10 characteristics of good design set out in the National Design Guide. This guide should be used as reference for new development.



2020 - Building for a Healthy Life

Homes England

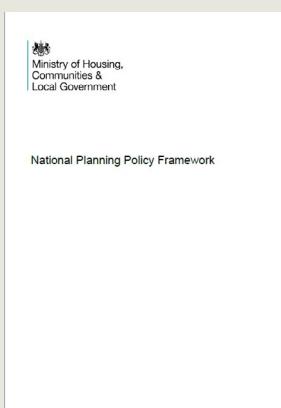
Building for a Healthy Life (BHL) is the new (2020) name for Building for Life, the government-endorsed industry standard for well-designed homes and neighbourhoods. The new name reflects the crucial role that the built environment has in promoting wellbeing. The BHL toolkit sets out principles to help guide discussions on planning applications and to help local planning authorities to assess the quality of proposed (and completed) developments, but can also provide useful prompts and questions for planning applicants to consider during the different stages of the design process.



2021 - National Planning Policy Framework

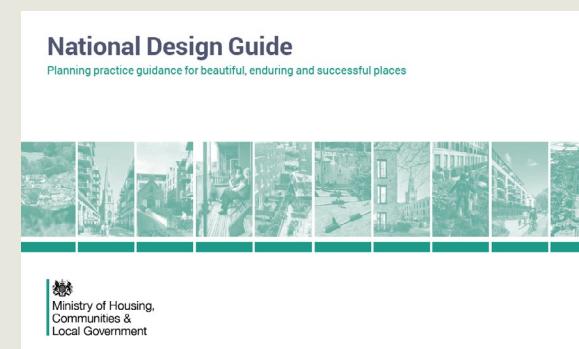
DLUCH

Development needs to consider national level planning policy guidance as set out in the National Planning Policy Framework (NPPF) and the National Planning Policy Guidance (NPPG). In particular, NPPF Chapter 12: Achieving well-designed places stresses the creation of high-quality buildings and places as being fundamental to what the planning and development process should achieve. It sets out a number of principles that planning policies and decisions should consider ensuring that new developments are well-designed and focus on quality.



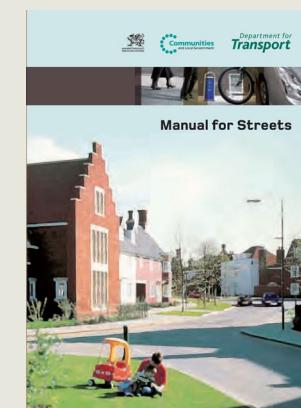
2021 - National Design Guide DLUCH

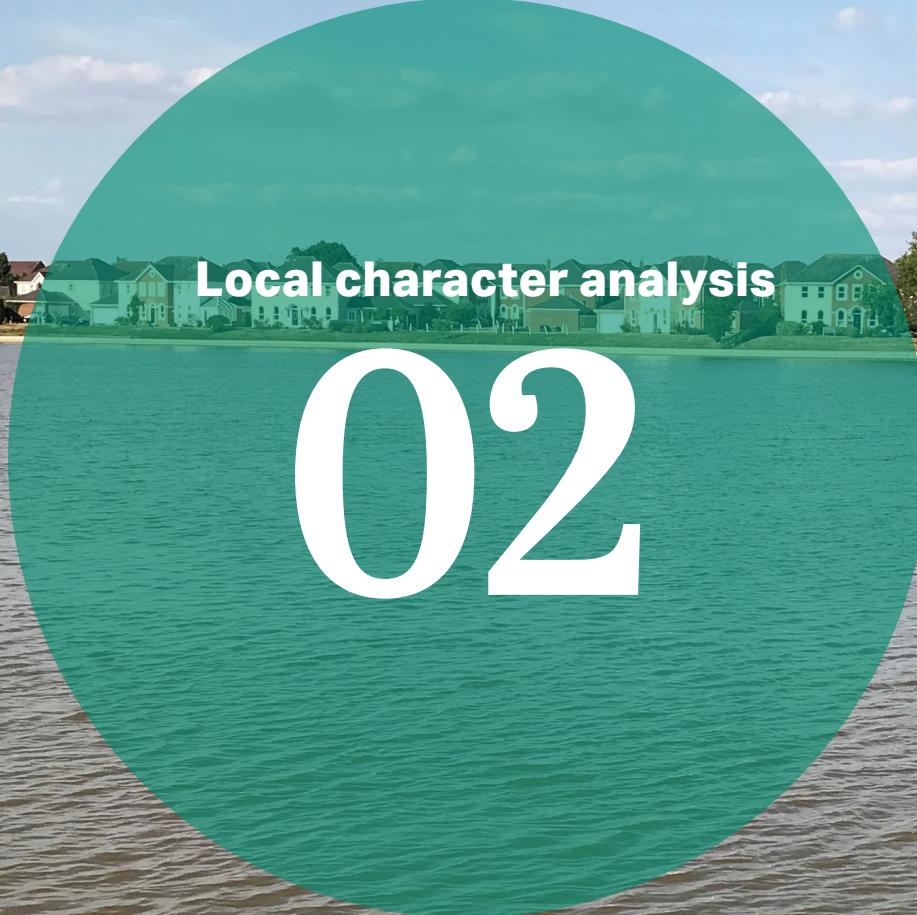
The National Design Guide (Department for Levelling Up, Housing and Communities, 2019) illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice.



2007 - Manual for Streets Department for Transport

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





Local character analysis

02

2. Local character analysis

This chapter describes the local context and key characteristics of Watermead Parish related to heritage, built environment, streetscape, views, landscape and flood risk.

This background context helps inform the design codes for Watermead, the aim being to identify and then retain and enhance those characteristics which give the village its sense of place.



Figure 04: Map showing Watermead and neighbouring area

2.1 Land-based designations

One of the key assets of the parish is its natural beauty and the rural feel of the area, despite its close proximity to the town of Aylesbury. Local ecology and environment were major considerations from the outset of the planning of the village. Central to the plans therefore was an extensive lake that would become a haven for birds and other wildlife.

The earth dug up from the lake was used to create a ski slope on the west side of the lake, which is now an excellent place to view the village and the surrounding countryside. The lake is surrounded by grassland, bracken, and maturing trees. This landscape supports the expanding variety of wildlife which is thriving in the area.

In the west of the parish, there are allotments which is only positive for community cohesion and also leads to a lower carbon footprint for those who grow their own fruit and vegetables there.

The community of Watermead considers that the landscape and wildlife is a key characteristic that defines the Parish and therefore sees fit that it should be carefully considered and preserved by and future development.



Figure 07: The local arable farm land which surrounds much of Watermead.



Figure 05: The Watermead lake which dominates the natural environment in the Parish.



Figure 06: The River Thame, located north of the village.



Figure 08: Map showing green Infrastructure in Watermead

2.2 Heritage, views and landmarks

Watermead village was conceived by Royco in the 1980s. The settlement was designed to be self-contained and included sports facilities, public green spaces, and high quality housing.

Blocks of individual homes were built to the north of the development, and in the early days (1986) houses were auctioned off before being built as they were so much in demand.

However, towards the end of the 1980s the economy slowed and Royco began to sell plots of land (including the Cricket Pavilion) to other builders due to financial difficulties which prevented them from completing the scheme. The firm was eventually forced to cease trading.

Building companies purchased various plots of land and developed them, and over the next few years, the rest of Watermead was completed, although not as it been originally planned by the original architects John

Evennett Associates.

While there are no listed buildings in the parish, many of them are still considered as locally important to the community. Buildings from the original development which are locally important include the Piazza which is the home to a Newsagent and store, a Chinese take away, a hairdressers, a dentist and a veterinary practice as well as the village hall. With steps leading down to the lake it is an extremely popular place to meet, and to admire the lake and its wildlife.



Figure 11: An area for people to stop and rest while taking in the views in Watermead.



Figure 09: View across Watermead Lake from the village.



Figure 10: The Watermead Piazza which is situated lakeside.



2.3 Connectivity

Watermead's proximity to the town of Aylesbury means that Watermead is well connected to the wider area by the A413 to the west of the parish and the A4157 which runs to the south of the parish. The main roads within the neighbourhood plan area are the Watermead(the spine road), Watermeadow and Ayleswater from which the residential areas branch out from.

Much of the area is residential which has lent itself to a cul-de-sac typology. This is because a lack of vehicular connections between residential areas allows for quieter roads. Instead these areas are typically connected by the public footpath network as can be seen in Figure 17. The footpaths also give people an opportunity to get outside and enjoy the surrounding countryside. One such example is the route around Watermead Lake which is frequently used by walkers and cyclists.

There are six bus stops spread throughout the village, running every half hour, which connects the community with Aylesbury.



Figure 13: Example of a cul-de-sac in Watermead leading towards the lake.



Figure 15: Example of a residential street in the village.



Figure 14: The newly built bridge to allow footpath connectivity over from east to west when the lake is flooded.



Figure 16: Example of one of the main roads in the village providing connections to Aylesbury.



2.4 Flood risk

Watermead was originally built on a flood plain of the River Thame which travels down from the north and into the parish. This means that large parts of the neighbourhood plan area is located in flood risk zones 2 and 3. For this reason, when the village was designed the lake was dug to protect properties from any flood damage. Although the lake is a good flood mitigation measure, its walls need to be properly maintained as the water can become wild on a wet and windy day.

As can be seen in Figure 22, the majority of the flood risk is on the western side of the lake, which has forced the village to grow to the east. Due to this factor, any future development proposed on the western side of Watermead Lake must be avoided.



Figure 18: Example showing unrepaired damage to the walls of Watermead Lake just in front of private properties.



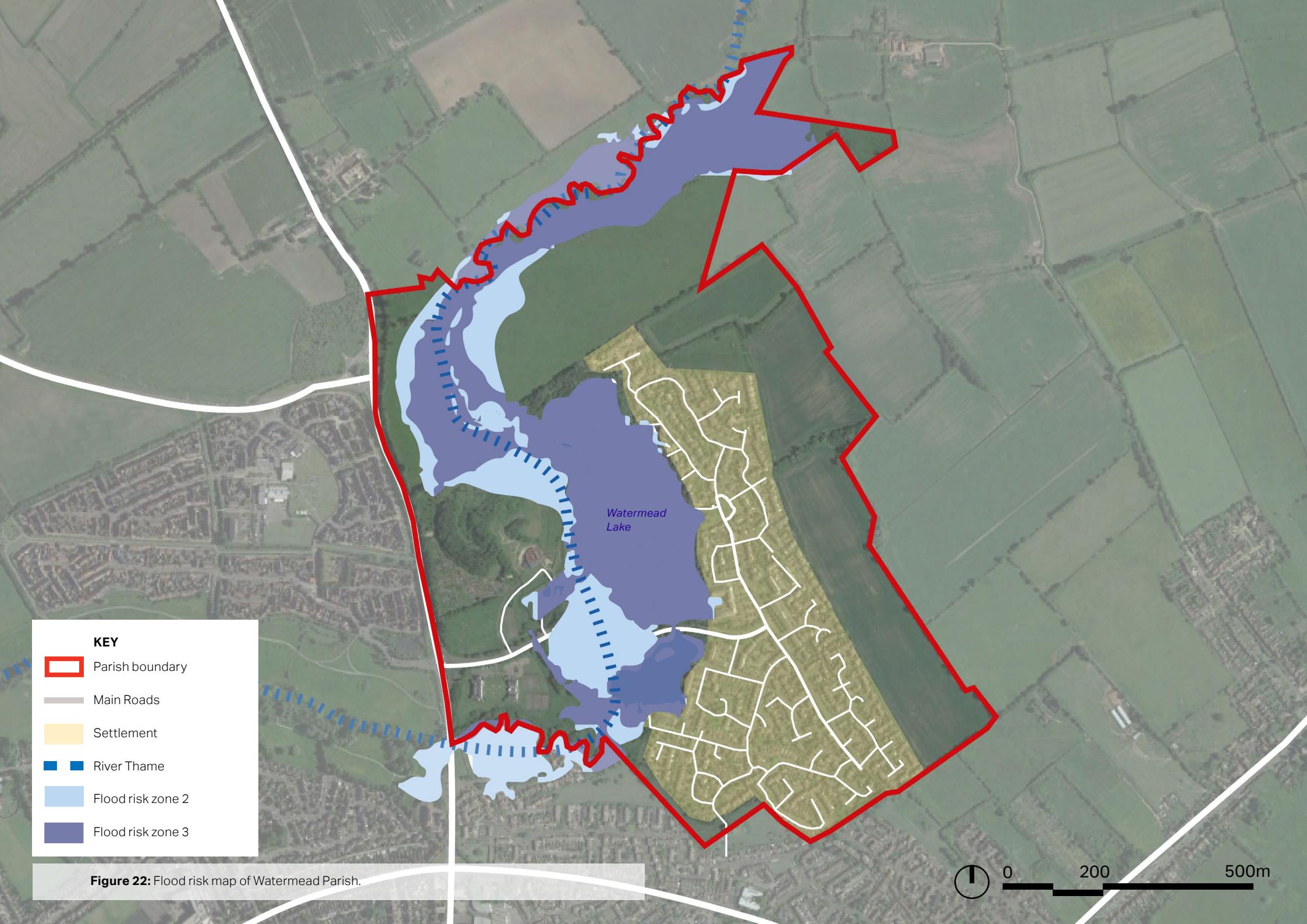
Figure 19: Newly built bridge to allow safe passage when the water is high



Figure 20: Watermead Lake



Figure 21: Example of permeable footpath in the parish





Original development design
concept

03

3. Original development design concept

3.1 Original development concept

Watermead is a place which has a lot of individuality, and much of this comes from the original Royco development in the 1980s. The idea was to create a self-contained, executive village that would bring new sports facilities, accessible green spaces, and a better quality of housing to the town of Aylesbury. As a result of this there are several aspects of the village which makes it stand out in comparison to Aylesbury.

The original development in Watermead is built off the Ayleswater road which is a tree lined avenue with grass verges and green open spaces either side of the road. This green approach is continued throughout the original part of the village with many of the walking routes being focussed on the nature surrounding the lake.

As well as this the layout of the original development has a very good flow to it, especially for pedestrians who have the opportunity to use onward footpaths that connect residential streets. This leads to a place which is more orientated towards the pedestrian. The clear centre of the development is the Piazza area which hosts the majority of the local shops and a small square facing the waterfront. It is a place where local people go to meet.

The architecture of the original development is very unique for an English village and is hugely different from what is found in Aylesbury. It has a feeling of grandeur. Red brick and various light colours of render are used for walling which blends well with the vegetation on the street and the water. Windows are often large and have concrete casements on the exterior. As well as this, windows come in a variety of shapes including square, circle and arched. Many buildings have porches which are either arched or pillared.



Figure 23: The Piazza and shopping area.



Figure 24: Typical example of architecture in the original development.



Figure 25: Example of one of the pedestrian links between the centre of the residential areas.



Figure 27: Residential street with trees and front gardens defining the boundary.



Figure 29: Example showing the woodland and the pier in the centre of the original development.



Figure 26: Footpath along the lake between the Piazza and the residential area.



Figure 28: Grass verges, trees and planting creating a leafy feel down the Ayleswater road - the main avenue in Watermead.



Figure 30: Example of left open green space.



Figure 31: Map showing important buildings within the original development.



Design guidelines and codes

04

4. Design guidelines and codes

This chapter provides guidance on the design of new development, setting out the expectations that applicants for planning permission in Watermead Parish will be expected to meet.

4.1 Place making

What urban designers and planners call 'placemaking' is about creating the physical conditions that residents and users find attractive and safe, with good levels of social interaction and layouts that are easily understood.

The placemaking principles set out in the following pages should be used to assess the design quality of future development or regeneration proposals.

These key principles should be considered in all cases of future development as they reflect positive place-making and draw on the principles set out in many national urban design best practice documents.

4.2 Walkable places

Creating new walking routes which are well connected to the existing network should be a prerequisite for any new development in Watermead Parish.

The success of a place is influenced by how walkable it is. It is good practice to plan new homes within a 400 metres walking distance (= 5 minutes) of bus stops and within 800 meters (= 10 minutes) of convenience stores or community buildings.

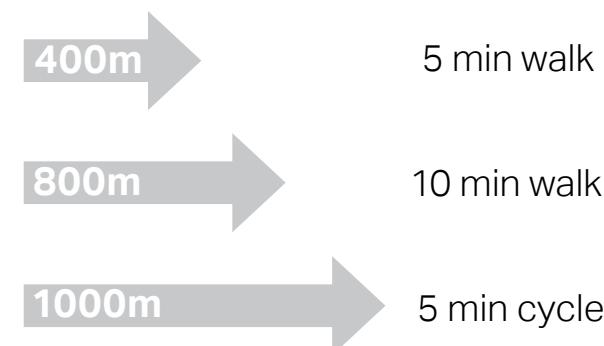


Figure 32: The 10 characteristics of well-designed places.
(Source: National Design Guide, page 8).

4.3 General principles and guidelines

The design guidelines and codes for Watermead Neighbourhood Area derive from the general design principles set out below.

The guidelines and codes set out in this document focus on residential environments.

Any consideration of design and layout must be informed by the wider context, with regard given not only to the immediate neighbouring buildings, but also the landscape and rural character of the wider locale. The local pattern of streets and spaces, building traditions, materials and natural environment should all help to determine the character and identity of any new development.

It is important that full account is taken of the local context and that the new design embodies the 'sense of place' and also meets the aspirations of people already

living in that area. Therefore, some design principles that should be present in any design proposal are:

- Respect the existing pattern of the village and the surrounding area to preserve the local character;
- Respect the heritage, landscape and key views identified in the parish;
- Integrate with existing paths, streets, circulation networks and reinforce or enhance the established character of streets, greens and other spaces;
- Harmonise and enhance existing village in terms of physical form, architecture and land use;
- Ensure all the various components of the village, e.g., buildings, landscapes, access routes, parking and open space, etc., are well related to each other;
- Incorporate necessary services and drainage infrastructure without causing

unacceptable harm to retained features; and

- Aim for innovative design and sustainable buildings while respecting the architectural heritage and tradition of the area.

4.4 Watermead design guidelines and codes

This section introduces a set of design principles that are specific to Watermead Parish. These are based on:

- Baseline analysis of the area in Chapter 2;
- Understanding national design documents such as National Design Guide, National Model Design Code and Building for Healthy Life 12 Documents which informed the principles and design codes; and
- Discussion with members of the Neighbourhood Plan Steering Group.

The codes are divided into **6 sections**, each one with a number of subsections dealing with specific issues. Each section and subsection is numbered (e.g. DC.01) to facilitate its reading and use. The first section applies to any future development within Watermead village.

Theme	Code	Title
DC.01 In keeping with local character	1	Heritage, views and landmarks
	2	Patterns of growth within the rural landscape
DC.02 Access and movement	3	Accessible and attractive footpath network / access to the countryside
	4	Prioritise walking and cycling
	5	People friendly streets
	6	Street lighting
	7	Parking and servicing
	8	Cycle parking
	9	Create a green network
	10	Biodiversity
DC.03 Landscape, nature and open space	11	Water management
	12	Trees and planting
	13	Open spaces
	14	Boundary lines, boundary treatment & corner treatment
	15	Continuity and enclosure
DC.04 Built form	16	Legibility and wayfinding
	17	Building heights, density and housing mix
	18	Materials and architectural details
	19	Lakeside development
DC.05 Lakeside development	20	Creating a lakeside experience
	21	Minimising energy use
DC.06 Sustainability	22	Lifetime and adaptability
	23	Minimising construction waste
	24	Recycling materials and buildings
	25	Electric vehicle charging points

Code.1 Heritage, views and landmarks

Watermead Parish has a rich built and natural heritage in terms of structures, buildings, landscape and views. Examples of this include the views over the lake or towards the Piazza. Any new development proposals need to recognise these important assets and propose ways in which they might be retained, protected and enhanced. Some design guidelines are:

- Scenic value and tranquillity of countryside views should be retained and enhanced in future development;
- New development proposals should maintain visual connection with the surrounding landscape, including middle distance views across the built-up areas of the parish and longer views towards important points in the wider landscape.
- Creating short-distance views broken by buildings, trees or landmarks helps to create memorable routes. Creating views and vistas allows easily usable links between places;

- Gaps between buildings, open views and vistas should be respected and aim to demonstrate the significance of a landmark asset;
- Development in the village core should respond to local distinctiveness;
- Any development should respect the density of the building density, scale and style of the original Watermead development; and
- Any development should not obstruct views towards locally important buildings such as the Piazza.



Figure 33: The Piazza on the waterfront in Watermead.



Figure 34: View across the Watermead Lake.

Code.2 Patterns of growth within the Parish

The parish owes much of its character to the Watermead lake and the developments relationship with the surrounding countryside. Some design guidelines for small scale development within Watermead Parish include:

- New development in close proximity to non-designated heritage assets must propose green screenings to mitigate any negative visual impact, while also preserving key views;
- New development should be within the village footprint or a very modest development annexed to it, while also protecting important viewing corridors as identified in Figure 35, opposite;
- New development must demonstrate a good understanding of the scale, building orientation and enclosure of the surrounding built environment (Item 1, on the plan, adjacent);
- Development densities should reflect the character of the village;

- The size of plots and their pattern should be varied to contribute to the rural character (item 2);
- New development should create a diversified building line to shape short and long-distance views (item 3);
- Any proposal that would give rise to an unacceptable increase in the amount of traffic, noise, or disturbance must be avoided;
- Existing verges, hedgerows and trees should be integrated into design, whilst more planting and vegetation is encouraged to form part of the green network strategy (item 4); and
- Appropriate signage should be incorporated along the road or in central 'village greens' to indicate the low-speed limits or provide navigation (item 5).

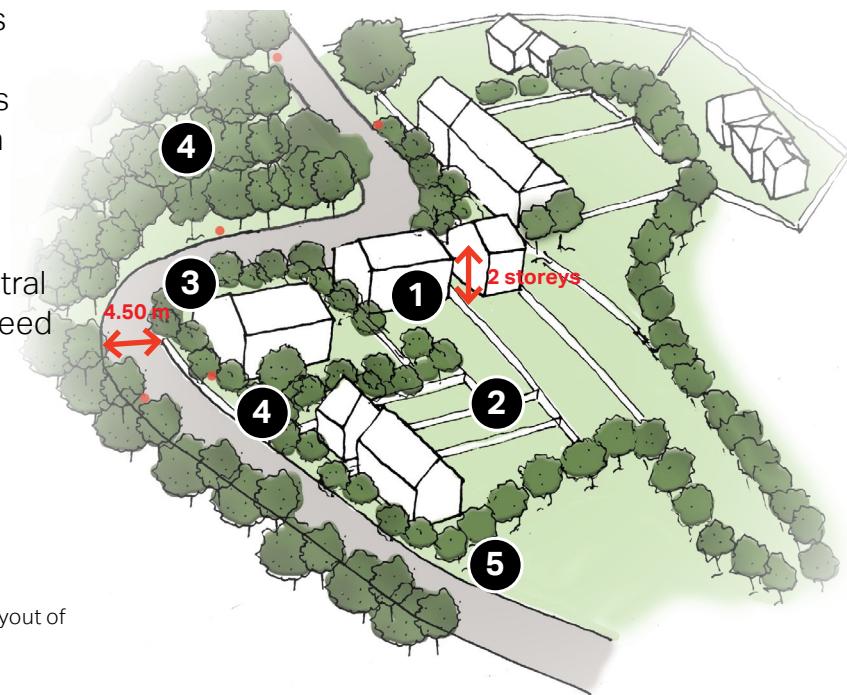


Figure 35: Illustrative plan for a rural edge development highlighting design elements, related to the pattern and layout of buildings.

Code.3 Accessible and attractive footpath network/ access to the countryside

Although there is a lack of footpath connectivity across the developed areas, there are numerous footpaths within Watermead Parish which link the settlement with the surrounding countryside. Footpaths allow people to get closer to nature, enjoy a tranquil environment and undertake physical exercise by walking. Therefore, protection, improvement and design of new footpaths should be considered in new developments and some design guidelines are:

- Where possible, newly developed areas must retain or provide direct and attractive footpaths between neighbouring streets and local facilities. Establishing a robust pedestrian network across new developments and among new and existing development is key in achieving good levels of connectivity and promoting walking.

- Where possible, new proposed footpaths should link up green spaces and woodlands to create a network of green walking routes and promote biodiversity. For example, the Strategic Wildlife Corridors could include footpath connections and other green links that could connect new development and form part of an integrated green infrastructure network;
- Design features such as gates must be kept at a minimum and barriers must be avoided;
- Strategically placed signposts can assist pedestrians and cyclists with orientation and increase awareness of publicly accessible paths beyond the parish. However, new signposts must respect the character of the parish and avoid creating visual clutter; and
- The footpath network needs to be in place before first occupation of houses on the site.



Figure 36: New walkway which allows for people to use the full footpath around the lake when there is high water.



Figure 37: Stone footpath to allow accessibility in all weather.

Code.4 Prioritise walking and cycling

As noted above, there are few public footpaths within and between development parcels in Watermead. New developments of any kind should seek to introduce well connected and attractive pedestrian and cycling routes to encourage residents to walk and cycle. Some guidelines for future development are:

- Varied links should be enabled and created to favour pedestrian and cycle movement. These routes should be always overlooked by properties to create natural surveillance and offer good sightlines and unrestricted views to make people feel safer;
- Design features such as gates to small scale developments or in-fills or footpaths running between high fences must be avoided;
- Any development should design public footpaths that integrate seamlessly into the original Watermead development. They should provide routes both towards the Piazza, the lake and surrounding green spaces;

- All newly developed areas must provide direct and attractive footpaths between neighbouring streets and local facilities. Streets must be designed to prioritise the needs of pedestrians; and
- Cycleways should be integrated into both existing and new developments to help promote active transport.



Figure 38: Footpath which is segregated from the road creating an element of safety.



Figure 39: Gravel in a cul de sac creates a softer feel to the street scene.

Code.5 People-friendly streets and green links

It is essential that the design of new development includes streets and road layouts that incorporate the needs of pedestrians, cyclists, and, where applicable, public transport. Some guidelines for future development are:

- Streets must meet the technical highway requirements, as well as being considered a 'place' to be used by all. It is essential that the design of new development includes streets and junctions that incorporate the needs of pedestrians, cyclists, and if applicable, public transport users;
- Within the development boundaries, streets should not be built to maximise vehicle speed or capacity. A range of traffic calming measures could be introduced by design;
- New streets should be linear with gentle meandering, while also providing evolving views to the surrounding countryside;

- Routes should be laid out in a permeable pattern, allowing for multiple choices of routes, particularly on foot. Any cul-de-sacs should be relatively short and provide onward pedestrian links;
- Streets must respect the existing vegetation, while also incorporating new opportunities for landscaping, green infrastructure, and sustainable drainage;
- Any new development should provide well-connected streets of varied character. A legible street hierarchy should include primary, secondary, tertiary roads and edge lanes. The next pages present illustrations examples of those street typologies; and
- Any new street should look to replicate the original development within Watermead by creating a green, open approach to the village with grass verges and trees planted along roads.

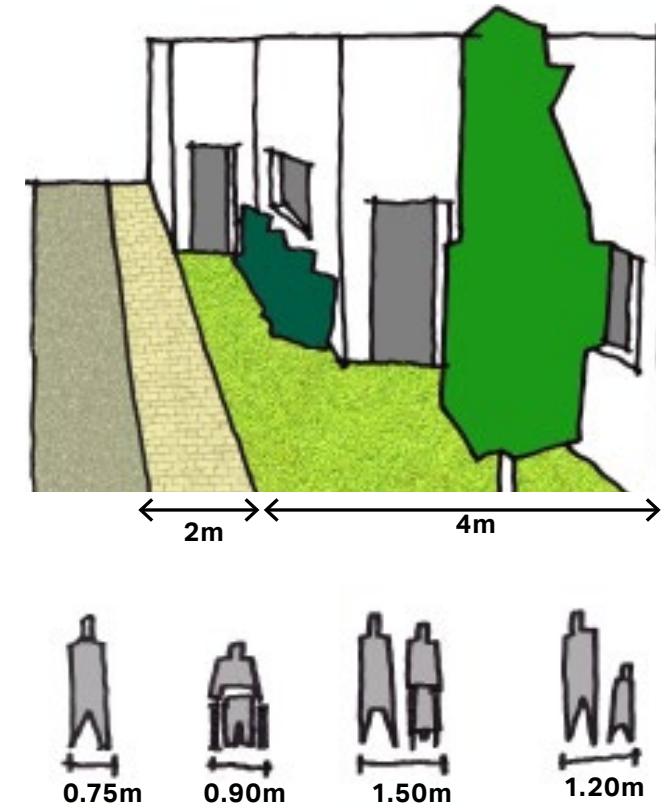


Figure 40: Graphic showing the structure of a generous street

Primary streets

- Primary streets are the widest neighbourhood roads and they are also the main routes used for utility and emergency vehicles, as well as buses;
- Primary streets must be defined by strong building lines. Primary frontages alongside the road should include taller and more dense developments; and
- Street trees and/or green verges along the road should be provided to contribute to local biodiversity, and provide cooling and shading.

Secondary streets

- Secondary streets should accommodate carriageways wide enough for two-way traffic. On-street parking may be on or accommodated on the street or inset into green verges;
- Carriageways should be designed to be shared between motor vehicles and cyclists; and
- Where possible, secondary streets should be tree-lined on both sides.

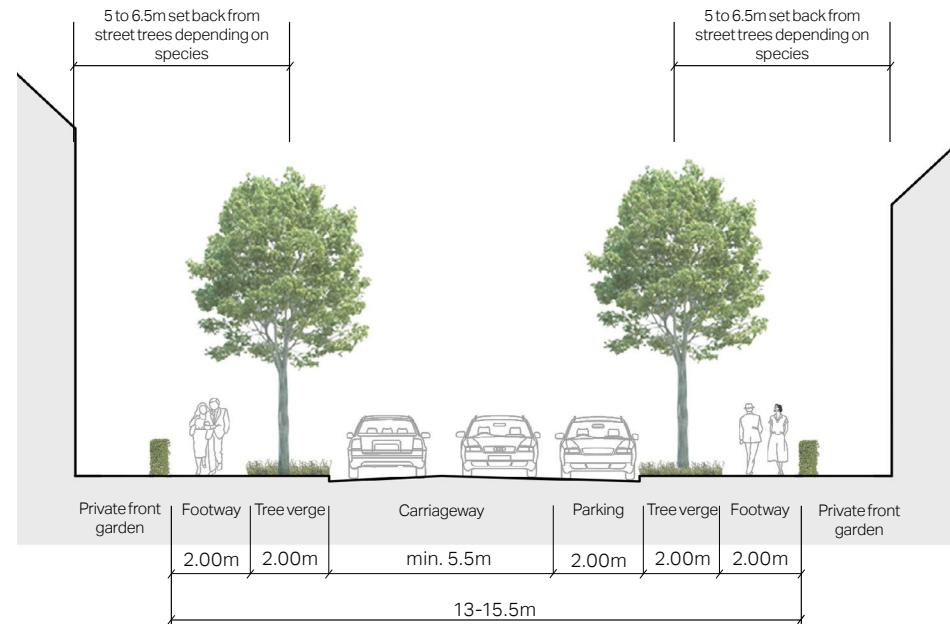
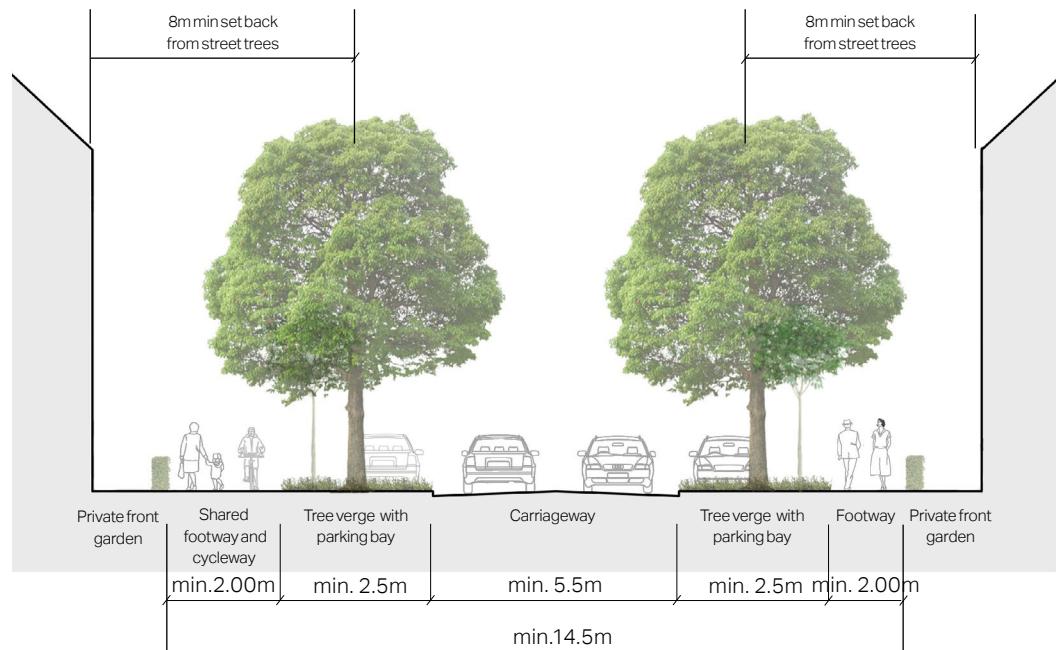


Figure 41: Cross-section to illustrate some guidelines for primary streets.

Figure 42: Cross-section to illustrate some guidelines for secondary streets.

Tertiary streets

- Tertiary streets have a strong residential character and they should be designed for low traffic volumes and low speeds, ideally 10-15 mph;
- Tertiary streets should be formed with a high degree of built form enclosure, with consistent building lines and setbacks; and
- Street trees and lighting for pedestrians should be provided with suitable gaps, wherever possible.

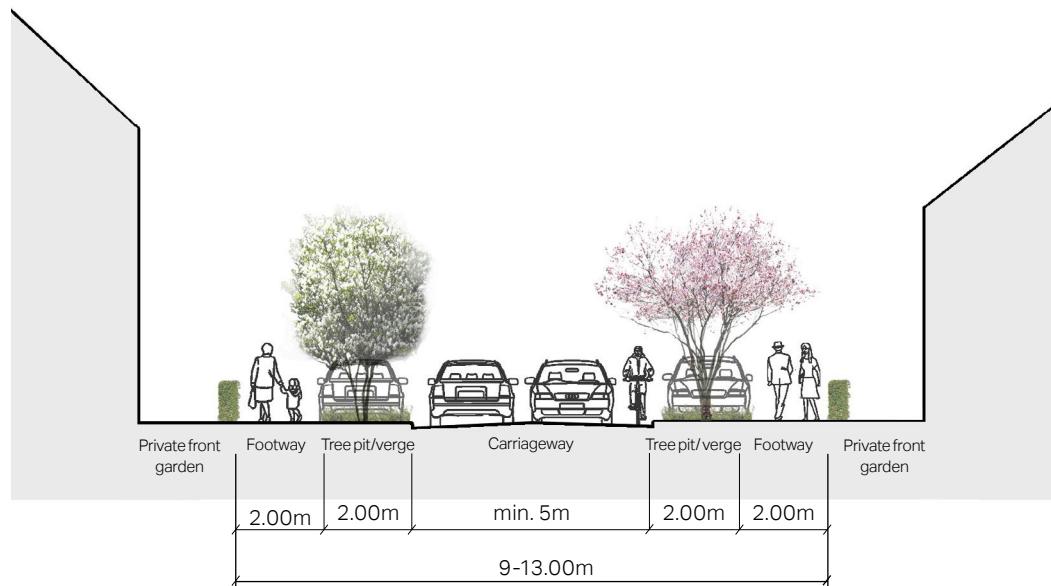


Figure 43: Cross-section to illustrate some guidelines for tertiary roads.



Figure 44: Main road coming into Watermead from the A413.



Figure 45: Example of a street in the newer part of Watermead.



Figure 46: Pintail Close in Watermead.

Edge lanes

- All the edges of new development areas should be served by continuous Edge Lanes to provide high level of connectivity;
- Edge lanes are low-speed streets 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; and
- Variations in paving materials and textures can be used instead of kerbs or road markings.



Figure 47: Cross-section to illustrate some guidelines for edge lanes

Green links

- Green links should be located within minimum 7.5m wide corridor adjacent to retained green assets;
- Shared or segregated footpath and cycleway to be provided within corridor;
- Footpath and cycleway to be hard surfaced and constructed of bound material which may also combine with vehicle access;
- Combined width of unsegregated footpath and cycleway to be a minimum of 3.0m; and
- Where required, SuDS features to be incorporated into corridor beside the surface of shared footpath and cycleway.

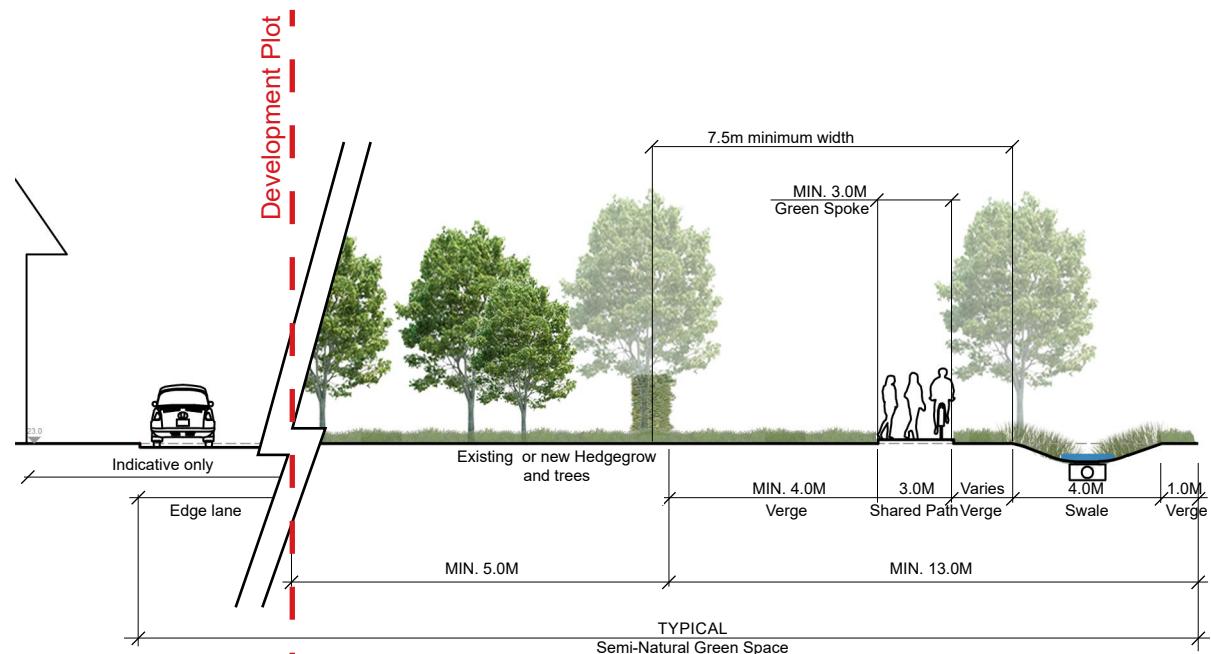


Figure 48: Section to illustrate some guidelines for green links

Code.6 Street lighting

Artificial light provides valuable benefits and it makes areas feel more welcoming at night. However, in rural areas, like Watermead, street lighting needs to be sensitive to the surroundings and issues of light pollution must be avoided.

Therefore, any new development should minimise impact of lighting within the village and reduce light pollution that disrupts the natural habitat and human health. 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;
- Foot/cycle path light should be in harmony with surrounding rural

landscape. Lightings, such as solar cat's-eye lighting, reflective paint and ground-based lighting could be introduced;

- Choice of lighting should be energy-efficient and sustainable. The installation of motion sensors on the lights should be encouraged; and
- Any new developments and house extensions designs should encourage to use natural light sources.
- Artificial lighting schemes should be submitted as part of planning application including Lux level consideration to reduce impact on ecology along with clear design statements.



Figure 49: Example of a foot/cycle path which is lit by solar cat's-eye providing some light for pedestrian and cyclists without creating any disturbance to the nearby properties or unacceptable levels of light pollution

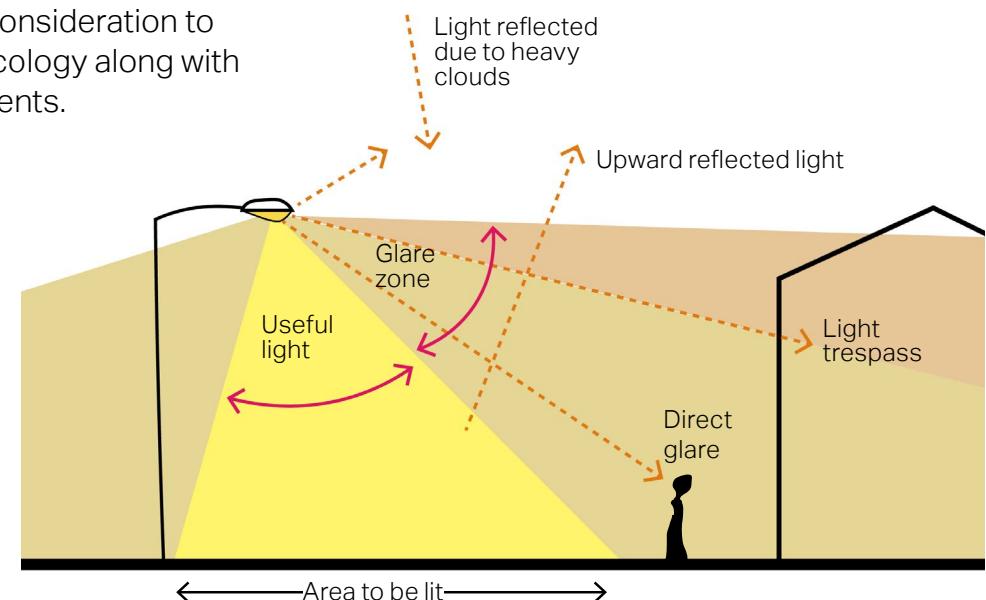


Figure 50: Diagram to illustrate the different components of light pollution and what 'good' lighting means

Code.7 Parking and servicing

Although the aim to create a good network of walking and cycling routes within Watermead Parish is a priority, the demand for private cars still remains high at the time of writing, and therefore car parking has to be carefully integrated into the design.

The car parking typologies found in the Parish are mainly on-plot parking; however, there are also cases of parking courts, on-plot garage parking and on-street parking. Given this, the most appropriate form of parking is on-plot.

It is expected that parking in new development, including conversions, will be on-plot.

Guidelines for on-plot or on front car parking

- Parking should be well integrated into design so as not to dominate the public realm;
- High-quality and well-designed soft landscaping, hedges, hedgerows, and trees, should be used to increase the visual attractiveness of the parking and

enhance the rural character of the Parish; and

- Hard standing and driveways must be constructed from porous materials, to minimise surface water run-off and therefore, help mitigate potential flooding.

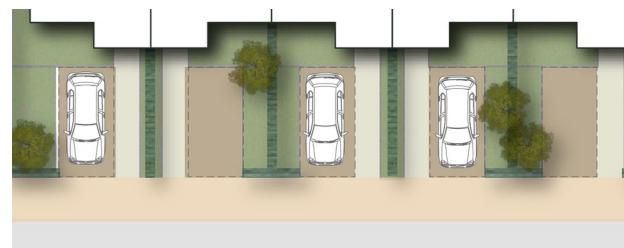


Figure 51: Illustrative diagram showing an indicative layout of on-plot front parking

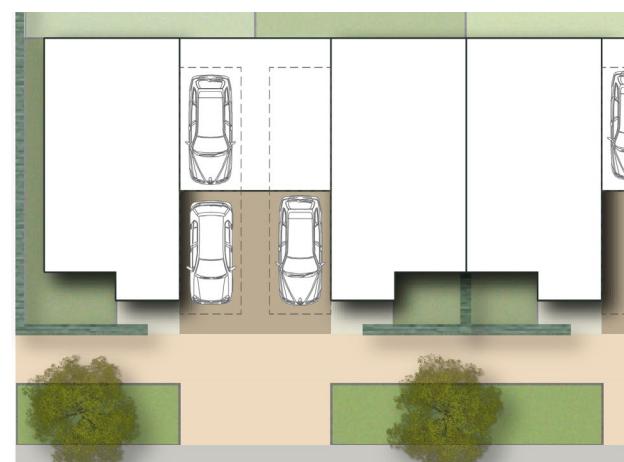


Figure 52: Illustrative diagram showing an indicative layout of on-plot side parking

Guidelines for parking courts

- Parking courts should be acceptable for small building clusters and permeable paving should be used where possible;
- Parking courts must be overlooked by properties to increase natural surveillance; and
- Planting and vegetation should be integrated into design to soften the presence of cars and preserve the rural character of the area.



Figure 53: A courtyard with informal perpendicular and garage parking in Poundbury, Dorchester

Guidelines for garages

- Garages must not dominate the appearance of dwellings and must not reduce the amount of active frontage to the street;
- Garage structures must adhere to the dimensions set out by the Buckinghamshire District Council; and
- Where garages are converted into living space, they must be in keeping with the style, materials and scale of the existing building.



Figure 54: Example of on-plot garage parking, Watermead.



Figure 55: A property with a garage structure recessed from the building line and screened by landscaping, Watermead.

Code.8 Cycle parking

Houses without garages

- For residential units, where there is no on-plot garage, covered and secured cycle parking should be provided within the domestic curtilage;
- Cycle storage must be provided at a convenient location with an easy access;
- When provided within the footprint of the dwelling or as a free-standing shed, cycle parking should be accessed by means of a door at least 900mm and the structure should be at least 2m deep;
- The use of planting and smaller trees alongside cycle parking can be used; and
- Where possible create public secure cycle facilities adjacent to new/existing amenities and open spaces.

Houses with garages

- The minimum garage size should be 7m x 3m to allow space for cycle storage;
- Where possible, cycle parking should be accessed from the front of the building either in a specially constructed enclosure or easily accessible garage;
- The design of any enclosure should integrate well with the surroundings; and
- The bicycle must be removed easily without having to move the vehicle.



Figure 56: Example of secure cycle storage for houses without garages

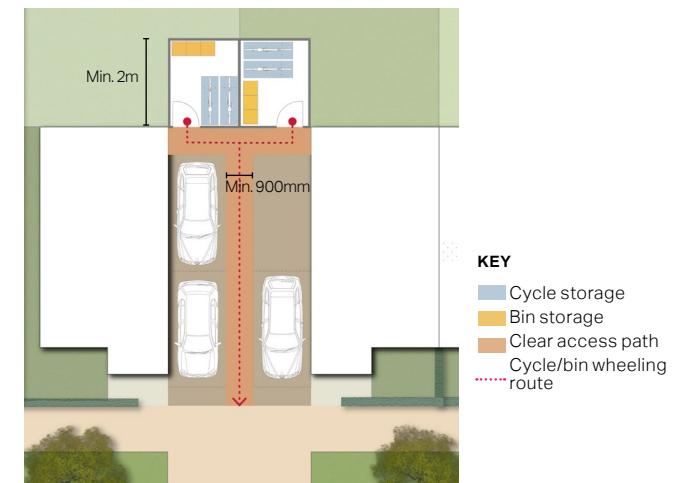


Figure 57: Indicative layout of a bicycle and bin storage area at the back of semi-detached properties

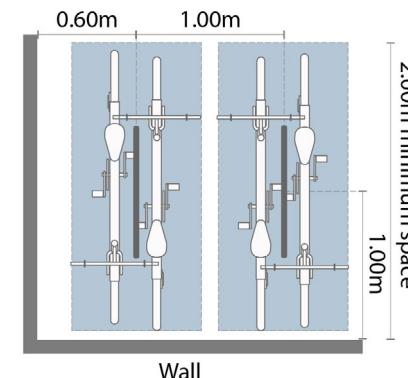


Figure 58: Sheffield cycle stands for visitors and cycle parking illustration

Code.9 Create a green network

A well-connected green network should be created throughout the new developments to provide links to the countryside for people as well as habitats. Opportunities should be sought to introduce green assets into design and contribute to biodiversity. Some design guidelines on green networks are:

- Green networks should link existing and newly proposed street trees, green verges, open spaces and the countryside together;
- SuDS should be introduced, where possible, and incorporated into design of the green network to mitigate any flooding issue;
- New development should front onto green assets and access should be granted for all groups of people;
- The grass verges which are common within the original development in Watermead should be recognised and included in the design of any new development;
- The proposed wildlife corridors and landscape gap could also be taken into account when designing for a green network; and
- Green networks could contain some formal provision, such as a Neighbourhood Equipped Area of Play (NEAP), playing fields and an area for active recreation. Their many benefits include the improvement of the health and well-being of individuals and promotion of the development of inclusive communities.

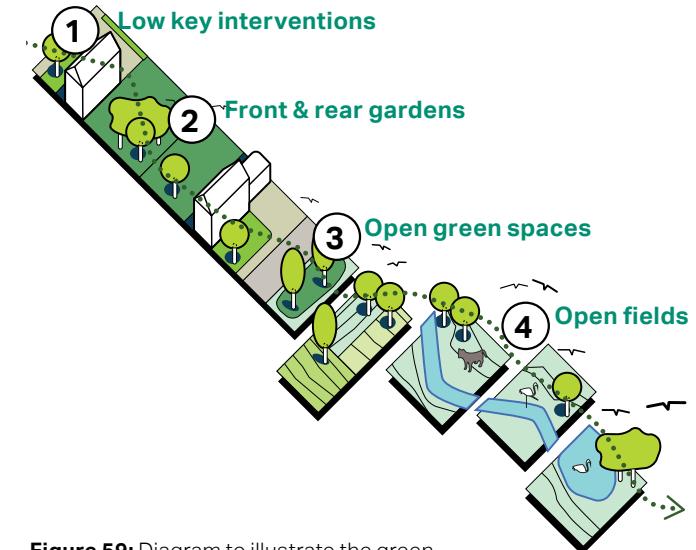


Figure 59: Diagram to illustrate the green assets that can play an important role as wildlife corridors



Figure 60: An example of a SuDS corridor - Upton Urban Extension, Northampton

Code.10 Biodiversity

The opportunity to avoid dangerous levels of global heating is closing and action is required swiftly at all levels from the international to the individual. Biodiversity could be highly affected and therefore new development should prioritise its enhancement through design. Some design guidelines are:

- Biodiversity and woodlands should be protected and enhanced where possible.
- New development proposals should aim for the creation of new habitats and wildlife corridors, e.g. by aligning back and front gardens or installing bird boxes or bricks in walls;
- Gardens and boundary treatments should be designed to allow the movement of wildlife and provide habitat for local species. For that reason, rich vegetation and plantation is suggested;
- Blue assets can also contribute to biodiversity connectivity. Therefore, the existing ditches and lakes should be

considered in design proposals when planning for wildlife corridors; and

- All areas of biodiversity that require further planting/ enhancement should be planted before start of construction.

The following resources should inform developments and conversions to protect biodiversity in Watermead:

- [Building with Nature](#) has developed standards providing guidance on delivering green infrastructure;
- [The Natural England and RSPB Climate Change Adaptation Manual](#) sets out a spatial approach to assessing habitat vulnerability to climate change;
- [The Wildlife Trust's Homes for People and Wildlife](#) provides guidance on how to build nature-friendly housing developments; and
- [The Woodland Trust's Charter for Trees, Woods and People](#) seeks to promote greener local landscapes.



Figure 61: Example of a structure used as a frog habitat corridor located in an outdoor green space.



Figure 62: Local turtle which lives in the Watermead lake, showing the biodiversity that the lake brings to the parish.

Code.11 Water management

Sustainable drainage solutions (SuDS)

Due to the presence of a high number of ditches throughout the Parish, there are land areas (not residential areas) that sit within flood risk zones. Therefore, the use of sustainable drainage systems, known as SuDS, is needed to manage water, reduce flood risk and improve water quality.

The most effective type or design of SuDS would depend on site-specific conditions such as underlying ground conditions, infiltration rate, slope, or presence of ground contamination. However, a number of overarching principles that could be applied in new development are:

- Manage surface water as close to where it originates as possible;
- Reduce runoff rates by facilitating infiltration into the ground or by providing attenuation that stores water to help slow its flow down, so that it does not overwhelm water courses or the sewer network;

- Improve water quality by filtering pollutants to help avoid environmental contamination;
- Integrate into development and improve amenity through early consideration in the development process and good design practices;
- SuDS are often also important in areas that are not directly in an area of flood risk themselves, as they can help reduce downstream flood risk by storing water upstream;
- Some of the most effective SuDS are vegetated, using natural processes to slow and clean the water, whilst increasing the biodiversity value of the area;
- Best practice SuDS schemes link the water cycle to make the most efficient use of water resources by reusing surface water;
- SuDS should be designed sensitively to augment the landscape and provide biodiversity and amenity benefits.



Figure 63: Watermead lake is the main flood deterrent within the parish.



Figure 64: Example of SuDS designed as a public amenity and fully integrated into the design of the public realm, Stockholm

Storage and slow release

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

Simple storage solutions, such as water butts, can help provide significant attenuation. However, other solutions can also include underground tanks or alternatively overground gravity fed rainwater systems that can have multiple application areas like toilets, washing, irrigation. In general, some design guidelines to well integrate water storage systems are:

- Consider any solution prior to design to appropriately integrate them into the vision;
- Conceal tanks by cladding them in complementary materials;
- Use attractive materials or finishing for pipes; and
- Combine landscape/planters with water capture systems.



Figure 65: Examples of water butts used for rainwater harvesting in Reach, Cambridgeshire

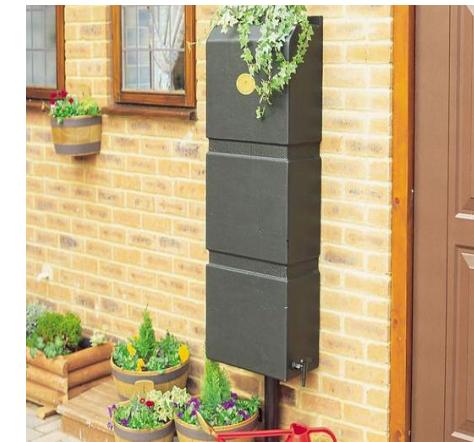


Figure 66: Example of a gravity fed rainwater system for flushing a downstairs toilet or for irrigation.

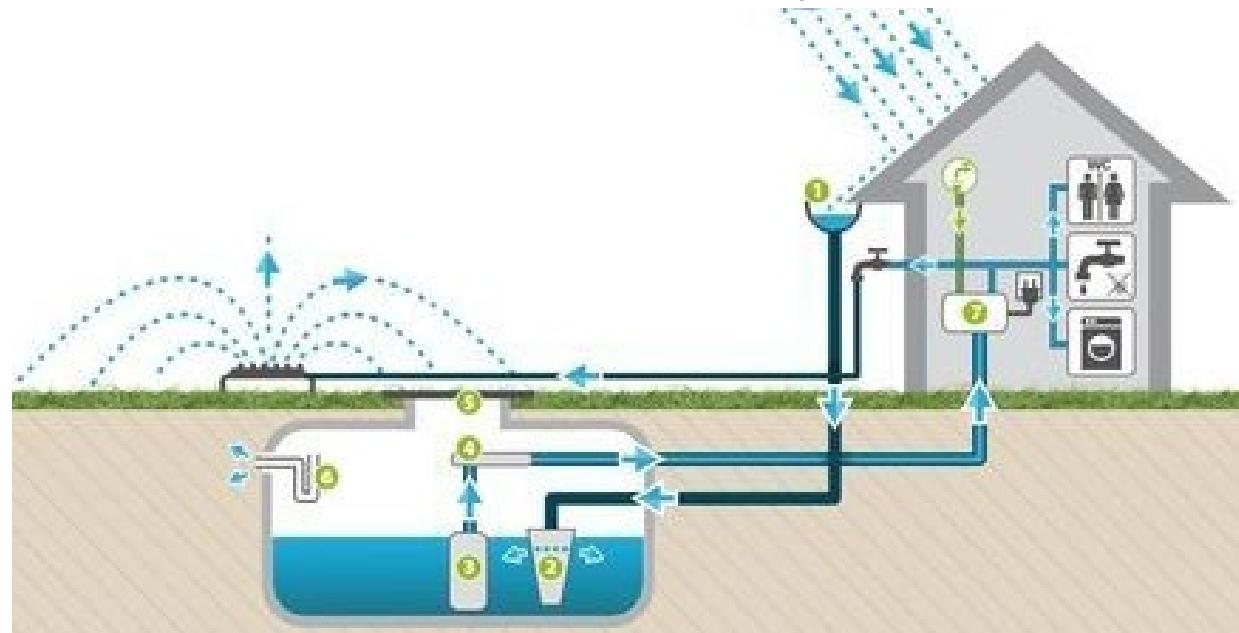


Figure 67: Diagram illustrating rainwater harvesting systems that could be integrated into open space and residential developments

Permeable paving

Most built-up areas, including roads and driveways, increase impervious surfaces and reduce the capacity of the ground to absorb runoff water. This in turn increases the risks of surface water flooding.

Permeable paving offers a solution to maintain soil permeability while performing the function of conventional paving. Therefore, some design guidelines for new development are:

- The choice of permeable paving units must be made depending on the local context; the units may take the form of unbound gravel, clay pavers, or stone setts; and
- Permeable paving can be used where appropriate on footpaths, private access roads, driveways, car parking spaces (including on-street parking) and private areas within the individual development boundaries.

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

- Sustainable Drainage Systems - non-statutory technical standards for sustainable drainage systems¹.
- The SuDS Manual (C753)².
- Guidance on the Permeable Surfacing of Front Gardens³.
- Lawns are preferred to stones and concrete in front gardens of new developments.

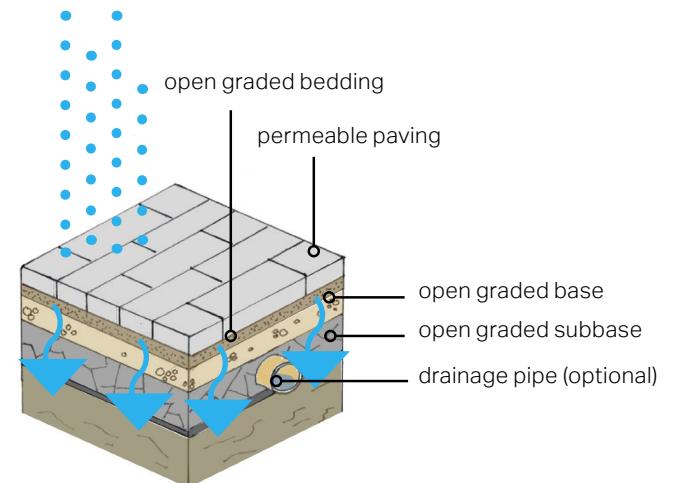


Figure 68: Diagram illustrating the function of a soak away.



Figure 69: Example of a permeable paving.

Code.12 Trees and planting

New street planting helps maintain visual consistency along the public realm. It is associated with better mental health and well-being by reducing stress, lessening heat islands, and providing protection from natural elements such as wind and rain. Some guidelines for new development are:

- Aim to preserve existing mature trees and hedges by incorporating them in the new landscape design;
- To ensure resilience and increase visual interest, a variety of native tree species is preferred over a single one;
- Flower beds, bushes and shrubs should be welcomed in new developments, since they contribute to the livelihood of the streetscape and create visual interest and colour to their surroundings;
- Hedgerows can be planted in front of bare boundary walls to ease their visual presence or they can be used to conceal on-plot car parking and driveways within curtilages;

- Native trees can normally be used to mark reference points and as feature elements in the streetscape. Such examples include: English Oak (*Quercus robur*), Field Maple (*Acer campestre*), Holly (*Ilex aquifolium*; evergreen), Hawthorn (*Crataegus monogyna*; able to be coppiced to reduce height), Rowan (*Sorbus aucuparia*), Hazel (*Corylus avellana*; able to be coppiced to reduce height) and Common Alder (*Alnus glutinosa*; able to be coppiced to reduce height);
- Native trees should also be present in any public open space, green or play area to generate environmental and wildlife benefits; and
- The success of tree planting is more likely to be achieved when it has been carefully planned to work in conjunction with all parts of the new development, parking, buildings, street lights etc.



Figure 70: Example of street planting within private gardens on the street front.



Figure 71: Example of mature trees which create a sense of enclosure and privacy to this footpath in Watermead.

Code.13 Open spaces

Open spaces play a vital role in creating a positive environment. These are places fostering community and gathering, thus creating lively places in neighbourhoods. Therefore, new development should prioritise the design of open spaces and some design guidelines are:

- The location of new open spaces within new development should be decided based on the location of the existing ones considering the needs of the existing population too;
- All recreational spaces should be designed to link up with each other and also link up with existing adjoining sites, particular note of enhancing green fingers and non-linear development;
- Substantial recreational space should be provided to include woodland walks, lake walks, sport pitches and play areas;
- Surrounding buildings should overlook play areas and public spaces to encourage movement and natural surveillance;
- Open spaces should be equipped with good quality street furniture to create pleasant seating areas, shaded spaces avoiding hidden spots; and
- The materials and style of any street furniture in the open spaces should be consistent throughout the Parish and aim to proudly represent the local character.
- Space allocated for allotments within new developments would add vitality to the area.
- Existing open spaces and important views should be preserve/maintained.
- Substantial recreational space should be provided to include woodland walks, lake walks, sport pitches and play areas;



Figure 72: Example of good quality street furniture that accommodate the open green space offering places for gathering and resting at the Piazza.



Figure 73: Properties overlooking a public open space which is equipped with grass areas and trees, Watermead.

Code.14 Boundary lines, boundary treatments and corner treatments

Together with the creation of potential local landmarks, other important aspects of a successful streetscape and urban form include the treatment of corners, boundary lines and boundary treatments. Therefore, the following guidelines should be applied in new development.

- Buildings should front onto streets. The building line should have subtle variations in the form of recesses and protrusions but should generally form a unified whole;
- Buildings should be designed to ensure that streets and/or public spaces have good levels of natural surveillance from buildings. This can be ensured by placing ground floor habitable rooms and upper floor windows facing the street;
- Natural boundary treatments should reinforce the sense of continuity of the building line and help define the street, appropriate to the character of the area. They should be mainly continuous

hedges and low walls, as appropriate, made of traditional materials found elsewhere in the Parish such as local bricks and tiles;

- In the case of edge lanes, natural boundary treatments can act as buffer zones between the site and the countryside and offer a level of protection to the natural environment;
- If placed at important intersections the building could be treated as a landmark and thus be slightly taller or display another built element, signalling its importance as a wayfinding cue;
- The form of corner buildings should respect the local architectural character. Doing so improves the street scene and generates local pride;
- All the façades overlooking the street or public space should be treated as primary façades; and
- Road layouts should be designed to slow traffic and advantage pedestrians over vehicles.



Figure 74: Example of metal railings being used as a clear boundary treatment but still allow for an active frontage.



Figure 75: Hedges being used to show the property boundary which adding a leafy feel to the area in Watermead.

Code.15 Continuity and enclosure

Focal points and public spaces in new development should be designed in good proportions and delineated with clarity. Clearly defined spaces help create an appropriate sense of enclosure - the relationship between a given space (lane, street, square) and the vertical boundary elements at its edges (buildings, walls, trees).

Some design guidelines that should be considered for achieving satisfactory sense of enclosure are:

- When designing building setbacks, there must be an appropriate ratio between the width of the street and the building height;
- Buildings should be designed to turn corners and create attractive start and end points of a new street or frontage;
- Generally, building façades should front onto streets. Variation to the building line can be introduced to create a more informal character;

- In the case of terraced and adjoining buildings, it is recommended that a variety of plot widths, land use, building heights, and façade depth should be considered during the design process to create an attractive streetscape and break the monotony of the street wall; and
- Trees, hedges, and other landscaping features can help create a more enclosed streetscape in addition to providing shading and protection from heat, wind, and rain.



Figure 76: An example of the footpath around the lake of how the woodland creates enclosure with gaps towards the waterfront creating a feeling of exposure, thus adding to the experience.

Code.16 Legibility and wayfinding

When places are legible and well signposted, they are easier for the public to understand, therefore likely to both function well and be pleasant to live in or visit. It is easier for people to orient themselves when the routes are direct and visual landmarks clearly emphasise the hierarchy of the place. Some design guidelines are:

- A familiar and recognisable environment makes it easier for people to find their way around. Obvious and unambiguous features should be designed in new development;
- Buildings which are located at corners, crossroads or along a main road could play a significant role in navigation. For that reason, the architectural style of those buildings could be slightly differentiated from the rest to help them stand out;
- Landmark elements could also be a public art, historic signage totem or even an old and sizeable tree;
- New signage design should be easy to read. Elements like languages, fonts, text sizes, colours and symbols should be clear and concise, and avoid confusion;
- Signage can also help highlight existing and newly proposed footpaths and cycle lanes, encouraging people to use them more;
- Signage could be strategically located along walking and cycling routes to signalise location of local and heritage assets and raise people's awareness; and
- Provision for people with visual impairment, for instance tactile paving or tactile lettering on signs.



Figure 78: Example of signage posts within the parish.



Figure 77: Example of signage that could be integrated along footpaths to navigate people towards important destinations within the parish.

Code.17 Building heights, density and housing mix

The concept of density is important to planning and design as it affects the vitality and viability of the place. Therefore, some guidelines for new development are needed to ensure that the existing housing density numbers are respected.

- Density should be appropriate to the location of any new development and its surroundings and enhance the character of the existing village;
- Housing densities should be reduced towards development edges and along rural edges in order to create a gradual transition towards the countryside;
- Pedestrian and cycle movement should be a priority and taken into account in larger development schemes. Housing density should support a 'human scale' development, thus meaning it is a

development by the people and for the people; and

- Small scale development and in-fills are encouraged, because they follow the scale and pattern of existing grain and streets and therefore, retain the character of the area.



Figure 79: Typical local example of 2 storey house in the village.



Figure 80: Image from the village which displays the density of the residential development .

Housing mix

The aspiration for the Parish is to create a strong economy based on services, and other types of business with infrastructure to support education, health, commerce and entertainment. Therefore, a mix of new housing is proposed to attract a wide group of people. Some design guidelines for new development are:

- New development should propose a mix of housing to include a range of house types and sizes, both developer and self-built, to allow for a variety of options and bring balance to the population profile;
- Affordable housing should be a priority in new development and its quality and architectural design should be of high standard to complement the local vernacular; and
- As part of the housing mix some bungalows or other single storey should be included for use by elderly or disabled residents.



Figure 81: Terraced buildings.



Figure 82: Flats in Watermead.



Figure 83: Two storey detached house.



Figure 84: Care home building in the village.

Building heights

There is variation in the density and size of buildings in the Parish. More specifically, properties tend to be 2 storeys high with decent-sized rear gardens. The rooflines are irregular and either continuous, where there are clusters of houses, or they get interrupted with nature, where gaps between buildings are generous. Chimneys decorating the roof also interrupt the roofline offering a visual interest.

Maintaining a consistent roofline within the Parish is important to allow for long-distance views towards the surrounding countryside and respect the existing context. Therefore, some design guidelines are:

- Monotonous building elevations should be avoided, therefore subtle changes in roofline should be ensured during the design process;
- Roof shapes and pitches must employ a restrained palette on a given building;

overly complex roofs and flat roofs must be avoided;

- Locally traditional roof detailing elements such as roofing materials, chimney stacks and edge treatments should be considered and implemented where possible in cases of new development; and
- Roofline is set lower than the vegetation backdrop, avoiding hard lines of the silhouette against the sky.



Figure 85: Local example of continuous roofline, of 2-storey buildings.

Code.18 Materials and architectural details

Watermead Parish has a wide variety of architectural styles and details that can act as references for new development. In particular, the most notable building material within Watermead village is red brick and light colours of render.

- Architectural design shall reflect high quality local design references in both the natural and built environment; and
- Any new development should demonstrate that the palette of materials has been selected based on an understanding of the surrounding built environment.
- Level access should be provided for house entry avoiding steps where possible for prams, wheelchairs and elderly residents.

Roofing



Grey slate tiles



Handmade clay peg tiles

Walling



Red Brick



Cream Render



Flint



Yellow and red brick combination

Windows



Modern casement windows



Bow window



Arched window



Velux skylight windows

Doors



Code.19 Lakeside development

One of the most important elements of the parish is Watermead Lake which the village is built around. At the planning stage the designers were required to pay heed to the ecology of the local area to help protect the environment. Central to the plans therefore was an extensive lake that would become a haven for wildlife and many wild birds. The lakes also provided a flood defence which was essential given the fact that the fields on which Watermead were built were a flood plain.

Today the lake is privately owned, however it still serves as a flood defence and wildlife hub as well as offering a place for water sport activities such as paddle boarding and kayaking. Therefore, some design guidelines for new development are:

- Any future development within close proximity to the lake should ensure that there is a sufficient buffer between the lake and the hard infrastructure in order to preserve the existing wildlife that thrives on the lake;

- Lake walls should be maintained to a high standard in order to prevent erosion around private properties and retain adequate flood defence;
- Green infrastructure surrounding the lake is a human and wildlife asset and therefore it should be respected by any future development; and
- Any development that takes place should ensure that construction is ecologically friendly so that it doesn't negatively impact the biodiversity on the lake and throughout the rest of the parish.



Figure 86: Example of biodiversity in and around the Watermead Lake.



Figure 87: Example of the woodland and wild greenery which surrounds the lake, promoting wildlife.

Code.20 Creating a lakeside experience

Given that the lakes are such a huge aspect of the character of Watermead, it is important that they are used in a way that makes most of it for the community. Leisure activities should be prioritised but not to the detriment of biodiversity. The following should be considered to ensure this:

- Water sports and wildlife zones must be defined, making sure that any leisure activities do not harm wildlife or habitats; and
- The parkland and the cricket pitch should be preserved, kept clean and enhanced where possible as it is a community asset which can host events as well as giving people a space to meet and sit outside.



Figure 88: Map showing an example concept plan for the Watermead Lake.

Watermead Parish aspires to become carbon neutral. Codes 21-25 include design guidelines that could have a positive impact to the environment.

Code.21 Minimising energy use

Buildings contribute almost half (46%) of carbon dioxide (CO₂) emissions in the UK. The government has set rigorous targets for the reduction of CO₂ emissions and minimising fossil fuel energy use.

There is a good number of energy efficient technologies that could be incorporated in buildings. The use of such principles and design tools is strongly encouraged to futureproof buildings and avoid the necessity of retrofitting.

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

Figure 83 features an array of sustainable design features. Those on the top show

the features that should be strongly encouraged in existing homes, while those on the bottom show additional features that new build homes should be encouraged to incorporate from the onset.

Code.22 Lifetime and adaptability

The fastest route to building a functional, supportive, neighbourly community is to build homes that people can and want to live in for most of their lives instead of having to move every time domestic circumstances change.

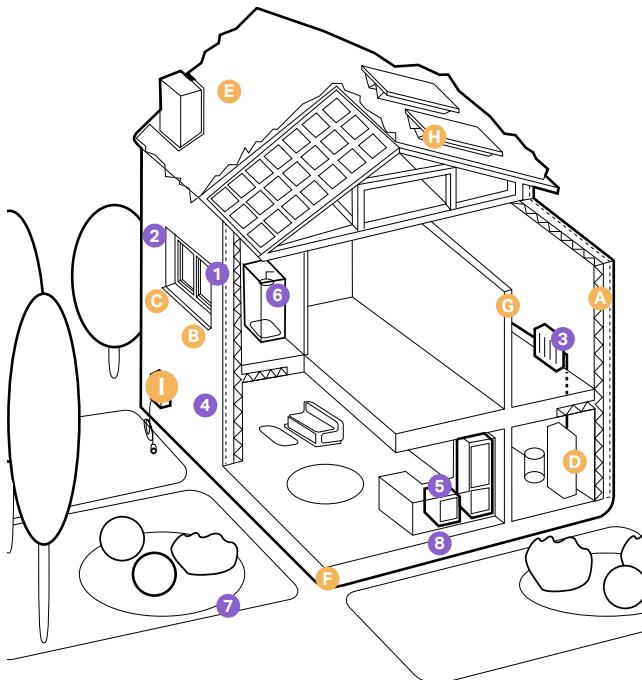
'Lifetime' homes means designing in the flexibility and adaptability needed to allow for easy incorporation of wheelchair accessibility, addition/removal of internal walls, and ease of extension - both vertically and horizontally. This is particularly important for the aged, infirm or expanding/contracting families who may be dependent on nearby friends and family for emotional and physical support.



Figure 89: Example of shingle-like solar panels on a slate roof, with the design and colour of the solar panels matching those of the adjacent slate tiles.



Figure 90: Example of implementing solar panels since the design stage.



Existing homes

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

Additional features for new build homes

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

Figure 91: Diagram showing low-carbon homes in both existing and new build conditions.

Code.23 Minimising construction waste

Green development should look at the whole carbon footprint associated with the full construction cycle. Planning applications of significant size should be supported with site specific Sustainability Statements and ethos for sites development including orientation to make best use of natural resources. As part of the environmental management system it is important that the waste generated during construction is minimised, reused within the site or recycled.

Developers should plan to re-use materials by detailing their intentions for waste minimisation and re-use in Site Waste Management Plans. The actions that this plan will include are:

- Before work commences, the waste volumes to be generated and the recycling and disposal of the materials will be described;

- On completion of the construction works, volumes of recycled content purchased, recycled and landfilled materials must be collated;
- Identify materials used in high volumes; and

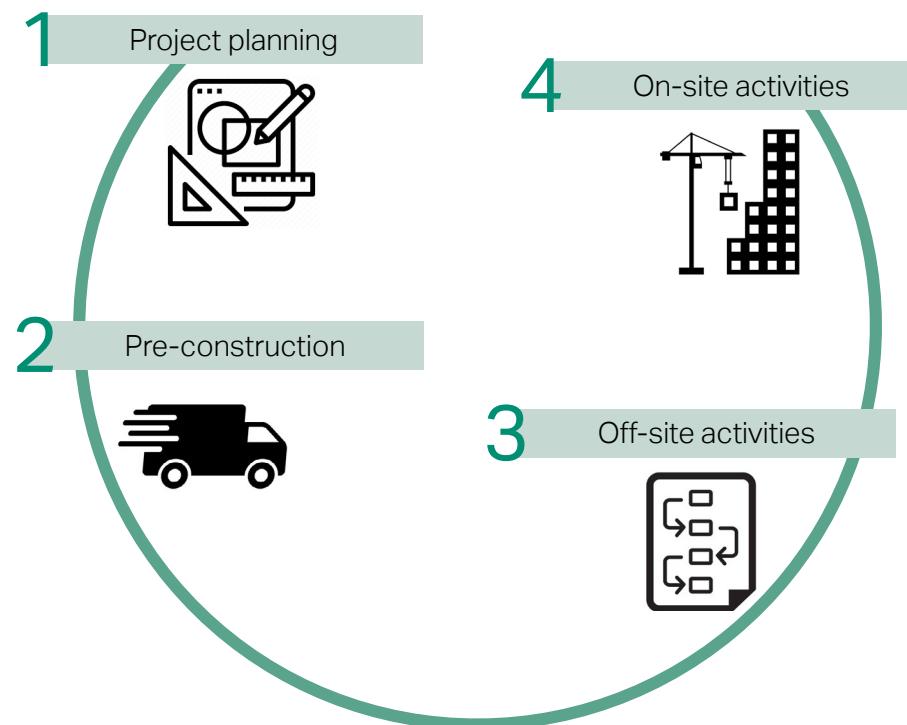


Figure 92: Diagram to illustrate the 4 main stages where waste management practices can be implemented.

Code.24 Recycling materials and buildings

To meet the government's target of being carbon neutral by 2050, it is important to recycle and reuse materials and buildings. Some actions for new development are:

- Reusing buildings, parts of buildings or elements of buildings such as bricks, tiles, slates or large timbers all help achieve a more sustainable approach to design and construction;
- Recycling and reuse of materials can help to minimise the extraction of raw materials and the use of energy in the production and transportation of materials; and
- Development should also maximise the re-use of existing buildings (which often supports social, environmental and economic objectives as well).

Code.25 Electric vehicle charging points

Watermead Parish strongly supports proposals for private transport using electric and other non-fossil fuel powered vehicles. Those can be integrated both on and off street. Some design guidelines on how new development should design for electric vehicle charging points are:

On-street car parking or parking courts

- Provision should be made for charging of electric vehicles;
- Car charging points should always be provided adjacent to public open spaces. Street trees and vegetation is also supported to minimise any visual contact with the charging points;
- Where charging points are located on the footpath, a clear footway width of 1.5m is required next to the charging point to avoid obstructing pedestrian flow; and
- Car charging points within parking courts are highly supported, since they can serve more than one vehicle.

Off-street car parking

- Mounted charging points and associated services should be integrated into the design of new developments, if possible with each house that provides off-street parking; and
- Cluttering elevations, especially main façades and front elevations, should be avoided.

4.5 Checklist

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

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

1

General design guidelines for new development:

- Integrate with existing paths, streets, circulation networks and patterns of activity;
- Reinforce or enhance the character of streets, greens, and other spaces;
- Relate well to local topography and landscape features, including prominent ridge lines and long-distance views;
- Reflect, respect, and reinforce local architecture and historic distinctiveness;
- Retain and incorporate important existing features into the development;
- Respect surrounding buildings in terms of scale, height, form and massing;
- Adopt contextually appropriate materials and details;
- Provide adequate open space for the development in terms of both quantity and quality;
- Incorporate necessary services and drainage infrastructure without causing unacceptable harm to retained features;
- Ensure all components e.g. buildings, landscapes, access routes, parking and open space are well related to each other;
- Positively integrate energy efficient technologies;
- Make sufficient provision for sustainable waste management (including facilities for kerbside collection, waste separation, and minimisation where appropriate) without adverse impact on the street scene, the local landscape or the amenities of neighbours;
- Ensure that places are designed with management, maintenance and the upkeep of utilities in mind; and
- Seek to implement passive environmental design principles by, firstly, considering how the site layout can optimise beneficial solar gain and reduce energy demands (e.g. insulation), before specification of energy efficient building services and finally incorporate renewable energy sources.

2

Street grid and layout:

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

3

Local green spaces, views & character:

- What are the particular characteristics of this area which have been taken into account in the design; i.e. what are the landscape qualities of the area?
- Does the proposal maintain or enhance any identified views or views in general?
- How does the proposal affect the trees on or adjacent to the site?
- Can trees be used to provide natural shading from unwanted solar gain? i.e. deciduous trees can limit solar gains in summer, while maximising them in winter.
- Has the proposal been considered within its wider physical context?
- Has the impact on the landscape quality of the area been taken into account?
- In rural locations, has the impact of the development on the tranquillity of the area been fully considered?
- How does the proposal impact on existing views which are important to the area and how are these views incorporated in the design?
- Can any new views be created?
- Is there adequate amenity space for the development?
- Does the new development respect and enhance existing amenity space?

3 (continued)

Local green spaces, views & character:

- Have opportunities for enhancing existing amenity spaces been explored?
- Will any communal amenity space be created? If so, how this will be used by the new owners and how will it be managed?
- Is there opportunity to increase the local area biodiversity?
- Can green space be used for natural flood prevention e.g. permeable landscaping, swales etc.?
- Can water bodies be used to provide evaporative cooling?
- Is there space to consider a ground source heat pump array, either horizontal ground loop or borehole (if excavation is required)?

4

Gateway and access features:

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

5

Buildings layout and grouping:

- What are the typical groupings of buildings?
- How have the existing groupings been reflected in the proposal?
- Are proposed groups of buildings offering variety and texture to the townscape?
- What effect would the proposal have on the streetscape?
- Does the proposal maintain the character of dwelling clusters stemming from the main road?
- Does the proposal overlook any adjacent properties or gardens? How is this mitigated?

5 (continued)

Buildings layout and grouping:

- Subject to topography and the clustering of existing buildings, are new buildings oriented to incorporate passive solar design principles, with, for example, one of the main glazed elevations within 30° due south, whilst also minimising overheating risk?
- Can buildings with complementary energy profiles be clustered together such that a communal low carbon energy source could be used to supply multiple buildings that might require energy at different times of day or night? This is to reduce peak loads. And/or can waste heat from one building be extracted to provide cooling to that building as well as heat to another building?

6

Building line and boundary treatment:

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

7

Building heights and roofline:

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

8

Household extensions:

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

9

Building materials & surface treatment:

- What is the distinctive material in the area?
- Does the proposed material harmonise with the local materials?
- Does the proposal use high-quality materials?
- Have the details of the windows, doors, eaves and roof details been addressed in the context of the overall design?
- Does the new proposed materials respect or enhance the existing area or adversely change its character?
- Are recycled materials, or those with high recycled content proposed?

9 (continued)

Building materials & surface treatment:

- Has the embodied carbon of the materials been considered and are there options which can reduce the embodied carbon of the design? For example, wood structures and concrete alternatives.
- Can the proposed materials be locally and/or responsibly sourced? E.g. FSC timber, or certified under BES 6001, ISO 14001 Environmental Management Systems?

10

Car parking:

- What parking solutions have been considered?
- Are the car spaces located and arranged in a way that is not dominant or detrimental to the sense of place?
- Has planting been considered to soften the presence of cars?
- Does the proposed car parking compromise the amenity of adjoining properties?
- Have the needs of wheelchair users been considered?
- Can electric vehicle charging points be provided?

- Can secure cycle storage be provided at an individual building level or through a central/ communal facility where appropriate?
- If covered car ports or cycle storage is included, can it incorporate roof mounted photovoltaic panels or a biodiverse roof in its design?

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Delivery

04

5. Delivery

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

Actors	How they will use the design guidelines
Applicants, developers, & 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. Potential developers are encouraged to approach the Parish Council at pre-planning stage to enable positive contributions before applications are submitted.
Local Planning Authority	As a reference point, embedded in policy, against which to assess planning applications. The Design Guidelines should be discussed with applicants during any pre-application discussions.
Parish Council	As a guide when commenting on planning applications, ensuring that the Design Guidelines are complied with.
Community organisations	As a tool to promote community-backed development and to inform comments on planning applications.
Statutory consultees	As a reference point when commenting on planning applications.

Table 01: Delivery

About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle — from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivalled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a *Fortune 500* firm and its Professional Services business had revenue of \$13.2 billion in fiscal year 2020. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.



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