

DESIGN & ACCESS STATEMENT: Land at Wings Nursery, Lidsey Road, Woodgate

Address Land at Wings Nursery
Lidsey Road
Aldingbourne
PO20 3SU

Date: October 2017

Revision: 2

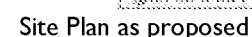


WHALEBACK
51 Summerfield Road
Chichester
PO20 8LX

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The statement describes issues relating to the site, its built environment and landscape contexts, the design principles and concepts that have been applied to the development and how issues relating to access have been dealt with. It illustrates how the proposals for a new residential extension to the settlement have been informed by the defining landscape and built environment characteristics of the area. It shows how considerations of landscape form, settlement patterns, building groups and types, details and materials may inform the design of proposals which are attuned to their context and contribute to the attractiveness and sustainability of Woodgate and Westergate.



Site Description

The site of Wings Nursery is located within the southern part of the village of Woodgate, a linear settlement which merges with Westergate to the north. The two villages are separated only by the railway line and are otherwise connected as a single built-up area. There is a general coalescence of settlements in the area, with Woodgate, Westergate, Eastergate and Barnham all being closely linked. This can be appreciated from the map and the satellite view on the following page. It is within Aldingbourne Civil Parish, in the Arun District of West Sussex.

The site is located on the A29, Lidsey Road, which has a relatively high volume of traffic and suffers from queuing associated with the level crossing.

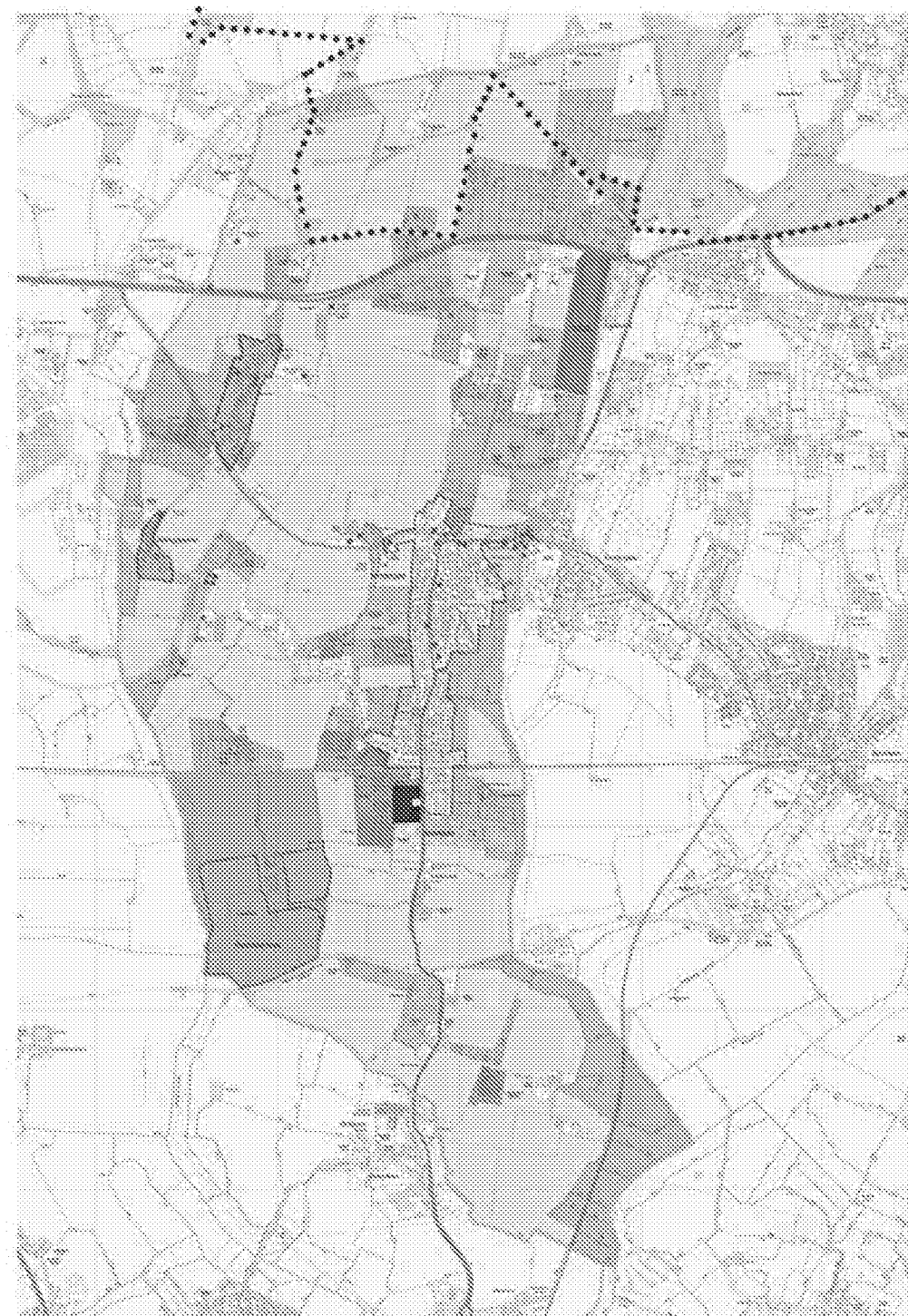
The site is 3.3 miles to the north of Bognor Regis and 4.6 miles to the east of Chichester. It is 1.9 miles to the south of the A27 and 1.3 miles to the west of the railway station at Barnham.

A bus stop is located immediately adjacent to the site and provides a circular bus route from Bognor Regis to Yapton.

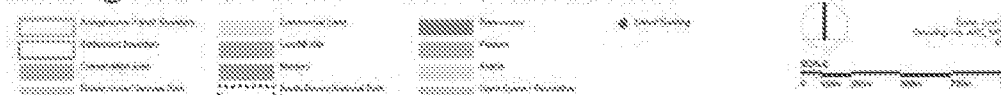
The surrounding landscape is flat and low-lying, crossed by meandering rife and straight drainage ditch systems. To the south of Woodgate the land falls to an elevation of between 3-7m AOD. It occupies part of the coastal plain which was part of the seabed in previous interglacial periods.

As can be seen from the adjacent Aldingbourne Parish Site Context Plan, large parts of the Parish are allocated to agriculture and it is a predominantly rural area. The 1974-77 OS map below shows the extent to which the land around Westergate and Woodgate was previously dedicated to horticultural glasshouses. Few of these still remain as businesses, with most being either disused, in decline or having been redeveloped for housing.

The proposed site is a derelict nursery and is



Aldingbourne Parish - Site Context Plan



Aldingbourne Parish Site Context Plan (site shaded red), from Aldingbourne Neighbourhood Development Plan, 2014- 2034

adjacent to and opposite the Westergate/Woodgate Settlement Boundary. It has a street frontage of 180m (including the Wings property) and is prominent when approaching the village from the south.

The geology of the site and the wider settlement of Woodgate is the London Clay Formation consisting of clay, silt and sand. A brick field is identified to the southeast of the site, on the area of land now occupied by the caravan park. This geology was laid down 48 to 56 million years ago in the Palaeogene Period, when the local environment was dominated by deep seas. Coarse- to fine-grained slurries of debris were transported from the continental shelf, flowing into a deep-sea environment.

Springs emerge from the chalk aquifer between Aldingbourne and the Downs and flow into the rife which cross the parish in a north-south direction. The Environment Agency flood map illustrates the principal watercourses as well as the intervening, manmade drainage ditches. This framework of watercourses and drainage features is considered to represent a key aspect of the parish's character and ecological value. The Sussex Wildlife Trust notes that there were also a greater number of ponds, with some of these having been lost through infilling. The proposed site has a drainage ditch along its eastern boundary, adjacent to the road. The northern section of this was shown as an elongated water body on the OS map of 1892-1905 and its significance for ecology and local character is recognised.

With the land being so low-lying, hedgerows and trees become prominent features of the landscape. The site is partially enclosed by trees and hedges, with those on the northern half of its eastern boundary contributing to the character of Lidsey Road. These boundary features are, however, fragmented and neglected and offer opportunities for enhancement.

Site Description



Site position indicated in red on aerial photograph

Site Description



Environment Agency Flood Map

Site Description

Historic OS maps show the degree to which the neighbouring settlements of Woodgate, Westergate, Nyton and Eastergate have expanded and coalesced since the late nineteenth century. In 1875 Woodgate consisted only of a handful of buildings; a farmstead to the north side of the railway line, the Prince of Wales pub to its south, a signal post at the crossing and a small group of buildings and goods sheds on either side of the track to the east. Of these, only the pub and a pair of cottages has survived, with the farm buildings and signal post being demolished and redeveloped relatively recently.

Westergate was a more substantial linear settlement in the late nineteenth century and included a school and Wesleyan Methodist chapel.

The map of 1912 shows that there had been little change in the intervening years since 1875. Within Westergate the principal change was the construction of some glasshouses associated with nurseries and some short rows of terraced houses along the main road.

By 1937, however, new estates of suburban housing had been laid out both to north and south of the railway line. In Woodgate, this consisted of suburban development along the main road, Lidsey Road, and the development of Woodgate Road, which was perpendicular to it. Wings, the house at the centre of the application site, was also developed during this phase.

Judging by the extant buildings, this phase of development (1912-37) appears to have consisted largely of detached and semi-detached bungalows. The date and typology of these buildings suggests that they may have been “Homes Fit for Heroes” built after The Housing and Town Planning Act of 1919 (The Addison Act). They were of standardised design and clad in harling or pebble-dash.

Westergate saw a similar amount and type of

development at the Junction of Westergate Street and Hook Lane. That along Westergate Street was also of local authority housing type but of two storeys. These also appear to have been clad in pebble-dash, although now painted white. The development along Hook Lane was of lower density and consisted of 1.5 storey houses in larger plots.

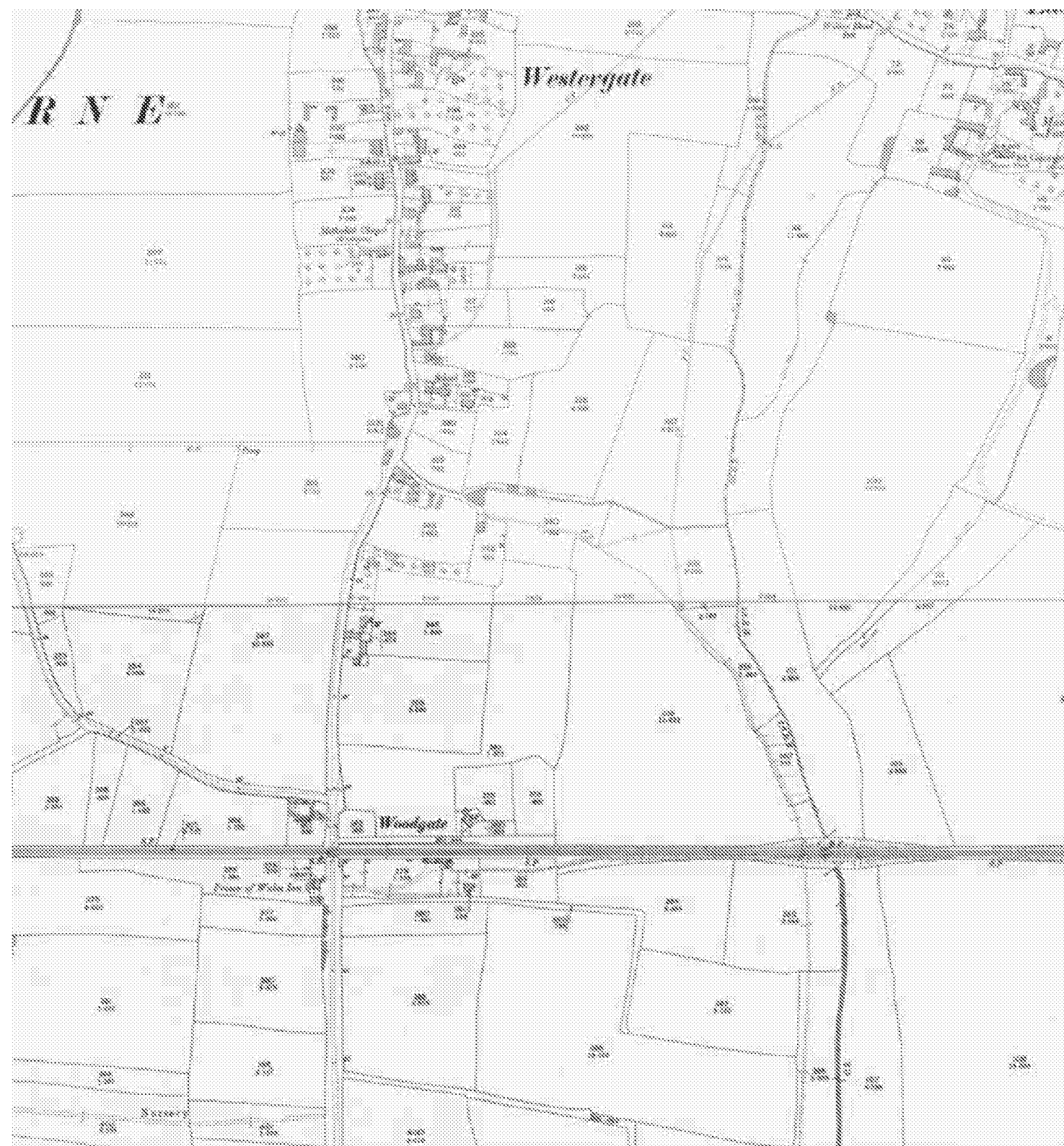
In the forty years between 1937 and 1977, the remainder of the field to the south of Woodgate Road was laid out for housing, which was again of a single storey. The building and layout characteristics suggest that this was also local authority-led. A caravan site was also laid out to the south of this housing estate.

This period also saw the large scale expansion of the horticultural glasshouses and nurseries to the west side of Lidsey Road. A large piggery was also built to the east side of the village, to the south of the railway line.

During this period several Westergate was subjected to a large amount of housing development. This substantially changed the nature of the settlement from rural village to garden suburb. Estates like Elm Road, Ivy Lane, St Richard's Road, Rosvara Avenue, Meadow Way, Woodgate Park, Orchard Gardens, Orchard Cottages, St John's Close and Cohen Close were built according to standard layout and building patterns. Similar estates can be found across the south of England and display little or no responsiveness to the vernacular building characteristics of their location.

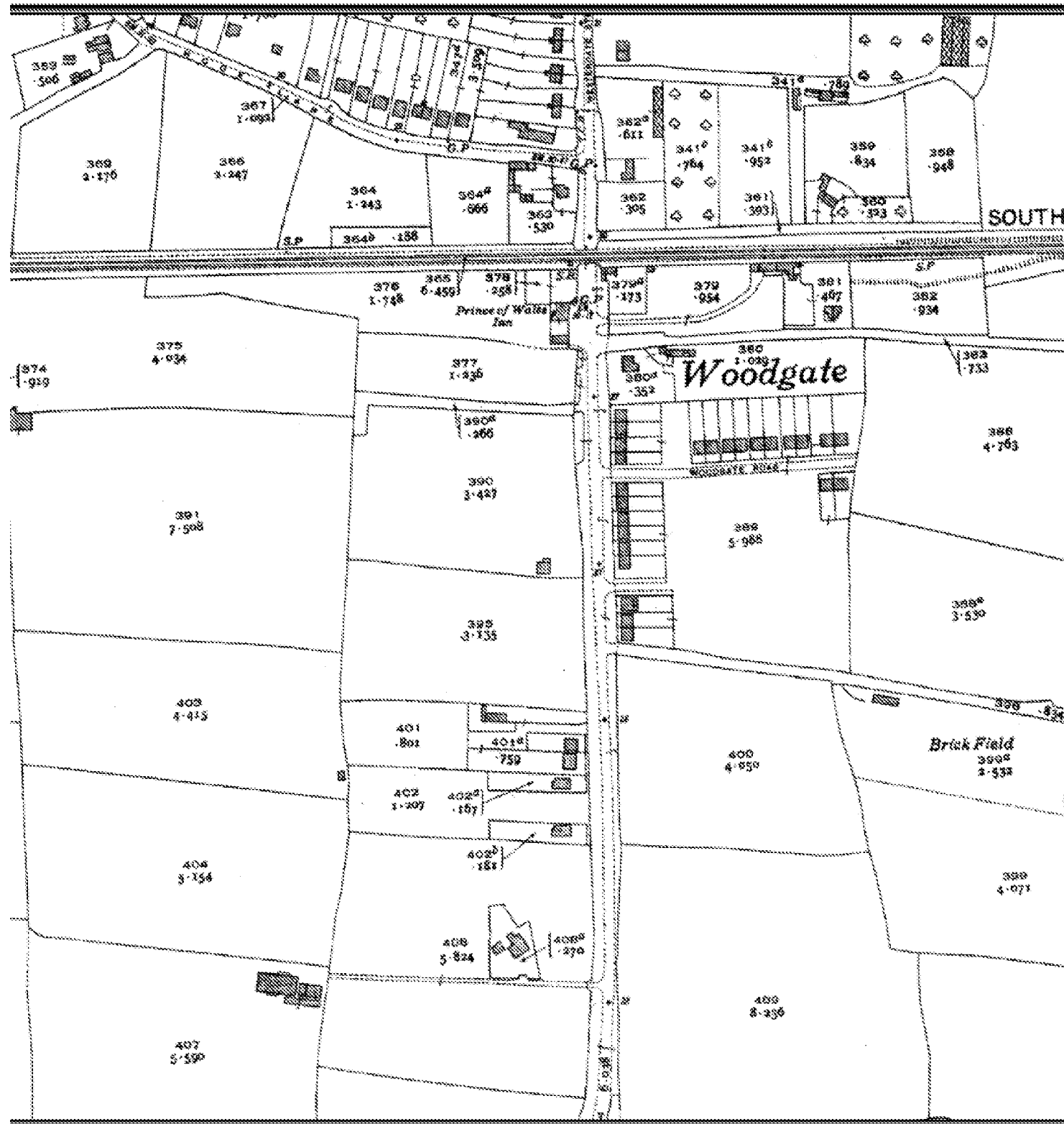
Since 1977 several more estates have been constructed in Westergate and Woodgate according to relatively standardised house-builder typologies. The overall effect has been to largely overwhelm locally distinctive building and environmental characteristics and to challenge any distinctive sense of place.

Remnants of the historic village do, however, survive and may serve to inform how future development might conserve and enhance Woodgate and Westergate's distinctive qualities.



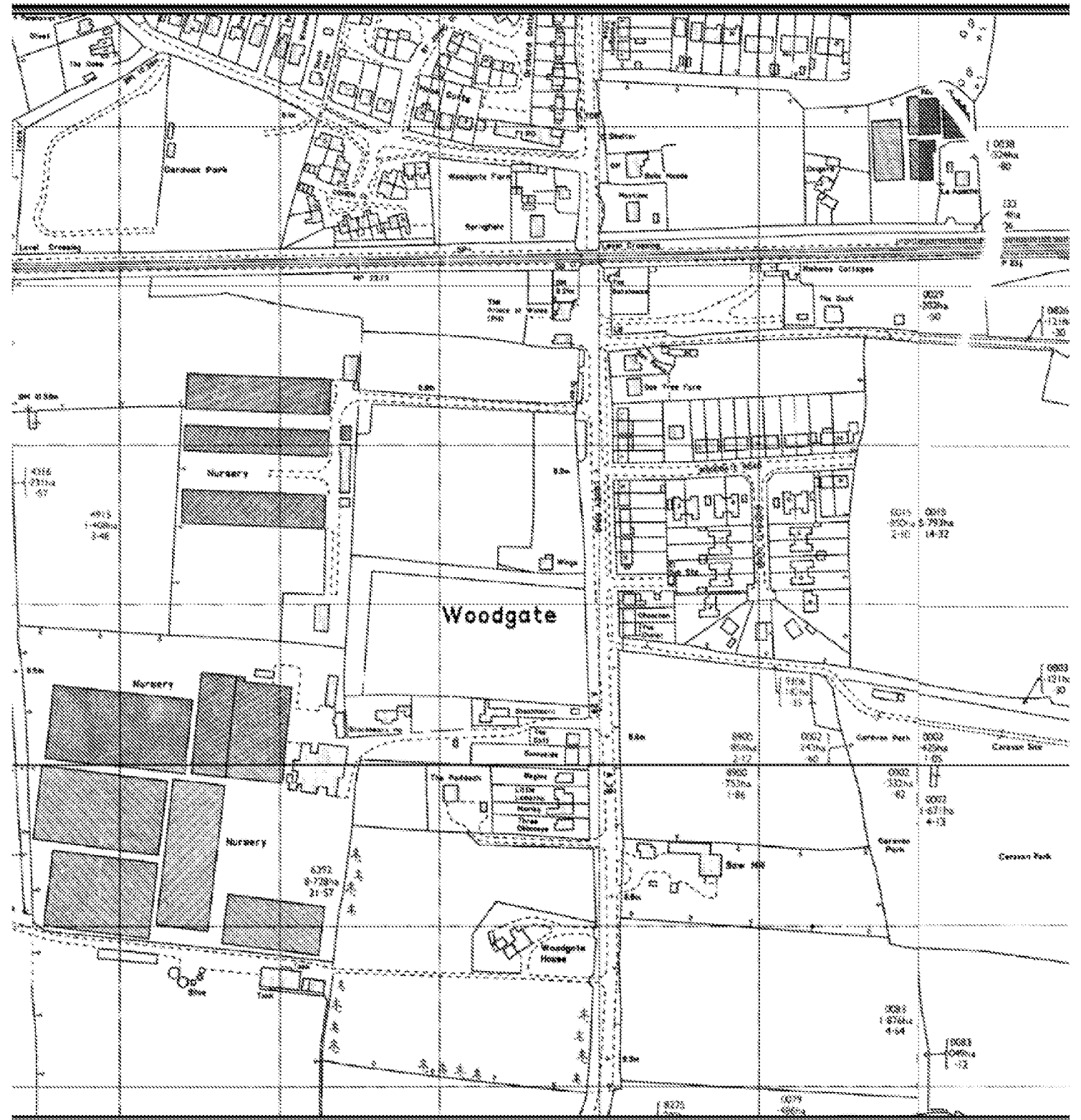
OS map of 1892-1905

Site Description



Not recorded. This map may not be reproduced without permission. 1000/1937

OS 1937



Not recorded. This map may not be reproduced without permission. 1000/1977

OS 1974-77

Site Description



Above: View into site from Lidsey Road
Below: Entrance to Wings property



Above: View north up Lidsey Road from central entrance
Below: View north up Lidsey Road with mature hedgerow and trees to left (eastern boundary of site)



Site Description



Above: Northern site entrance
Below: View from north to south across site



Above: View west up lane to north of site
Below: View east down lane to north of site



Site Description



Above: View west up lane to north of site towards glasshouses
Below: View east towards rear of Wings property



Above: View from north to south across site
Below: Mature oak within site area



Site Description



Above: Unused glasshouses within southern part of site
Below: Glasshouses and hardstanding associated with previous use



Above: View from east to west across southern part of site
Below: View south from site towards neighbouring properties



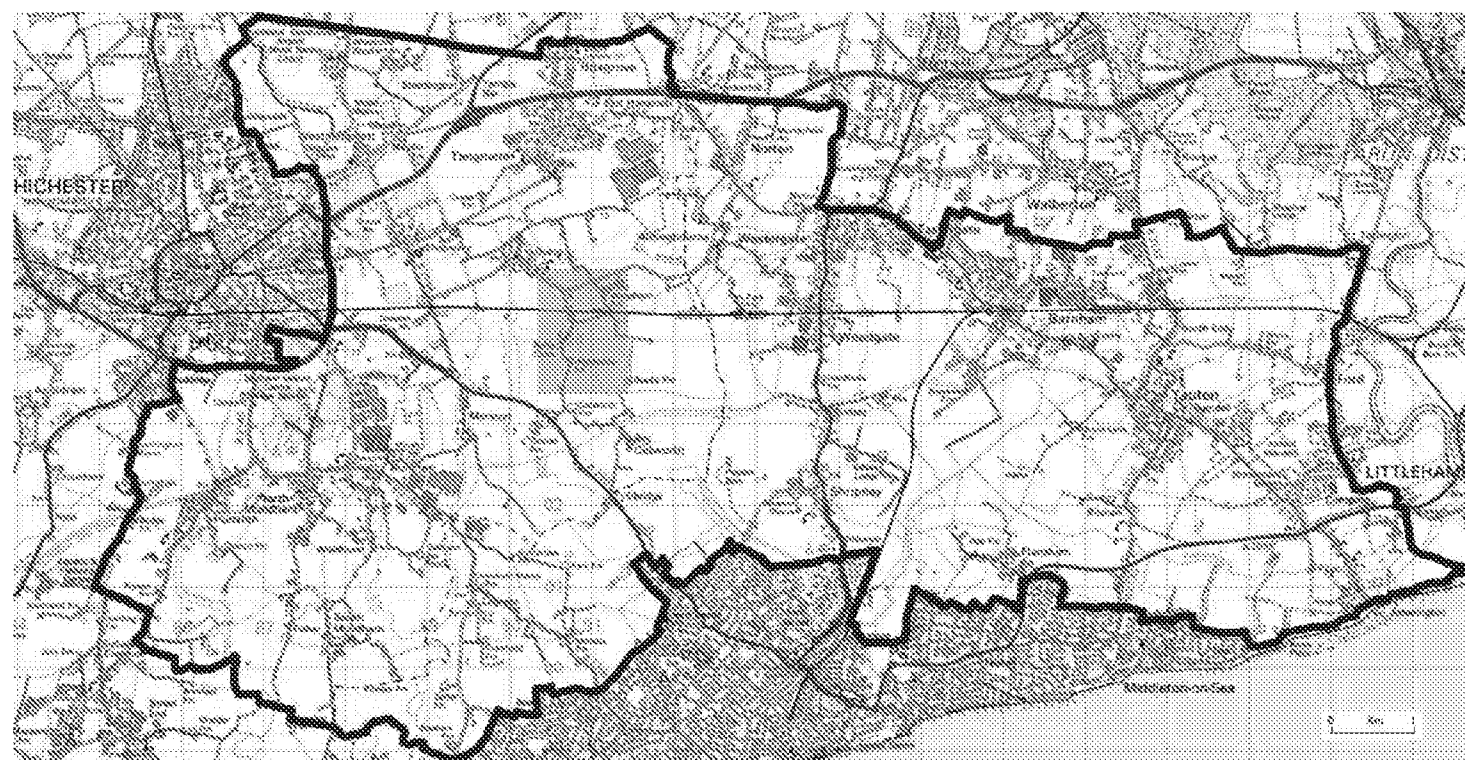
Landscape Strategy: Landscape and Built Environment Character

Landscape Character

The site lies within the Chichester to Shoreham Coastal Plain (CI) Landscape Character Area as defined in the unpublished West Sussex Landscape Character Assessment (November 2003). The more detailed Aldingbourne Parish Neighbourhood Development Plan Landscape Study locates the site within LCA 13 Westergate Western Fringe.

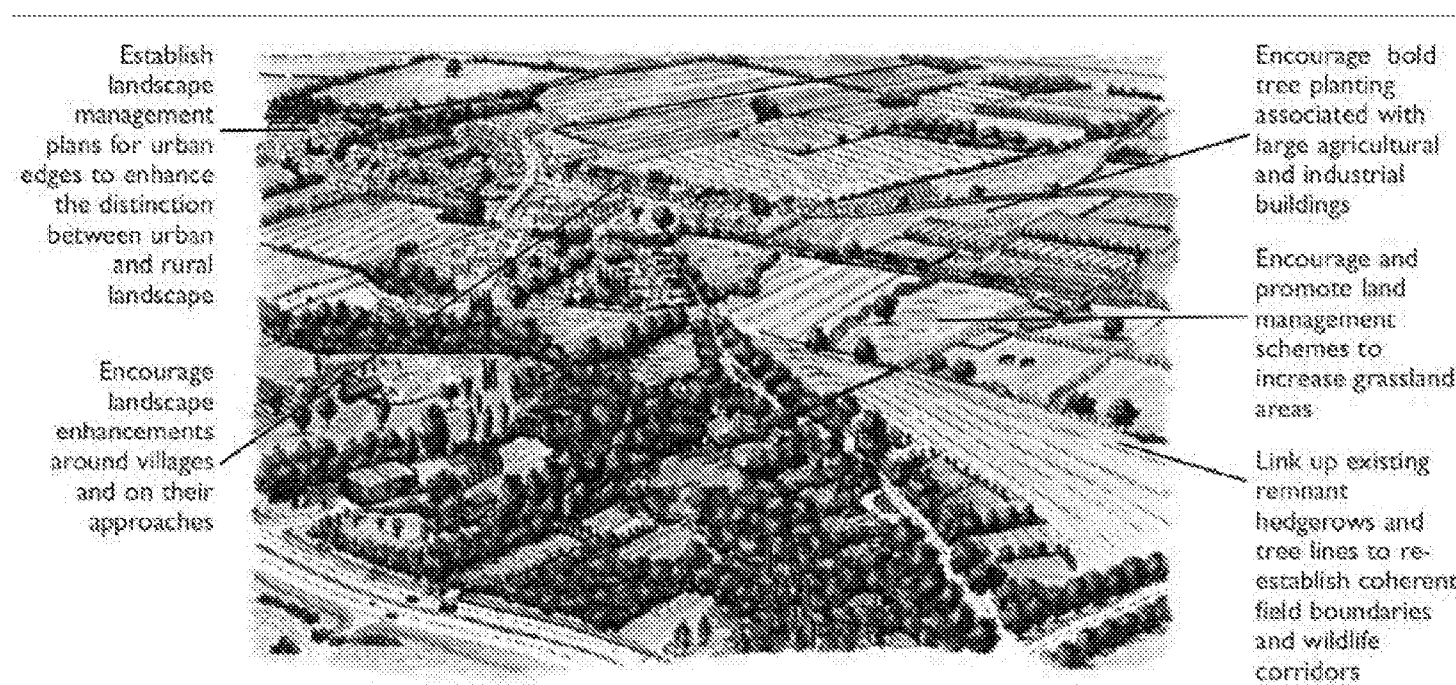
The West Sussex Landscape Land Management Guidelines describe the character of the landscape and a number of characteristics and issues which are considered relevant to this site:

- Rows of large light reflecting glasshouses are strong suburban elements. Where these occur, they create visual confusion and poor definition between town and countryside, and erode distinctive landscape character.
- Major suburban settlements in the area are Tangmere, Barnham, Yapton, and Westergate.
- Scattered, historically nucleated villages with mixed building materials of flint, brick, half timber and stone.
- The urban fringes associated with Bognor are particularly obvious, with sporadic urban development in suburban settlements of Tangmere, Barnham, Yapton, and Westergate.
- Few trees or hedgerows, partly as a result of Dutch Elm Disease, from the 1970s and the Great Storm of 1987 and overall high quality agricultural land, although, where they do exist, they form prominent features.
- Semi-natural habitats are scarce due to intensive arable agriculture.



Above: West Sussex County Council Land Management Guidelines Sheet SC9 Chichester to Yapton Coastal Plain

Below: Illustration depicting Land Management Guidelines



- Hedgerow pattern is fragmented with occasional isolated woods, for example, Hunston Copse (Site of Nature Conservation Importance, SNCI).

Derelict glasshouses are identified as a Key Change affecting the character area.

Land Management Guidelines that have potential to be addressed through the proposals relating to this site are:

- Create a new, large scale tree and hedgerow framework which complements the open intensively farmed landscape whilst maintaining significant views of Chichester Cathedral, the South Downs and local features.
- Maintain and strengthen field boundaries such as hedgerows and shelterbelts.
- Link up existing remnant hedgerows and tree lines to re-establish coherent field boundaries and wildlife corridors.
- Encourage a full tree survey of the area with a view to conserving and managing existing feature tree groups and individuals.
- Encourage landscape enhancements around villages and on their approaches.
- Establish new vegetation features by the planting of hedgerows and tree clumps in field corners and along roadsides, especially those approaching settlements.
- Promote sympathetic design of new road schemes, particularly associated with transport infrastructure for Bognor Regis.
- Encourage the replacement or restoration of derelict glasshouses where these appear detrimental to the landscape.
- Maintain and enhance the landscape and biodiversity of rifes and other existing habitats. Re-profile banks and encourage more diverse flora by lengthening clearance cycles.
- Enhance the visual prominence of rifes through the establishment of waterside vegetation features.

Landscape Strategy: Landscape and Built Environment Character

The Aldingbourne Parish Neighbourhood Development Plan includes a landscape assessment within its evidence base that locates the site within Landscape Character Area 13: Westergate Western Fringe.

In relation to the landscape assessment, a medium, low or negligible rating for landscape capacity indicates that development would have a significant and detrimental effect on the character of the landscape as a whole and/or on the setting of an existing settlement or outstanding assets within the District.

A rating of Medium/High or High/Medium identifies a landscape character area with the capacity for limited development, in some areas, having regard for the setting and form of existing settlement and the character and sensitivity of adjacent landscape character areas. No areas were identified as having a High or very high capacity for development.

LCA 13 Westergate Western Fringe

The character area is described as a patchwork of urban edge land uses, contained by boundary vegetation, on the upper coastal plain and adjacent to the existing settlement.

It identifies aspects of the character of the area as:

- A patchwork of horticulture (glasshouses / nurseries), Christmas tree plantation, paddocks, mobile home development and playing fields forming a transition between the built up area and arable farmland to the west.
- Linear residential development along Hook Lane.
- Vegetation includes native hedges and trees, together with cypress shelter belts.
- Well developed boundary vegetation.
- Not distinctive. Mixed urban fringe uses.
- Generally on upper coastal plain adjacent to settlement.
- Strong green edge, visually separate and makes transition between village and farmland.

- Contribution to separation between Westergate-Aldingbourne; contains settlement of Westergate.

The landscape value of the character area is defined as: SLIGHT, and is primarily related to the proximity of the character area to Listed buildings. The area is considered to have of limited scenic beauty

Overall, the landscape character area is deemed to have a MODERATE sensitivity to change and a MEDIUM/ HIGH capacity to accommodate development.

Built Environment Character

The Aldingbourne Neighbourhood Plan identifies Buildings and structures of character within the plan area. This encompasses an area that is wider than the single settlement of Woodgate/Westergate but is helpful in identifying the qualities of the local vernacular building tradition that might inform new development.

Buildings of character are defined as:

Church Road

- The Old Bakery
- The Old House (No. 8)
- Daggle Cottage
- Buckle Cottage
- The Old Vicarage

Denmans

- Clock House

Level-Mare-Lane

- Mount Pleasant House

Nyton Road

- Sunbeam Cottage
- Forge House
- Argyl Cottage
- Limmer Pond Cottage (flint house close to road junction opposite Limmer Pond)

- Nyton Spinney (thatched 1930s house of arts and crafts style),
- The Old Stores (former butchers and grocers shop, local historical significance)
- Elm Cottages and Elm Tree Cottages (Victorian/ Edwardian semis).
- The Old Mission Hall, Nyton Road ("the iron chapel" - corrugated iron mission hut).
- Christmas Cottage adjacent to Rose cottage (listed forming one continuous building).
- Basmati restaurant (formerly the Labour in Vain pub, local historical significance).

Park Lane

- The Tithe Barn
- The Barn

Norton Lane

- Shepherds Cottage
- Norton Lodge
- Well Gardens
- Norton House
- Winter House

Northfields Lane

- Park Cottage (timber clad building of a particular style).
- Hope Villas (1897 redbrick late Victorian semi-detached villas with double arched internal porches).

Westergate Street

- Tudor Cottage (small cottage of a particular style adjacent to listed Mouse Hall).
- The Studio (timber framed building to rear of listed Mouse Hall)
- Rock House (Servac HQ, flint faced building with local historical significance)
- Heron House (flint sided house mentioned in local histories)
- The White House (16th Century house, possibly a former hotel)

- The Gatehouse (Part of the old Woodgate railway station complex)
- The Prince of Wales Public House (historical, flint)

Fontwell Avenue

- Northfields farm and surrounding buildings- large Edwardian farm house and surrounding flint farm buildings.

Level Mare Lane

- Northfields House- large, imposing, red-bricked, multiple leaded glass windows, possibly Edwardian
- Mount Pleasant Cottage - picturesque double-fronted Edwardian cottage

Denmans Lane 21.

- The workman's cottages and complex surrounding the listed clock tower (brick and flint)
- Folly Fruit Farm (Large farm house- - possibly Edwardian)

Hook Lane

- Hook Cottage - possibly Elizabethan
- The Dene - Georgian
- St Catherine's Cottage

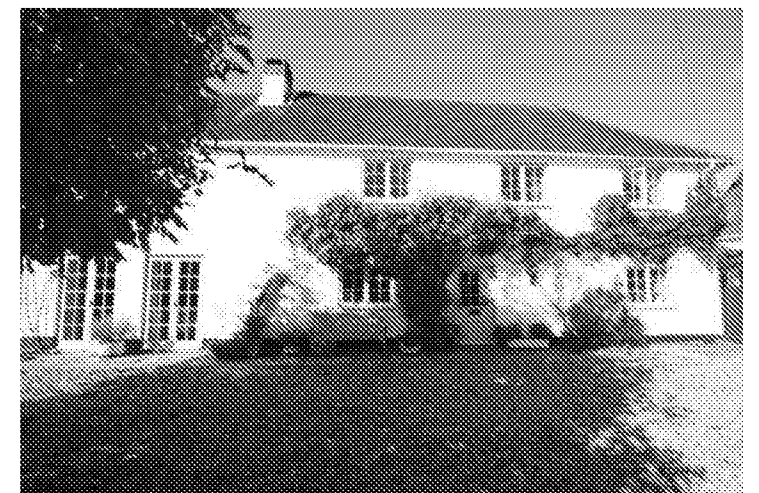
Oving Road

- Mill House- historic site.
- Mill Cottage- flint cottage next door

Sack Lane

- Thatched Cottage
- Lidsey Lodge farm- Large Edwardian/Victorian flint farmhouse
- One Hundred- old farm workers cottage
- Lidsey Lodge Cottages- old farm workers cottage
- Lidsey Cottage & Harvest Home- probably Victorian farm workers cottages

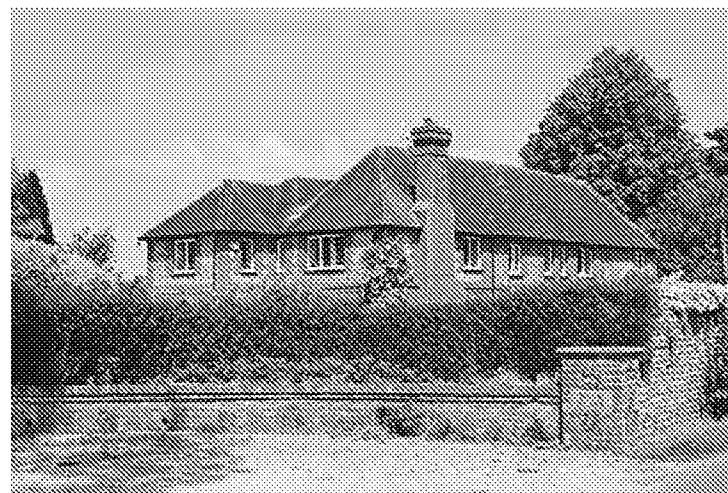
Landscape Strategy: Landscape and Built Environment Character



Landscape Strategy: Landscape and Built Environment Character



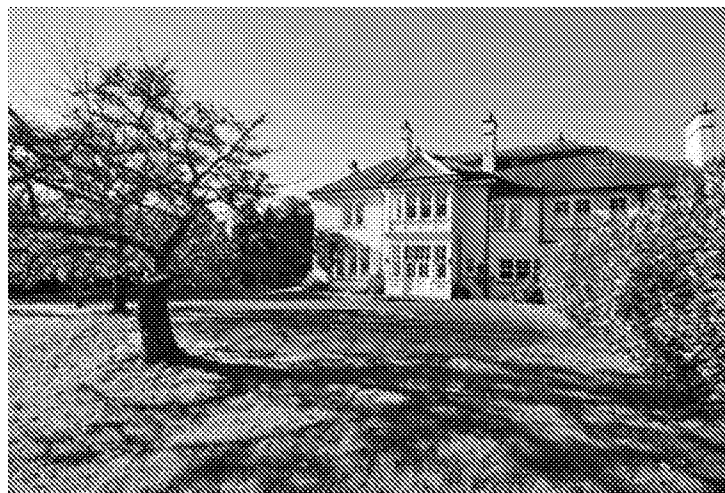
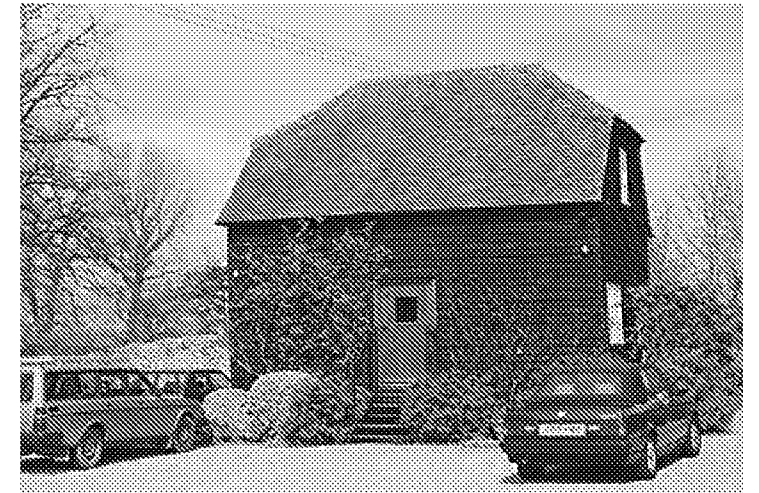
Landscape Strategy: Landscape and Built Environment Character



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Landscape Strategy: Landscape and Built Environment Character



Landscape Strategy: Landscape and Built Environment Character



Landscape Strategy: Landscape and Built Environment Character

Building Typologies

72 buildings have been identified and illustrated on the preceding pages to give an impression of locally characteristic building typologies. These may be used to inform the detailed design of proposals. Their defining characteristics may be summarised as:

Building heights:

2.5 storey =	11%
2 storey =	82%
1.5 storey =	4%
1 storey =	3%

Roof orientation:

Eaves parallel to street:	84%
Gable facing street:	16%

Materials:

London stock brick (buff):	6%
Red brick:	17%
Painted plaster:	39%
Brick and flint:	22%
Brick with tiled gables:	4%
Painted brick or masonry:	12%

Abiding by these characteristic design parameters during detailed design stage will contribute to the creation of a development which is responsive to locally characteristic building typologies.

Layout Typologies

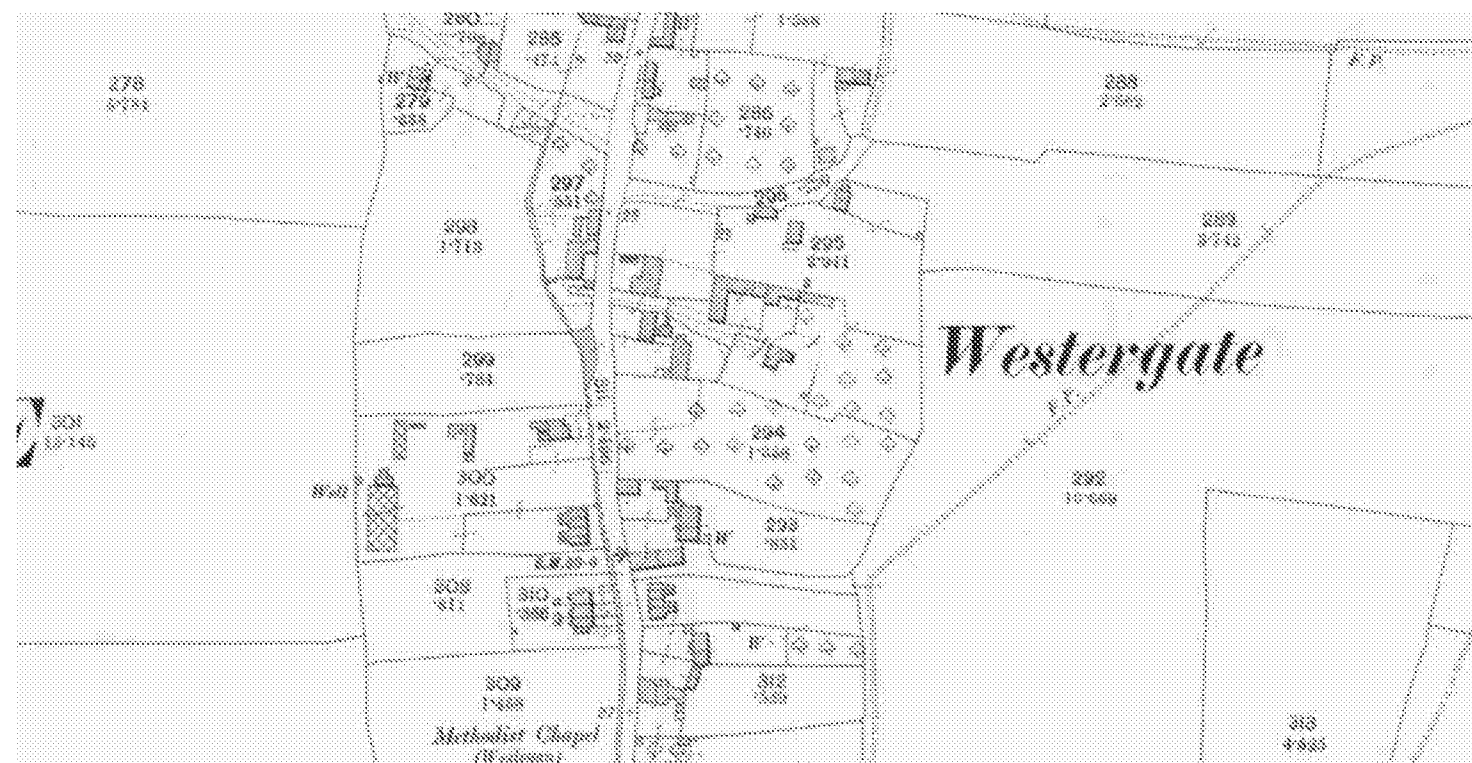
The Site Development section illustrated that Westergate and Woodgate developed as a linear settlement along the main road. Although Interwar housing layouts followed a traditional grid layout, along the main road and in perpendicular lanes to it, the mid and late twentieth century estates were defined by relatively generic, cul-de-sac estates of standard building types.

The layout proposed relates to the historic settlement pattern in defining an active street frontage towards Lidsey Road. Although the interior site layout has some relationship to the perpendicular and estate typologies found in the village, it seeks to establish a stronger and more traditional sense of place. The natural green area and SUDS features serve to activate the site's character in a way that draws on that of comparable settlements which incorporate water features into their public spaces. This is considered to not only confer benefits in terms of sustainable drainage and biodiversity but to also create an attractive and engaging living environment.

An analysis of characteristic villages has been undertaken to understand the specific qualities of such traditional villages and how these are derived from the pattern of streets and lanes, the disposition of buildings and the shape and location of water and open space.

The characteristics of each settlement has informed the design of the site plan. Although this is indicative at this stage, the character analysis has been included within the Design and Access Statement to demonstrate how a distinctive and high quality environment can be created that builds on the wider qualities of the vernacular building tradition.

It is considered that any successful scheme draws on the lessons learned from the past, whilst responding to contemporary requirements such as the incorporation of wildlife habitat and sustainable drainage.

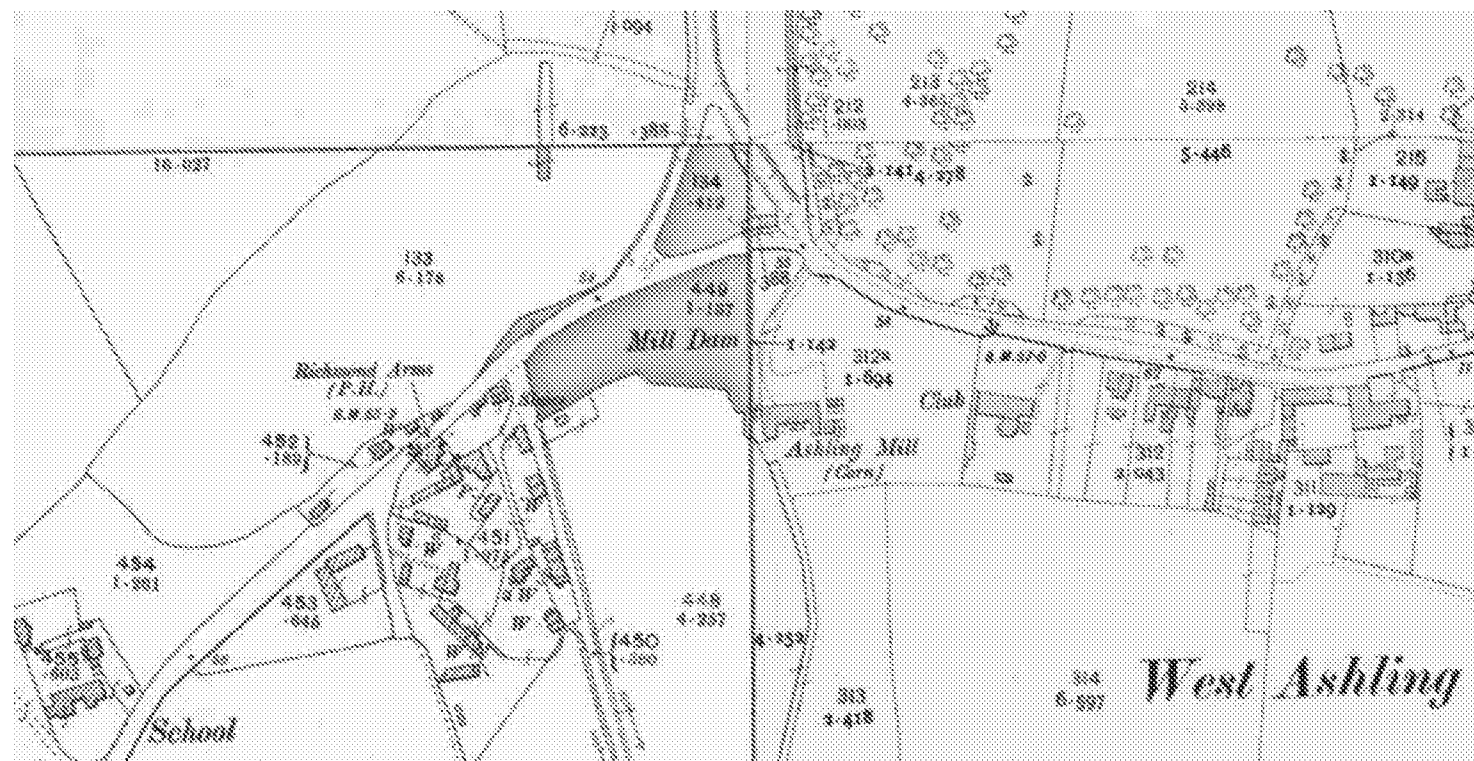


Westergate

Westergate distinctive characteristics:

- Linear water feature at road side
- channelled watercourse at street edge, with access to properties obtained over small "bridges"
- Linear watercourse links ponds
- Varied building types, described above

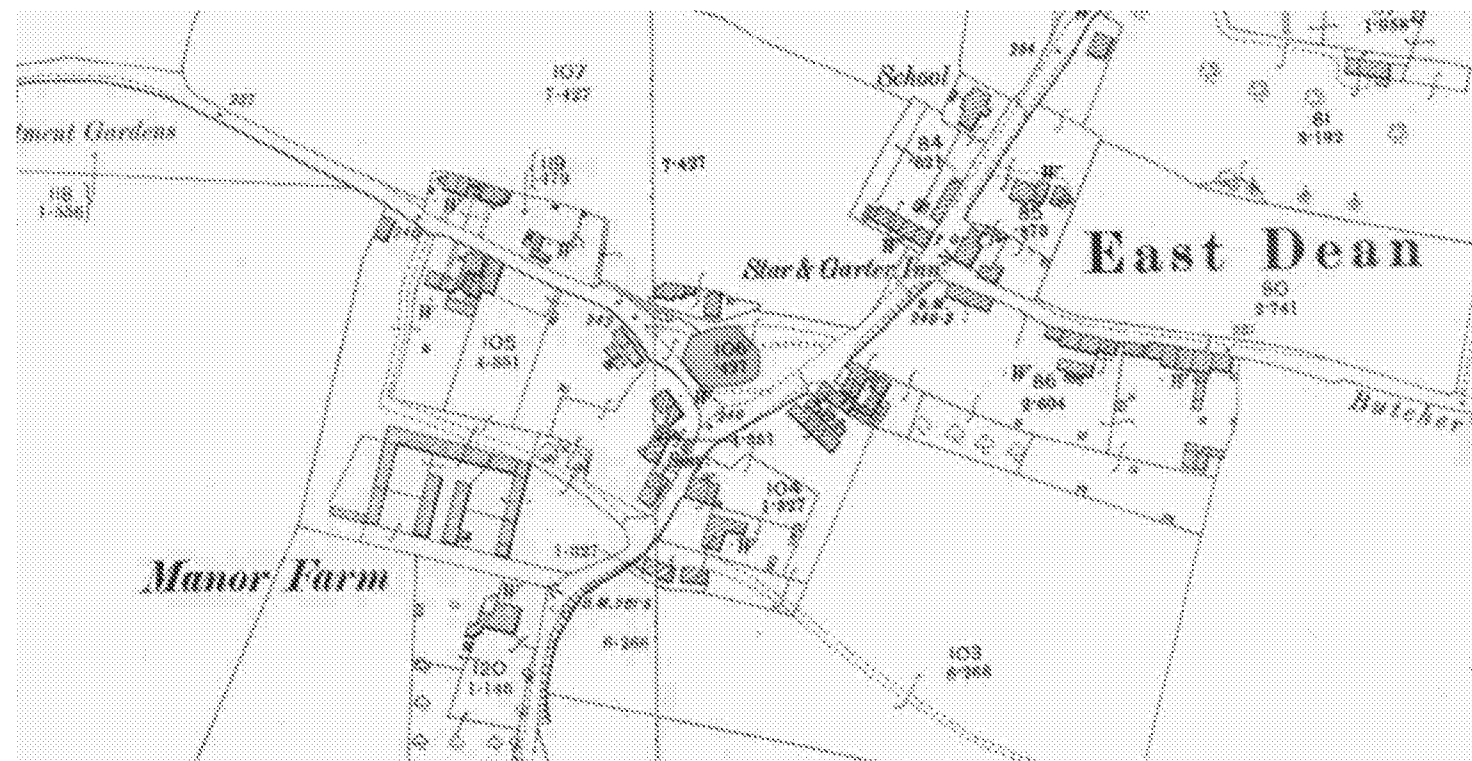
Landscape Strategy: Landscape and Built Environment Character



West Ashling

West Ashling distinctive characteristics:

- Central village pond
- Watercourses follow lines of streets
- Linear road with some development at depth
- Detached properties lining streets
- Predominantly two storey dwellings with pitched roofs
- Predominant roof material is red clay tile
- Predominant building material is red brick, occasional stone and render is used.
- White windows are predominant

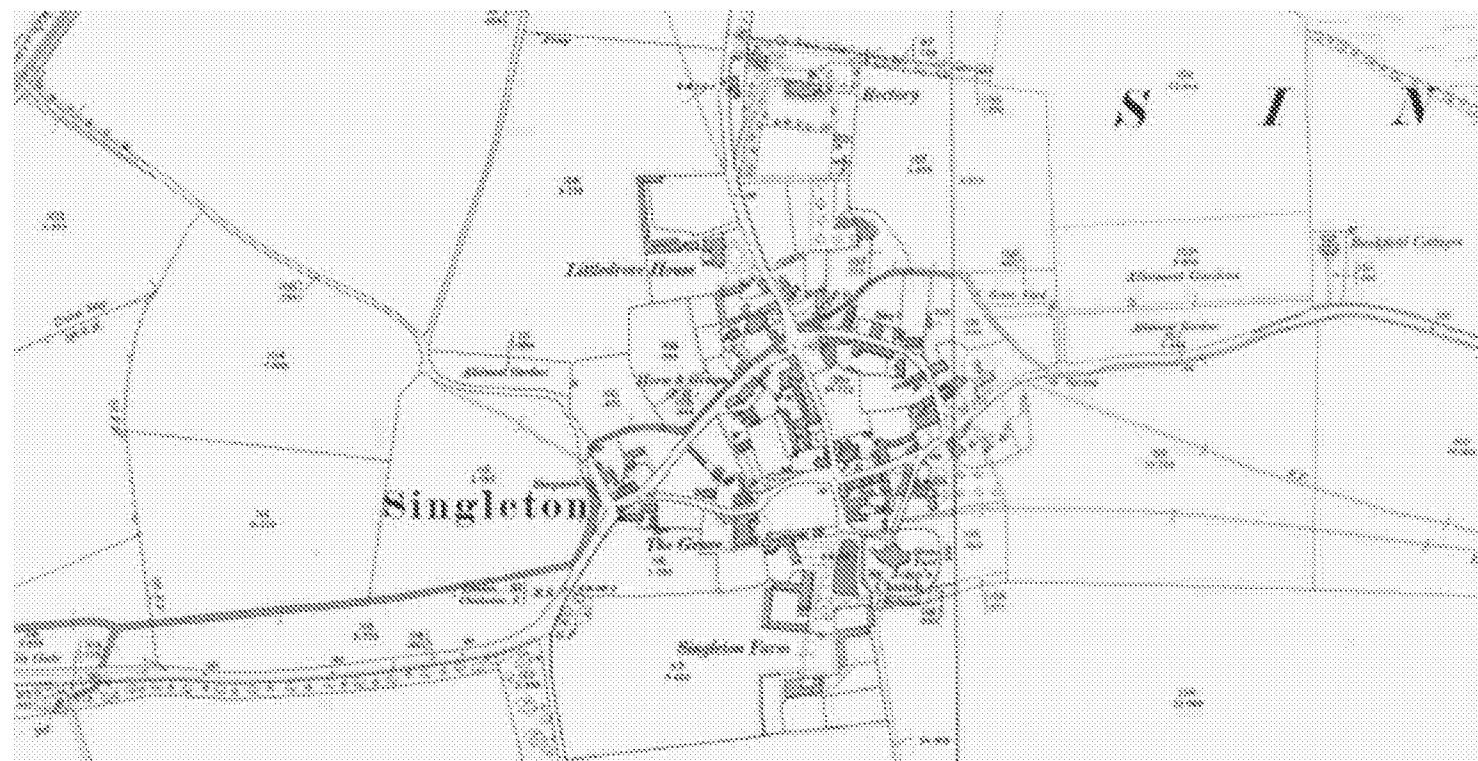


East Dean

East Dean distinctive characteristics:

- Central village green with pond
- Buildings centred around green set within natural landscape
- Variety of dwelling types
- Two storey dwellings with pitched roofs
- Red tile roofs with gable/hipped and catslide features
- Red brick and flint predominant
- Flint/brick walls, hedgerows and picket fence boundaries

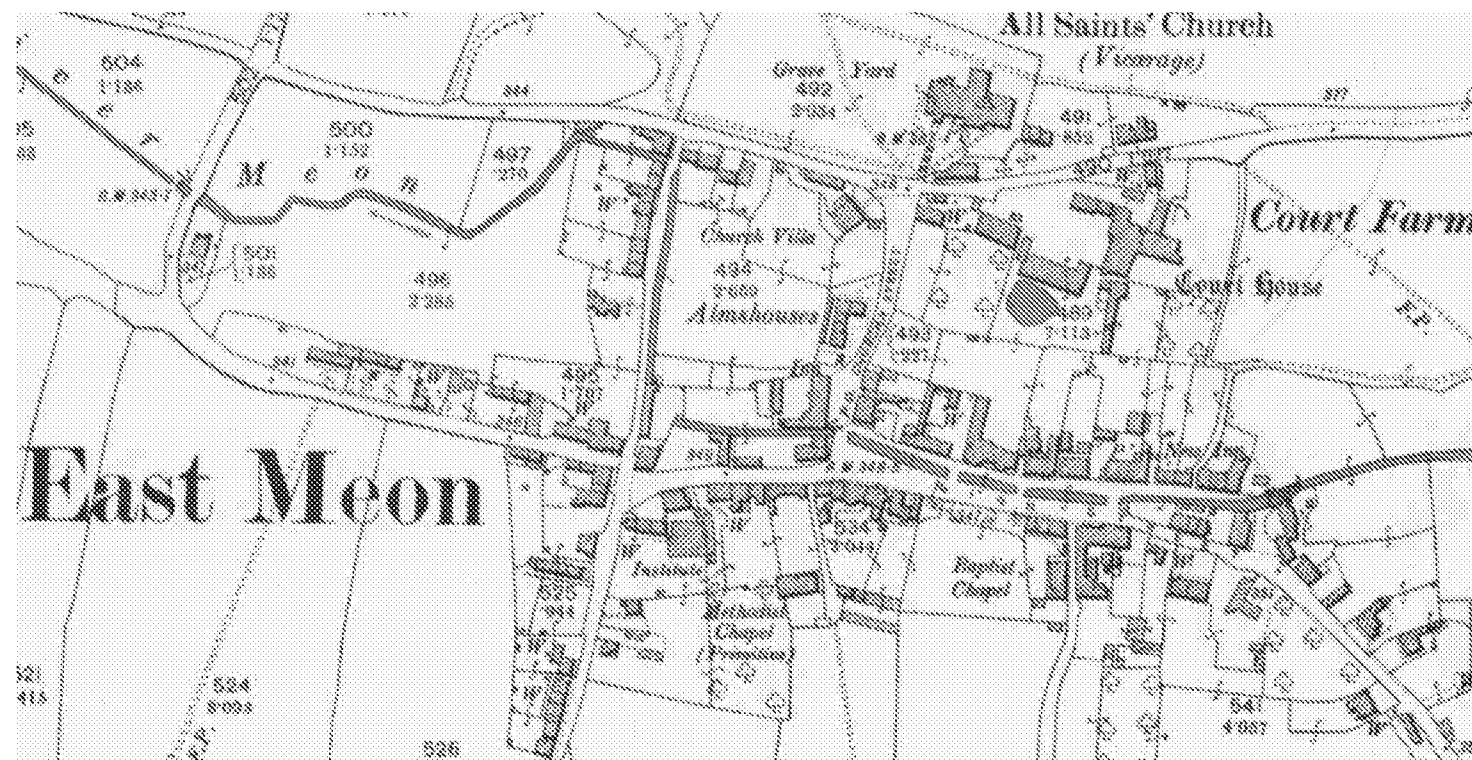
Landscape Strategy: Landscape and Built Environment Character



Singleton

Singleton distinctive characteristics:

- Central Green with village pond
- Staggered and varied street scape
- Buildings either front directly onto the street or are set back at varying angles within green spaces to create an active and vibrant street scene
- Variety of dwelling types
- Two storey dwellings with pitched roofs
- Red tile is predominant for roofs
- Walls of brick-and-flint
- Flint/brick boundary walls, hedgerows and picket
- Fence boundaries

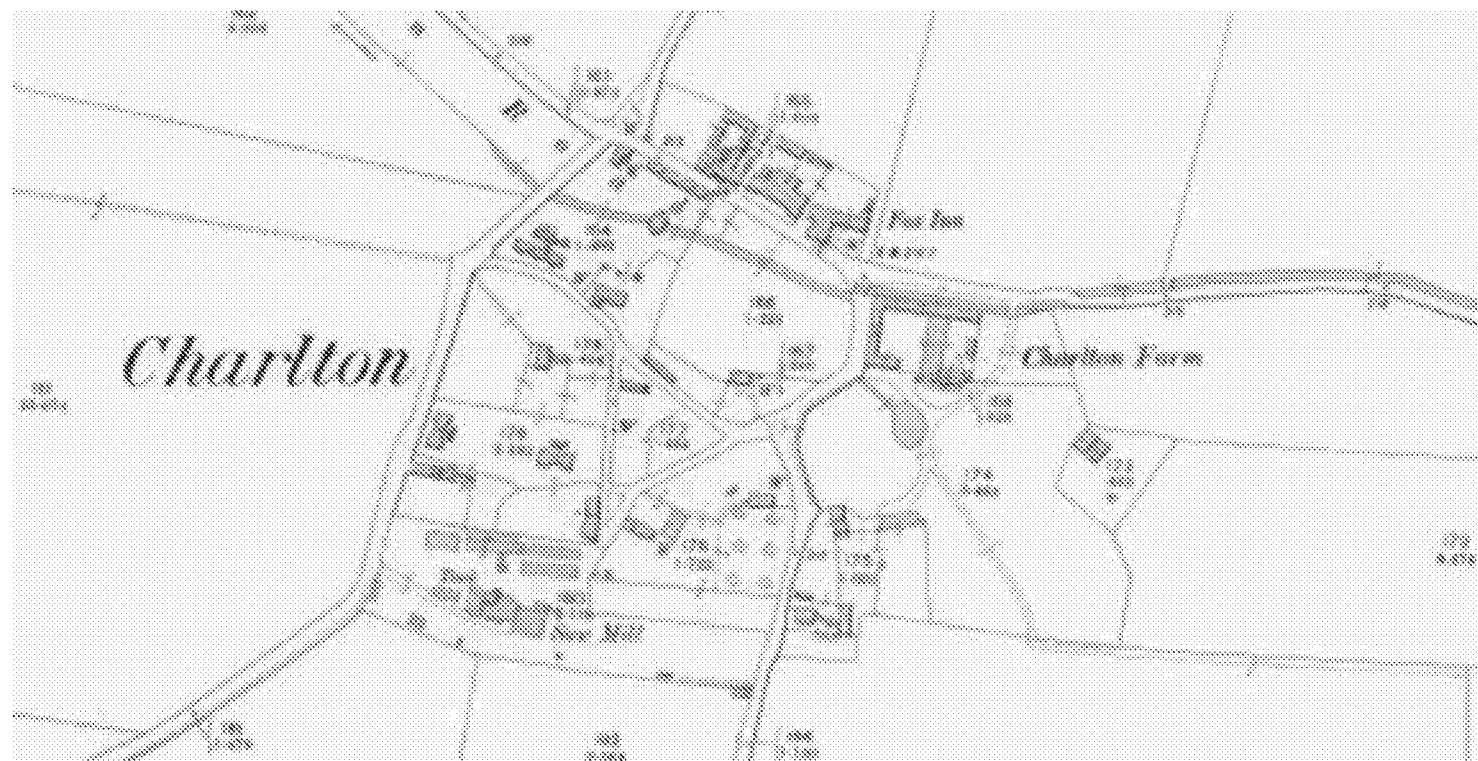


East Meon

East Meon distinctive characteristics:

- Examples of streets incorporating water features
- Clearly defined principal public space
- Street frontages following organic line of road
- A mixture of two storey housing typologies
- Mixed approach to the roofing material including grey slate & red clay roof tiles
- Mixed approach to building materials with grey & red brick, renders of different colour, boarding and stone

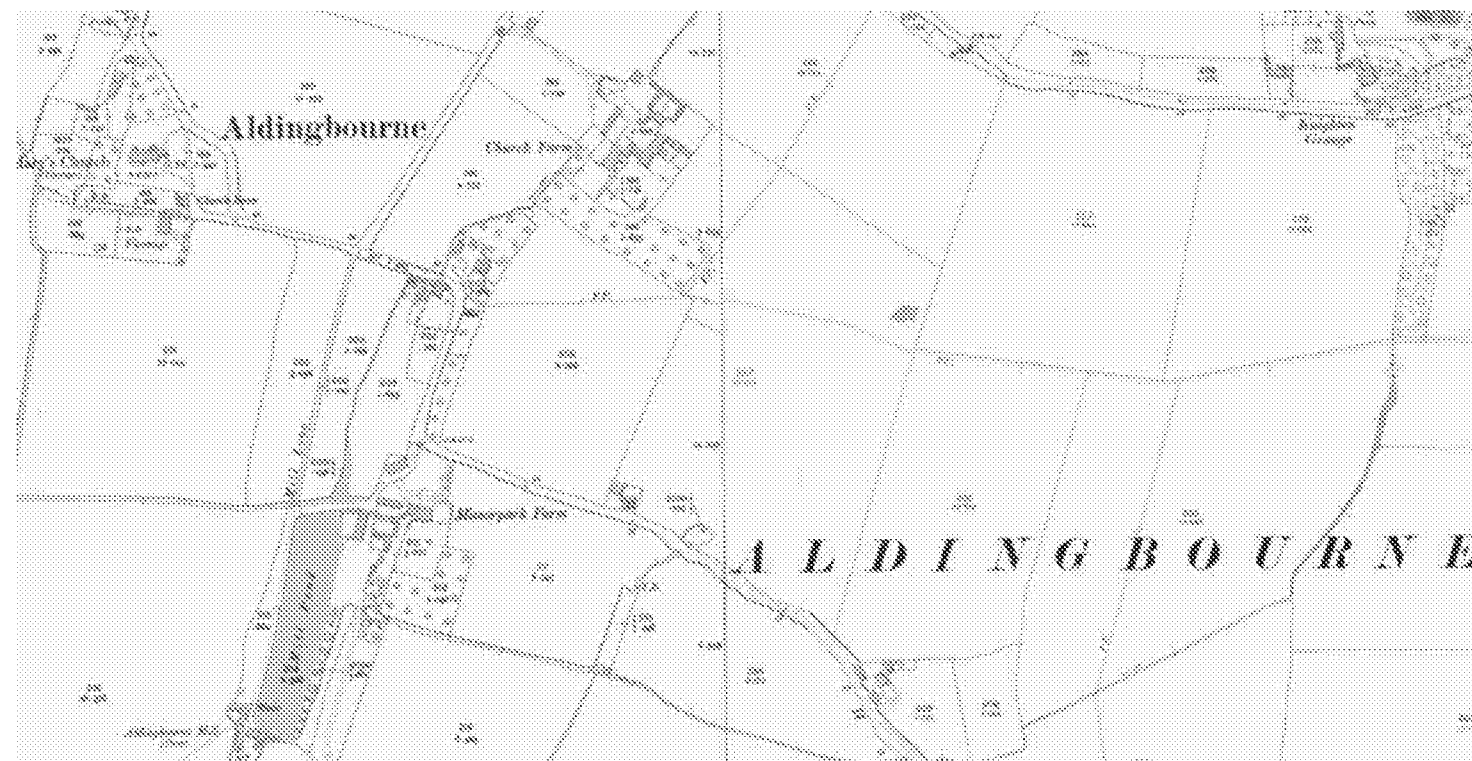
Landscape Strategy: Landscape and Built Environment Character



Charlton

Charlton distinctive characteristics:

- Watercourse flows through village and links ponds
- Watercourse located to side of road, in front of properties
- Organic village layout
- Varied building types



Aldingbourne

Aldingbourne distinctive characteristics:

- Large mill pond to south of village
- Drainage ditch along Church Road connecting water bodies
- Drainage features Connect with Aldingbourne Rife
- Organic settlement pattern with development along lanes and at depth

Landscape Strategy: Sustainable Drainage and Biodiversity

The Aldingbourne Neighbourhood Plan's commitment to improving biodiversity and tackling flood risk has been taken as a principal driver in developing proposals for the development of the Wings Nursery site. Note has also been taken of the presentation made Louise Beaton of Action in Rural Sussex and Aldingbourne Parish at the conference "Understanding the Benefits of Ecosystem Services"

The Tithe Map has been consulted to ascertain whether the site was previously crossed by watercourses or ponds. These were not illustrated on the copy of the map presented as part of the Neighbourhood Plan evidence base although a drainage ditch was shown on the 1892-1905 OS Map next to the northern section of the site's eastern boundary. This ditch is still in place and extends along the whole eastern boundary, only being covered by the access to the Wings house.

The 1840s Tithe Map shows that the site was then divided into two fields rather than just one. It is expected that there was a hedgerow separating the fields. This historic landscape character has informed the design approach through the provision of a greater degree of habitat connectivity, particularly in the region of the central, lost hedgerow.

The design strategy seeks to maintain existing trees and hedgerows whilst providing additional connecting habitats across the site. Water ditches and bodies will also be integrated to provide benefits to water management and biodiversity.

The strategy focuses on the following key elements:

- the site's perimeter hedgerows and trees, which will be safeguarded and enhanced through additional native planting;
- native planting within the public green space;
- existing and proposed drainage features, including a new pond; and
- planting and drainage features within private gardens.



Above: Copy of 1840s Tithe Map with site area outlined in red

Below: 1892-1905 OS Map showing drainage ditches and with site outlined



The central green space has been planned not as a mown area of lawn but as a place for wildlife and water. It is suggested that a raised board-walk provides access over the potentially wet ground to a wildlife hide next to a pond.

New habitats will be created within the pond and around its margins. This will be connected, via the existing tree and a new indigenous hedgerow to the existing hedgerow on the site's western boundary. This will enable bats and foraging animals to enter the site and participate in the ecology of the wildlife area. A lighting strategy that avoids shining light onto the wildlife area or waterbodies will also benefit the use of the site by bats.

There will also be significant tree planting within the site and around its perimeter. This will enhance its capacity for wildlife and enhance its appearance. Continuing the boundary planting along the eastern boundary with Lidsey Road will enhance the gateway into Woodgate/Westergate from the south and provide benefits to air quality.

It is proposed that drainage ditches and swales are used to drain the residential areas of the site, connecting with the pitch on the eastern boundary and the pond within the wildlife area. Landscape design elements and planting will express the integration of water into the built environment and help contribute to a distinct sense of place that is derived from local environmental characteristics.

Planting along swales and ditches will be of native damp ground and wetland species such as those found within the Aldingbourne Rife. This will ensure there is continuity of habitats within the parish and contribute to their collective robustness in supporting associated wildlife species.

Landscape Strategy: Sustainable Drainage and Biodiversity

Sustainable Drainage

Climate change in southern England is forecast to cause a significant increase in the quantity of winter rainfall, and a reduction in summer rainfall in general, and these changes will be accompanied by a higher incidence of heavy storm events.

A key issue for any development site in this area, therefore, is dealing with surface water draining from its sealed surfaces, and a consideration of potential effects of this to land down-stream.

So called sustainable drainage systems are designed to attenuate, and even out storm water flows from development into natural water courses, to avoid point loading of pollutants washed off hard surfaces, and to prevent flooding down stream. The Environment Agency now requires development sites to have temporary retention of surface water generated from it, so that run-off is no greater than a green field condition.

Rain falling on 'unsealed' land tends to soak into the topsoil and percolate to the ground water, draining towards the nearest watercourse.

Land cover conditions affect movement and percolation of rainfall. Vegetation, especially trees, arrests surface water run-off as a first line of defence, and can aid percolation and evaporation. This is because rain falls on leaves first, some water is evaporated directly from leaf surfaces, and the remainder then drips to the ground during and after the rain event so slowing the rate at which the rain makes contact with the ground.

Soil conditions dictate their ability to allow percolation – clayey soils tend to prevent this, and often form a barrier to soil drainage.

The method of vegetation management also has an effect on the surface water retentive nature of plants. For example, moisture will be retained for longer in

long meadow sward and under trees if there is leaf litter than if it falls on manicured lawns.

Vegetation and soils also help to filter water and can remove particulate and some other pollutants through the action of bacteria in topsoil and the root zone of plants such as reeds and rushes.

When field capacity is reached (the maximum amount of water a soil can hold), water runs off the surface, but its progress is usually slowed down by surface roughness, vegetation, or barriers; this flow might be 15-20% of significant rain event. In conventionally developed areas, the preponderance of impermeable surfaces presented by roofs and paving, aided by rapid conveyance due to piped drainage that accelerates runoff.

Natural infiltration is prevented in sealed areas, and small areas of vegetation behind raised kerbs, and 'unsealed' surfaces in such urban areas have little value if the vegetation shields the unsealed ground where, additionally, soils are often compacted and so of low permeability, all this can increase surface run-off to more than 80%.

Peak storm water flow rates can increase by a factor of 10, causing point loading of pollutants and pulses of water that can cause flooding down stream.

Sustainable Drainage is a practical and cost effective alternative to conventional piped drainage. The Flooding and Water Management Act advocates a much wider use of sustainable drainage techniques.

Having multiple methods of dealing with surface water is always the safest method of preventing localised flooding. This may include temporary storage such as lined storm cells (the storage component of which could provide some harvested rainwater to irrigate the landscape in dry periods), and ditches and ponds that contain trees that need summer time irrigation for

healthy growth.

Another aspect of using a softer engineered approach to drainage is that there is a significant embodied energy and cost in the concrete pipe work, trenching, and appropriate granular backfill necessary for conventional urban drainage, that can be avoided when the means of conveyance is part of the surface treatment - e.g. dished surface channels or rills, or the landscape - e.g. ditches, swales, ponds etc. Taking this 'in situ' approach removes construction traffic from local roads that would otherwise be transporting pipes and backfill to the site.

Sustainable Drainage Systems make use of natural drainage typologies and normally comprise readily available and low energy materials. A holistic view needs to be taken including an understanding of the hydrological cycle so that the system is in harmony with the environment. A key aim is to attenuate surface water run-off from paved surfaces. Sustainable Drainage Systems may be comprised of as a series of separate drainage devices working as part of a whole system that can be deployed to allow surface water to drain in a variety of environmentally acceptable ways. Apart from achieving water run-off attenuation, we are keen to express this aspect of landscape character as part of the design and to seize opportunities to enhance the biodiversity of the site.

The following criteria should be met by a Sustainable Drainage Systems:

- Run off from developed areas should be no greater than run-off prior to development
- Run off should not result in any degrading of downstream water courses and habitats
- Consideration should be given at the design stage to water resource management and control of the development area
- The wider needs of the community should be considered in the development of the design

Porous paving

Porous paving can help attenuate surface water run-off during storms and can help to recharge ground water; in summer a significant amount of water held temporarily in porous paving is evaporated after the rain event.

We propose three types of porous paving:

Modular concrete systems:

Within home zones, squares and parking areas it is proposed to use porous concrete paving that accommodates space for a living element over 50% of its area. Fine crushed brick may be used to fill the voids to prevent compaction, which kills plant growth and restricts percolation. A low nutrient substrate keeps the green element low and biodiverse.

Gap-graded sub-base:

For more heavily trafficked lanes it is proposed to use a type of permeable block paving or setts that do not support vegetation but allow water to percolate below the surface of the road to a gap graded sub-base. Road stone that uses larger crushed rock than is standard provides temporary storage of water and a means for it to flow to adjacent swales and waterbodies.

Concrete kerbs will not be used but road edges will be defined by setts and drainage gulleys to create a moderated transition between road surface and verge.

Gravel paths:

Pedestrian footpaths and pavements may be surfaced in permeable bonded gravel. This gives the attractiveness of gravel and enables water percolation whilst also ensuring that public areas remain smart and do not prevent a tripping/slipping hazard to users.

Landscape Strategy: Sustainable Drainage and Biodiversity

Surface Water Channels

Rather than using conventional gullies and underground pipes for surface water drainage it is proposed to employ a paving detail of brick pavers, cobbles or setts laid in an open, dished channel. The surface water channels will also reduce the apparent width of a road. These channels would flow into shallow swales, drainage ditches and the principal pond within the wildlife area, which will be filled with wetland plants or damp loving meadow sward species.

Rain water harvesting

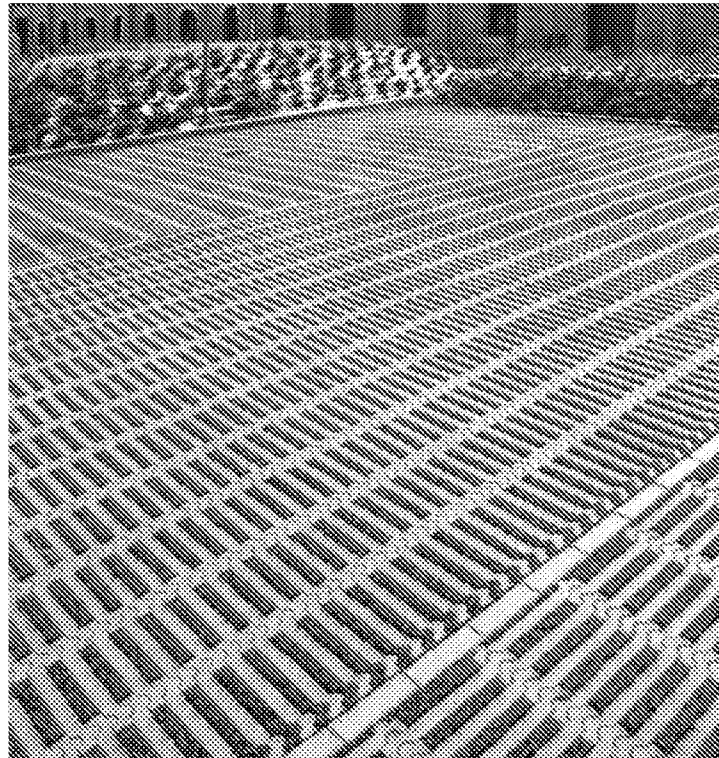
Harvesting rainwater for watering gardens is part of a holistic approach to dealing with natural resources, although the water storage of water butts does not count as part of the temporary storm water attenuation requirement of the site. Excess water from butts will overflow to channels, issuing to the swales and infiltration zones.

Swales

Swales are shallow ditches and can be grassed, filled with wetland plants such as common rush, yellow flag iris, meadow sweet, purple loosestrife, or hemp agrimony and trees.

Depending on the falls, notched timber check-weirs are located along the swale to retain moisture to aid infiltration and to retain a certain amount of storm water. This can count as part of the temporary surface water storage on site. The swales can be located along the site's perimeter and internal boundaries between plots (as traditional drainage ditches) around the open space or within grass verges.

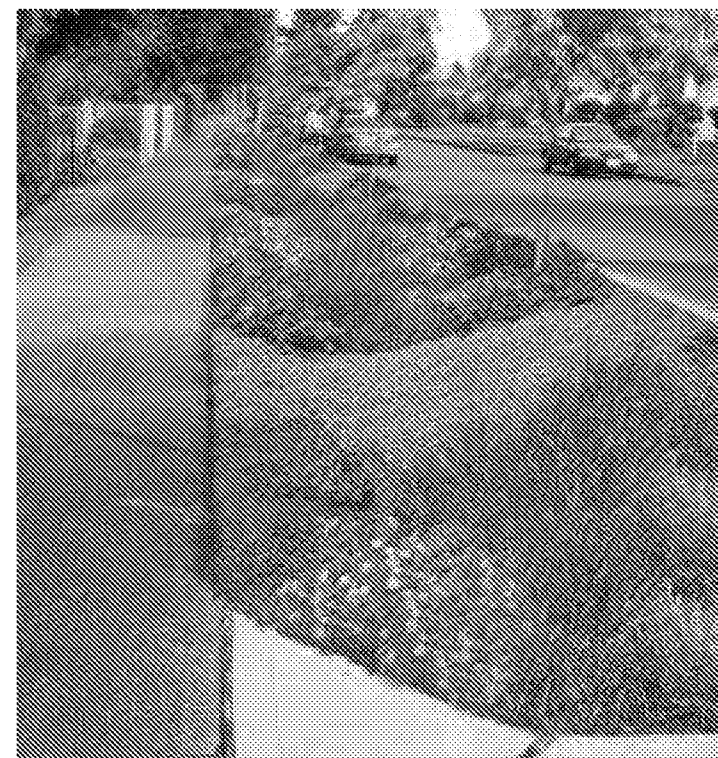
They would issue to the main pond within the wildlife area and the deeper ditch on the site's eastern boundary. Planted swales provide benefits to wildlife and help to break down low level pollutants.



Above: Examples of porous paving with living component



Below: Biodiverse SUDS drainage swales incorporated into grass verges



French Drains

These are a gravel filled trenches that can be located next to paving, or between rows of parking with a slotted pipe at the base discharging into a collecting basin.

Ditches and Pond

The deep ditch on the eastern boundary is a distinctive local feature due to low-lying land and a high winter water table. This, in combination with the main pond will retain water following rainfall, maximising on-site infiltration and minimising run-off to the wider surface water drainage system. The size of the ditches and pond provides a significant capacity for storm water attenuation.

Benching of the pond and ditch edges will create ideal condition for reeds, whilst at the same time limiting their spread. This creates a habitat and a form of defence to prevent people from entering the main water bodies.

Wildlife area

The wildlife area can act as a shallow infiltration basin, which can be managed as a wildflower meadow.

It is likely to be relatively dry most of the time and should not be boggy or present a danger to users. A boardwalk is proposed so that people can enjoy the space without damaging the wildlife habitat or natural appearance of the space.

Wetter parts of the area adjacent to the pond may become colonised by reeds and rushes. Maintenance would consist of a simple hay cut once or twice per year. This provides an ecological resource as well as enriching the sense of place.

Design and Access

Design Objectives

The design approach is informed by an appreciation for the positive environmental qualities of the place and an objective to enhance them to the benefit of the settlement as a whole. This draws on the qualities of the site, its surroundings, the vernacular building tradition and contemporary living and sustainability principles.

The development will:

- Create an attractive and enjoyable living environment for its occupants.
- Enhance the appearance of the site and the approach to the settlement via Lidsey Road.
- Employ locally characteristic building layouts, building types and materials.
- Be structured around a network of green infrastructure, responding to the landscape character on site, retaining existing trees, hedges and water features.
- Maximise space for water and nature, encouraging the use of native and locally characteristic plants.
- Employ a framework of Sustainable Urban Drainage which will drain naturally to existing and new water features.
- Prioritise pedestrian and cyclist movements whilst controlling vehicle speeds.
- Meet the needs of all ages and groups within society.
- Avoid the introduction of standard, engineered or suburban highways or access features that would be contrary to the rural character.

This section of the document describes the proposals in relation to the requirements of Design and Access Statements, addressing Use, Amount, Layout, Scale, Appearance and Access. Landscape design is considered in relation to Appearance. This section also addresses Security, Drainage, Ecology, Noise and Lighting.

USE

The Outline Planning Application consists of 55 residential dwellings and associated landscape design.

It is proposed that 18 of these (33%) will be designated affordable homes.

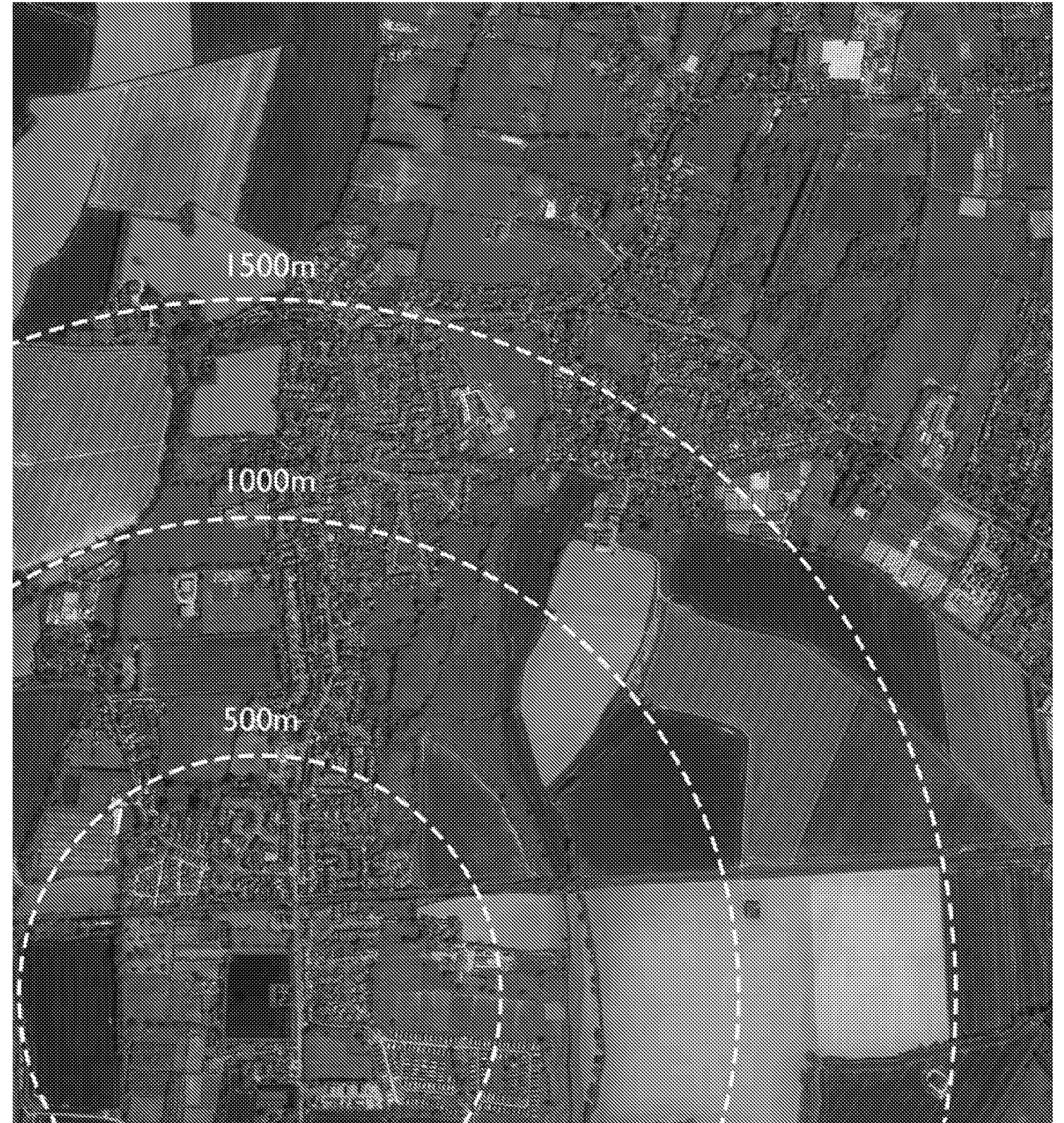
The development will be tenure blind to ensure the affordable dwellings will be indistinguishable from the open market houses in respect of the materials used and their design details.

The residential use of the site relates to that of the surrounding context and is considered appropriate given the site's sustainable location.

The maps opposite and on the following page illustrate that the site is in a sustainable location, with the amenities of the settlement located within a short walk or cycle.

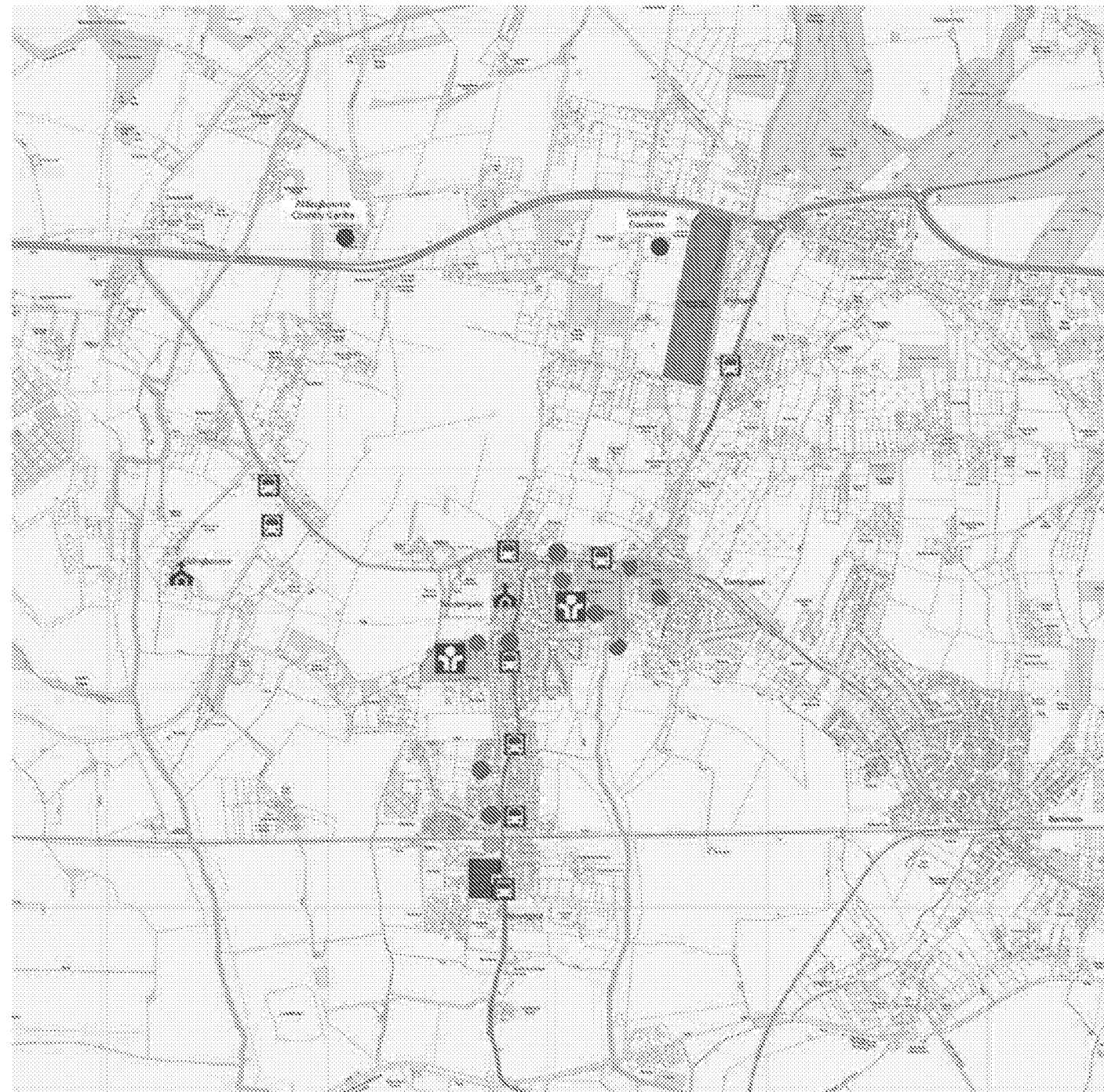
Community assets and amenities which are accessible from the site include:

Bus stops (0m)
 The Prince of Wales Pub (70m)
 Convenience store and post office (175m)
 Aldingbourne Primary School (400m)
 Recreation ground and sports centre (1200m)
 Pre-school nursery (1200m)
 Methodist Church (1300m and 1400m)
 Indian restaurant (1500m)
 Petrol Station (1600m)
 Ormiston Six Villages Academy (1700m)
 Pre-school nursery (1800m)



Walkability map

Design and Access



Aldingbourne Parish - Community Facilities

Draft

Aldingbourne Parish Community Facilities with site highlighted in red

ARUN DISTRICT COUNCIL AL/115/17/OUT

The site is well located in relation to transportation networks, being positioned on an A-road and a short distance from the A27 and rail stations. The nearest bus stops are directly opposite the site.

The shift towards electric vehicles is accelerating with financial incentives and environmental awareness and road-based transportation is expected to continue to increase in its level of sustainability.

Nonetheless, many of the amenities within the village are accessible via a short walk or cycle. Electric cycles are also helping to encourage more people to opt for this form of transport, so increasing the proportion of people travelling by sustainable means.

The Prince of Wales public house is located close to the site and will form a centre for community socialising and leisure. The Aldingbourne Village Stores is a short distance beyond the railway. The proposed development will help contribute to the sustainability and viability of this facility and enable the business to grow and improve.

Westbourne is well served with sports and leisure facilities, churches and has both primary and secondary schools. There are also a number of nearby GPs and dental surgeries. Its range of facilities relates to its function in serving as a hub for neighbouring villages so it may be considered to be better served than could be expected for a village of its size.

Although there are no public footpaths in the immediate vicinity of the site, the Parish of Aldingbourne is well-served by recreational routes, such as that following the old canal to the south of the village.

Being located between the sea and the South Downs, residents of the site will have access to a wide range of recreational opportunities provided by this diverse and attractive environment.

AMOUNT

The development density of the proposal is 21 units to the hectare. This is considered a relatively low density but accords with the village character and enables the incorporation of a generous area of open green space.

LAYOUT

The layout is indicative at this outline stage but responds to the site access positions, the existing framework of trees, the retention of the Wings property and the characteristic settlement patterns of Woodgate/Westergate and other locally distinctive villages.

It was of fundamental importance that properties should address Lidsey Road with their fronts, contributing to an active public realm and the attractiveness of the arrival to Woodgate.

The retention of the mature oak tree towards the western boundary of the site established the location for the proposed area of the wildlife area. Lanes have been laid around this in the manner of a village green, establishing a focus and sense of identity for the development.

These two main design moves, of an active street frontage and public green space, established the basic framework for the layout. The layout of the lanes derives logically from these principles. Such a characteristic and logical approach contributes to the legibility of the proposal and enables it to be understood and navigated intuitively by users.

All houses are oriented towards the street to which they relate, ensuring that active frontages provide passive surveillance to the public realm, so minimising the potential for crime or antisocial behaviour.

The layout of the buildings enables optimum accessibility according to traditional design patterns. This was the approach favoured by residents at the community consultation event.

Design and Access

SCALE

The scale of the proposed houses will accord with the locally characteristic domestic buildings of the wider area. An assessment of these has determined that a locally-distinctive mix would equate to:

2.5 storey =	11%
2 storey =	82%
1.5 storey =	4%
1 storey =	3%

This is not a strict requirement of the detailed design phase but is intended to serve to inform proposals. Proposals developed for the full planning application will also respond to specific local needs that have been identified through public consultation.

APPEARANCE

The community consultation event identified a preference for traditional buildings that relate to the characteristic buildings of the area. A number of these have been looked at and assessed for their formal and material qualities. Such examples will be used as models and references in designing detailed proposals for the reserved matters planning application. As such, the development will have a strong relationship with the positive characteristics of the area.

In addition to building typologies, the proposed development's appearance will be influenced by the landscape design and SUDS strategy. The main wildlife area, the roadside ditch against Lidsey Road and the swales and rain-gardens within the public realm will give a strong identity to the development. Species of reeds, rushes and yellow flag iris will give a rough, natural appearance to these areas which will permeate the public realm. It is not seen as a place of clipped lawns and neat herbaceous borders but as a co-existence of natural and man-made environments.

This approach to the design of the scheme is intended to counter the hard, highways-led approach of many housing developments and return to the more

rustic appearance of traditional villages, as may be appreciated in the photographs of Aldingbourne opposite.

In inviting nature and water into the scheme it is hoped that residents establish an interest and affinity for the nature and natural systems on their doorsteps and take an active role in looking after it.

ACCESS

A Transport Assessment has been prepared by RGP. The application proposes two points of vehicular access into the site. The northernmost of these will serve just four properties, which will have their own shared space frontage behind the ditch. This is anticipated as being a pleasant, semi-private area that is partly enclosed from the main road by the existing hedge.

The principal access will be to the south side of the Wings property.

The new accesses will have little effect on existing road users.

The access strategy within the site area will follow the principles described in Manual for Streets and uses a mix of materials, standards and geometry to provide character and variety within the streets.

The layout ensures that service vehicles can be accommodated with turning areas provided as appropriate.

The site layout plan also indicates a variety of materials and road design to assist in defining a road hierarchy and providing a legible movement structure.

Within the site, pedestrian movement is facilitated via a combination of pavements, shared surfaces and dedicated footpaths.

Parking is to be accommodated within private garages, driveways or within shared parking courts.



Above: Aldingbourne Mill
Below: Meadow Cottage



Lighting and Noise Strategy

Lighting

The lighting strategy has not been developed as a detailed lighting plan, but it indicates how the detailed design of the full application would provide a lower energy street lighting scheme that is responsive to both personal safety and reducing light pollution.

The design approach will ensure that the development does not harm the quality of dark night skies, for the benefit of people and wildlife. Any proposed lighting will be assessed as to whether it is necessary and, if required will be designed to minimise the overall impact of light.

The principal tests to be applied to future lighting design are:

1. Is the proposed lighting necessary/ has the installation of lighting been avoided?
2. Where lighting is necessary, has the design and installation ensured that adverse impacts are avoided (from internal and external sources)?

Lighting levels can be minimised through:

- 'Curfews' or automatic timers;
- Proximity 'PIR' sensors, timers or any additional shielding or coving, including angling the front surface of lights to the horizontal;
- Different surface types to reduce the amount of reflectivity;
- Appropriate use of glazing to reduce light transmittance; and
- Screening or shielding to reduce the impact of reflectivity.

Lighting would be subject to reserve matters and a detailed assessment in due course.

A move towards LED lighting technology is suggested for the following reasons:

- directional light to conserve dark skies in the countryside around the village; UV lights are a deterrent to some bat species;
- lower energy use overall; and
- longer life units.

A lighting unit is available that uses 80% energy than a standard SON street light at full beam, but also has the added benefit of having the capability to be stepped down in intensity in the middle of the night to halve or quarter the energy consumption. It can even be switched off and activated by passive infra-red sensors.

These units last for up to 15 years (full beam, dusk to dawn) which is significantly longer than an SON lamp. SON lamps cannot be dimmed and do not give an instant light when switched on so are not appropriate for use with Passive Infra Red sensors. LED luminaires comprise a matrix of LED lights embedded in a patented prism that provides directional light; anti-glare glass further reduces nuisance.

The photographs illustrate the smaller unit that might be used on a 4m pole at full and half beam. The LED array is easy to fit, and can make a significant contribution to lifetime costs and energy use. The lighting strategy is based on the abilities of these new street lights.

Photovoltaic-powered LED lights also have potential to contribute to the low-level lighting environment.

Noise

Planning Practice Guidance has been consulted in assessing the degree of change to the site's acoustic environment.

Although the site has been left vacant for some time, its previous use was associated with a business that would have generated an amount of noise associated with nursery activities.

The proposed residential use carries with it a level of noise that may be associated with domestic life, including the movement of vehicles, garden machinery and general human activity. Such noises are expected in a village environment and cause no issues of disturbance. Distances between properties contribute to the acceptability of acoustic relationships.

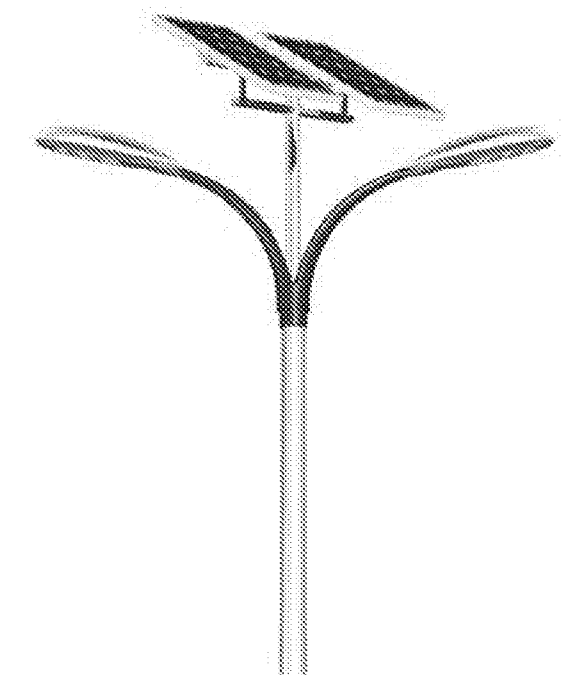
The development will be built in accordance with the Considerate Constructors Scheme, which seeks to minimise the impact of vibration, and air, light and noise pollution. It may, therefore, be confirmed that no adverse affect is likely to occur and that a good standard of amenity can be achieved.

The proximity of the A29 Lidsey Road has the potential to cause some disturbance to the future occupiers of the site. This has been addressed through the provision of a vegetative screen between the road and residential properties. This accords with the distinct character of the site and will help to absorb sound energy. The buildings proposed to front Lidsey Road are also set back behind the hedge, drainage ditch and access lanes, which will further reduce the potential impact of traffic noise.

In proposing a hedge and frontage development to Lidsey Road the properties within the site interior will be further protected from traffic noise and will occupy a tranquil residential environment.



Above: WE-EF LED street & area lighting
Below: PV powered LED lights



Bin Storage and Collection Provision

Policy Requirement

The maximum pulling distances allowed under Health and Safety legislation are 10 metres for 1100 litre bins and 50 metres for 240 litre bins.

The Manual for Streets recommends maximum bin carry distance thresholds of 25m for collectors and 30m for residents.

Pre-application advice received from the Council in July 2016 established that each home should be provided with the equivalent of 240 litres of residual waste storage/bins. For flats, the communal/bulk bins can be used on the basis of 240 litres of residual waste storage/bin per flat. Alternatively one 240 litre wheelie bin for each property can be provided.

The same amount of storage space/bins for recyclable materials is required to be provided. Where bin stores are adjacent to the access road serving the development or across a parking area there will need to be a road up to full highway standards and an indemnity provided for the Council's contractors to pass across servicing. The access of this type provided must be accessible/passable for collection schedules i.e. no parking or other obstruction.

It is recommended that if any communal provision is located near or adjacent to the highway, it will be suitably enclosed and landscaped so that the maximum pulling distances and vehicle access requirements are complied with.

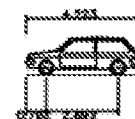
Proposed Bin Storage and Collection Provision

It is proposed, based on the indicative site layout, for 240 litre wheelie bins to be provided for each house and flat. The applicant has considered the use of larger communal bins for the flats on site (1,100 litre bins) but given the flats are proposed to be in groups of no more than 3 units, a 1,100 litre bin would be above the necessary capacity and three 240 litre bins are preferred.

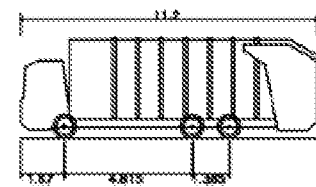
Suitability

The main spine road would be 5.5m wide and would run through the centre of the site ending in residential lanes. A second access to four houses is located in the northeast part of the site.

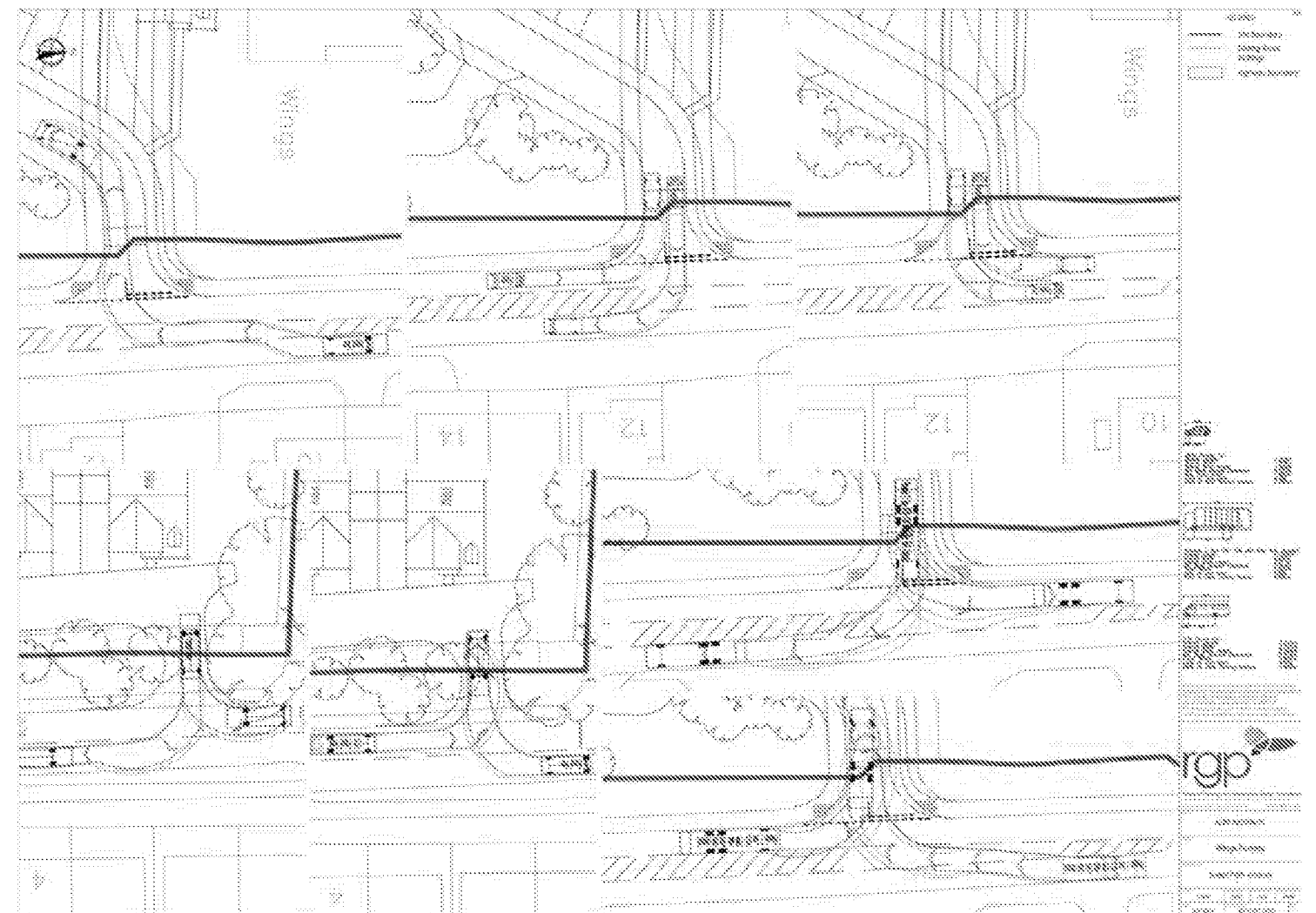
The carriageway geometries would allow refuse and standard car sized vehicles to pass unhindered. The site's carriageway geometries are such that large service vehicles can negotiate the internal roads and perform turning manoeuvres within the site, allowing service vehicles to safely enter and exit the site in a forward gear. A vehicle swept path analysis has been undertaken by Russell Giles Partnership Ltd demonstrating a large refuse vehicle (the largest service vehicle) negotiating the internal carriageways, and performing turning manoeuvres. Full details of this evidence is found in the accompanying Transport Statement and is illustrated here.



DB32 Private Car	
Overall Length	4.223m
Overall Width	1.713m
Overall Body Height	1.382m
Min Body Ground Clearance	0.253m
Max Track Width	1.629m
Lock to lock time	4.00s
Kerb to Kerb turning Radius	5.780m



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	
Overall Length	11.200m
Overall Width	2.540m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb turning Radius	9.500m



RGP Swept Path Analysis

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