

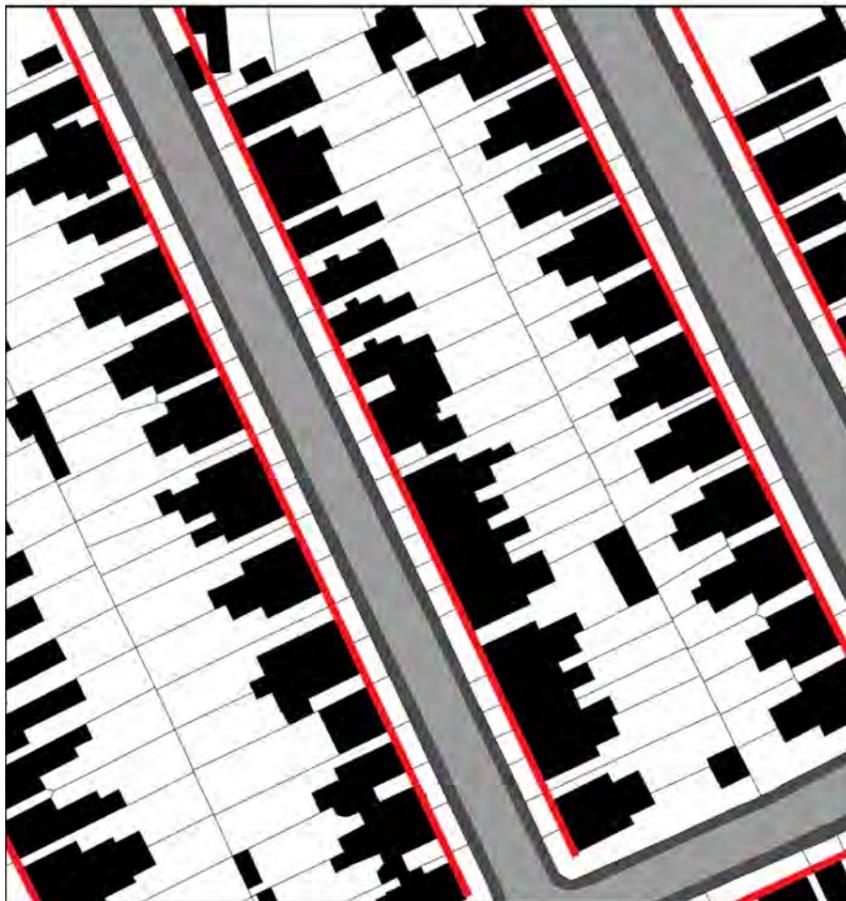
Appendix 1 - Housing Types

Victorian & Edwardian

Typically, closely spaced, 2 – 3 storey semi-detached houses with narrow side passageways to rear gardens. Some short terraced blocks of 4 – 6 houses and some detached houses laid out in a grid iron street pattern. Short front gardens set behind brick walls, regular plot widths and depths and well established building lines. Houses are typically solid in form and appearance, built of brick. Heavy on-street parking is a feature of these areas.

Density range = 30-55dph (though as low as 18dph in places)

Layout



Grid-iron street layouts, 11 – 13 m wide, allowing parking either side of the street. The solidity of this layout is reinforced by the characteristic well balanced rhythm of regular, repetitive plot sizes, building lines, building heights and rooflines.

Street proportions

- 2-2.4m

Plot layout

- via side passageway to rear garden

Plot width & plot ratio

- 6m (Victorian) to 8m (Edwardian)
- average Plot ratio = 1:1.7 (61%)

Building line

- Solid/established

Back to back distance

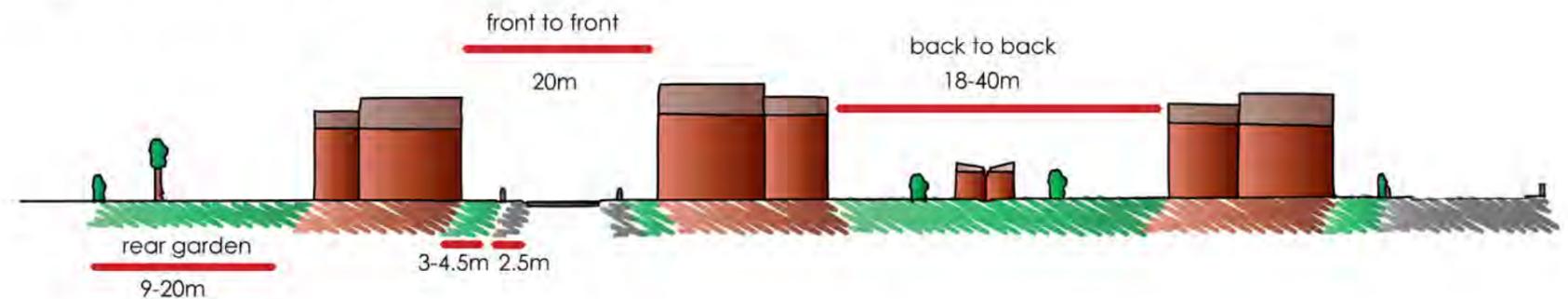
- 18-40m

Parking

- mainly on-street, some front garden

Private & public amenity space

- private, rear gardens; shallow front gardens; public amenity space laid out in formal parks.



Victorian & Edwardian

Built Form

Victorian housing frequently uses the 'halls adjoining' L-shaped plan in a terraced or semi-detached format. The Edwardian style is generally larger and specifically wider, typically square or oblong on plan without the rear projection, with a more flexible internal layout enabling a second, small bedroom on the front elevation alongside the master bedroom and third floor bedrooms in the larger gable fronted houses.

Scale/Height

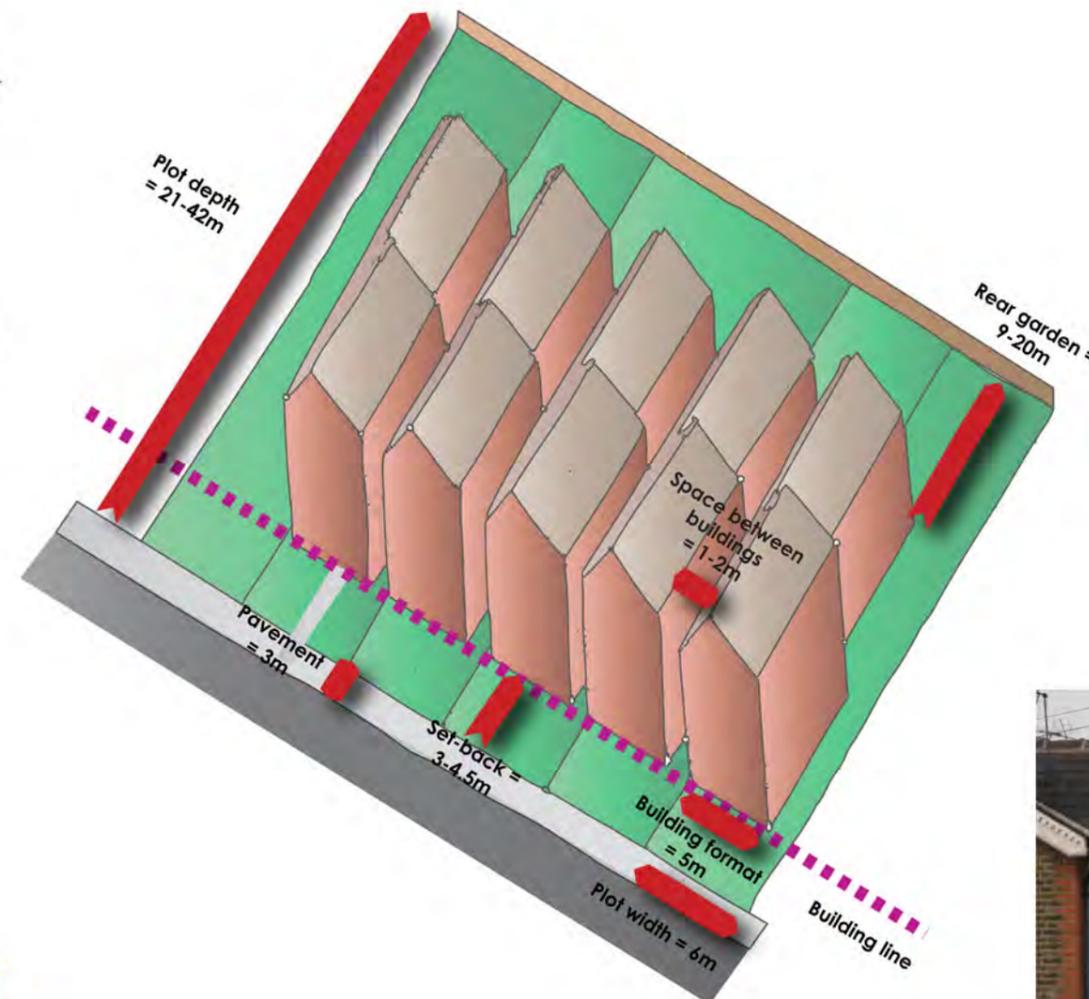
- two to three storey terraced, semi-detached and detached and gable fronted with bay window features or with shallow hip-ended roofs.

Massing/space between buildings:

- solid in form and appearance
- often closely spaced with a continuity of roofscape gaps.
- Houses are typically narrowly spaced, often separated by no more than a side passageway

Form (including roof form)

- Vertical emphasis, giving the impression of tall, narrow buildings
- 'L-shaped' plan form
- Steep, gable fronted



Frontage composition



Victorian & Edwardian

Landscape

Boundary treatment

- Low, matching brick walls, originally topped with railings to enclose front gardens, and with gate pillars to identify property entrances.
- Typically, garden 3 - 5m deep, deeper in the more



- affluent areas, some with hedges.
- Streets with shorter gardens are not sufficiently large to lend themselves to conversion for parking, ensuring most of them remain as gardens.
- Typically such streets have heavy on-street parking.



Street trees/front gardens

- Generally lacking; though occasionally London Plane
- No grass verges and shallow front gardens
- Other natural features - none



- Some streets are lined either side by mature trees, creating a strong street identity and leafy character.

Detailing

Key features

- Edwardian houses typically favour the use of a double-height bay window on the front elevation, usually with an imposing gable above.
- Edwardian houses tend to have external porches either built as free-standing elements or, more usually, related to the structure of the bay window.



Window format

- Sash windows are a feature of both, although in the case of some of the Edwardian houses more detail is added in the form of additional glazing bars to the upper windows and panelling to doors and feature e.g. stained glass.



Other details

- The Victorian and Edwardian love of architectural detail is a key linking element to the design of these streets.
- Front elevations characteristically display a rich variety of architectural detailing.

- Window heads and cills, door surrounds, and corbels are often detailed in contrasting stone and brick.
- Even very modest houses from this period include elaborately detailed bay windows and door surrounds lifting the quality of these buildings.



Building materials

- Buildings are predominantly constructed in the classic yellow and red London stock brick, lending them a warm, solid appearance which tends to weather well with age; roofs are typically finished in slate.

- External timber detailing is more in evidence on the Edwardian houses with external timber porches, elaborate barge boards and fascias and detailed infill panels to gables.

Victorian & Edwardian

Key planning issues

- **Roofscape** - hip ended roofs changed to gable ended roofs, large out-of-scale roof extensions for example box dormers on both roof slopes of gable fronted houses, creating 2-storey flat roofed houses, and large, out of scale, piggy-back roof forms, all of which have, individually and collectively, struck a visually discordant note and obtrusive feature in the street scene;
- Better visual examples (piggy back) include where roof extensions are well set back from front.
- Loss of front boundary walls and gardens to off-street or half-footpath parking (especially in examples with short front gardens and narrow Victorian streets)
- Loss of street trees to accommodate on-street parking.
- Conversions of locally important large two and three storey detached and semi-detached villas with basements to flats for multiple-occupation, with rear and side extensions.
- This often involves the paving over of gardens for off-street parking and loss of amenity space and mature landscaping and trees.



- Front boundaries have been removed and gardens converted to hard-standing, leaving cars to overhang footpaths.
- In worst case scenarios, it results in degradation of the condition of the property affecting the quality of the whole street and/or demolition replaced by uncharacteristically high density developments.
- There may also be pressure to build on rear garden space.

Arcadian

High quality established residential areas that are 'Arcadian' in character i.e. displaying a peaceful and semi-natural residential atmosphere, where the natural landscape largely defines the character of residential development. Often originally formed part of the grounds of substantial, in some cases ancient, private estates which were sold off in large plots and developed, forming part of a wider suburbanisation of Kingston. Early housing took the form of linear development along the turnpike routes of Kingston Hill, Portsmouth Road and Ewell Road. Unlike almost any other area in the borough, housing is typically not the dominant feature in the street scene but is subservient to its mature deciduous and evergreen landscaped settings and high quality public realm. These areas are generally epitomised by low scale, low density residential properties situated in generous plots with extensive tree and shrub planting throughout. **Density range = 2-13dph** (though rising to 30-60dph closer to centres).

Layout



Street proportions

- generally wide; often tree lined; can lack definition

Access

- Plots generally accessed from street; which in a number of cases there are a number of are private roads and gated developments (particularly in Coombe).

Plot width & Plot ratio

- Very generous plot widths
- average plot ratio = 1:3.4 (34%)

Building line

- Buildings tend to front onto streets behind uniform front garden set-backs, often resulting in an established building line.
- Front gardens, separating building from the public footways and roads are an important component of the suburban character.

- In the Kingston Hill Robin Hood estate of Coombe there are well established building lines. Elsewhere in Coombe building lines are generally more informal, responding more to the configuration of the plot and its size and the location of trees etc

Set back and pavement widths

- Generally sufficient that houses are set well back within their plots (7-20m)

Back to back distance

- from 28 - 90m, though distances can be 100m+ reflecting larger plot sizes

Parking

- mainly off street car parking on driveways or garages, except in streets where there are flats, where there is often heavy on street parking

Private/public amenity space

- There is little accessible public amenity space which is largely compensated for by large private gardens.



Arcadian

Built Form

Plot Size

- inconsistent i.e. 0.04 to 1.5ha
- **Widths** = 25-80m
- **Depths** = 25-100m+

Scale/Height

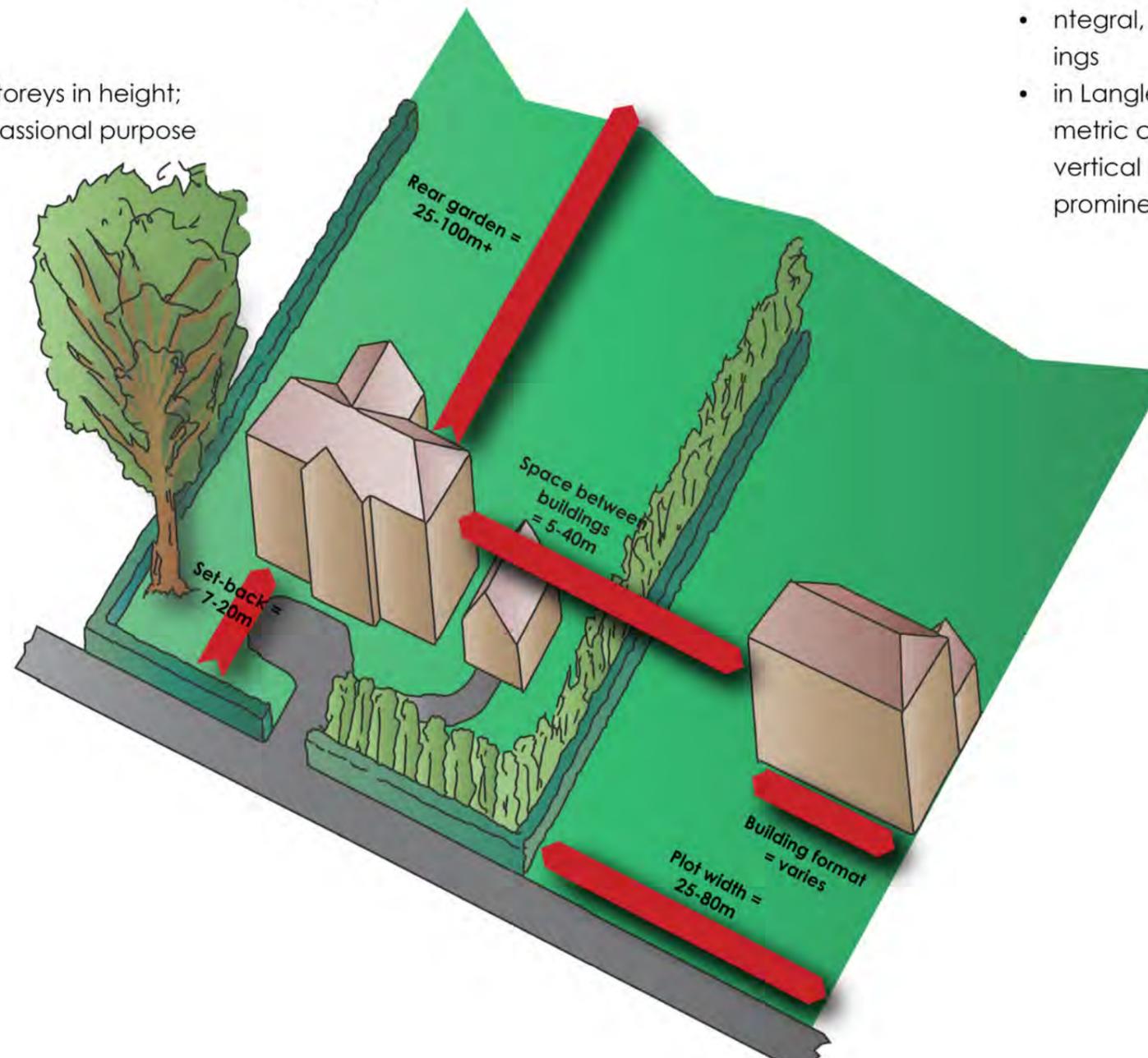
- Mainly large detached houses of 2-3 storeys in height; Some villas converted to flats and occasional purpose built flats of up to 9 stories (riverside).

Massing

- Varies widely; but space between buildings between 5- 40m (depending on plot width, constraints on site)

Form

- Individually designed, sitting comfortably in large spacious plots set well back within or, largely hidden behind, well planted front gardens
- Integral, attached or detached garages and outbuildings
- in Langley, predominantly orthogonal, with an asymmetric composition, projecting/receding elements, vertical emphasis including accentuated gables and prominent chimney stacks.



Arcadian

Landscape

Trees and stands of woodland often define the landscape character and there are extensive tree protection (TPO) designations, including areas of ancient woodlands. Elsewhere, the River Thames with its broad openness and peaceful ambiance is often tree lined. Generous plots have extensive tree and shrub planting throughout, with smaller trees and shrubs being of secondary importance though still contributing to the overall verdant character. In many areas the buildings step back and take second stage to the natural landscape. In Coombe, sloping topography is a feature of the local landscape.

Boundary treatment

- Well landscaped with an abundance of hedges, high fences or stone or brick boundary walls; natural landscape is ever present
- Gates are a feature of the Coombe area, particularly 5 bar white painted wooden gates
- features of historic interest survive such as estate walls.
- Where present in the Langley area, front boundary walls are almost invariably a low red brick or stone wall often supplemented by hedges or garden foliage.
- Wooden and iron fencing are present but uncommon.



Street trees

- Mature tree and hedge planting are common either side of roads, including grassed verges;
- some roads are almost rural in character, lacking kerbs and footpaths either side of roads.

- With few exceptions the main roads in the Langley area are tree lined which further soften the streetscape and contribute to its 'green character'

Other natural features

- The northern section of the River Thames is particularly well endowed with native mature trees and their retention takes precedence over views of the river from the houses.



Arcadian

Detailing

Key features

- Varies and there is not one particular building style or use of material that is characteristic to the area.
- there are surviving buildings of architectural and historic merit which help to provide context.

Building materials

- *Riverside South* - Brick is the dominant building material with red clay tile or slate roofing. Also, stucco, white render and stone.

- *Langley* - walling materials: elevations composed of red/brown and yellow brick, painted roughcast, stucco, or half timbering and hanging clay tiles to articulate frontages;
- roof materials: hand or machine made red clay tile or natural slate tend to dominate the roofscape.

Window format

- Window divisions may have a vertical emphasis; win-

dows painted softwood or metal casements, with glazing bars or leaded lights, singly or grouped

Other details

- Ornament: Better houses display variety of ornament with e.g. plain stucco facades enriched by the use of distinctive plasterwork such as decorative quoins, moulded architraves and paired console brackets to the eaves;
- others include brick details and metalwork.

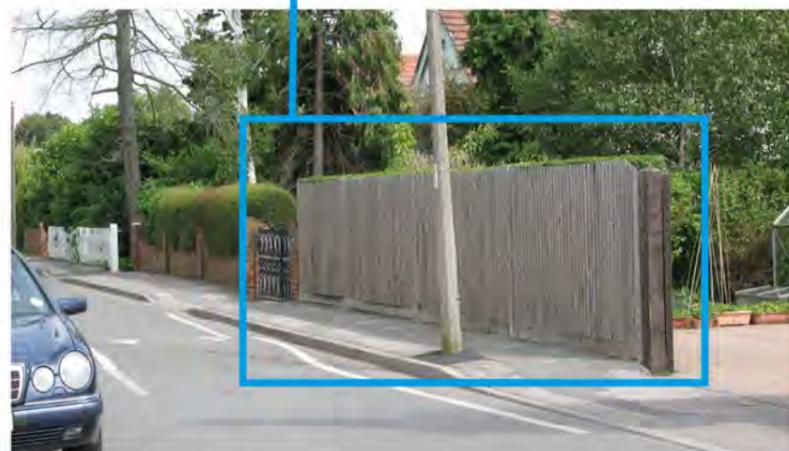
Key planning issues

- Loss of (mature) trees and therefore landscape character through over-development (including backgarden development/infill/subdivision of plots/demolition of houses and replacement with larger houses or blocks of flats).
- Maintaining an open frontage to the riverside - avoid the erection of high boundary fences.
- High walls and gates in private roads reasons creating fortress environments where houses are hidden from

view and streets are lifeless.

- Paved over front gardens and removal of grass verges to provide off-street car parking causing visual intrusion and reduction in biodiversity.
- Protecting the skylines and character of spaces between buildings.
- Cumulative loss of important local landscape features e.g. development interfering with water sources to trees causing die back.

- Houses encroaching on the tree line and views looking west into the Borough's heavily treed hill slopes and east across the river.
- Flood alleviation measures need to be considered where proposals involve basement excavations due to high water table (in Coombe).
- Removal of wooden porches and windows in the Langley area and replacement with uPVC or aluminium materials; addition of inappropriate box dormers (e.g. out of character roof extensions).



- Threat to industrial archaeology/public health heritage along parts of the central and southern riverside areas from new residential development.
- Ensuring that the setting of Conservation Areas and

important heritage features within them are taken into account.

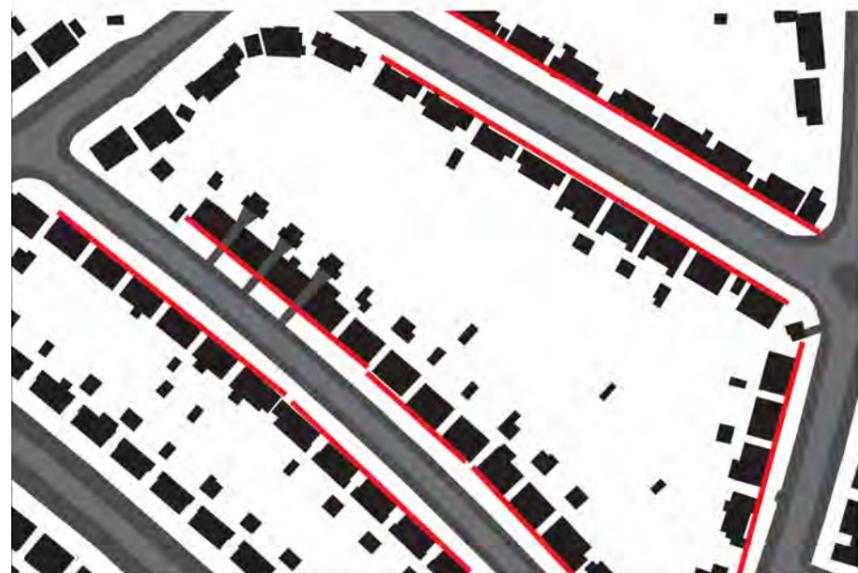
- Noise and disturbance to residential occupiers living close to the river as a result of improved connections to the river

- On-street parking particularly through the proliferation of flatted properties.

Interwar

Typically semi-detached housing which is wide and deep proportions (square emphasis). Often some small terraces of 4-6 houses which follow similar proportions and compliment the semi-detached properties. Occasionally detached houses or shops with flats above. Plot proportions are fairly generous by current standards and the provision of a fairly deep front garden or side access to the rear garden has meant a proliferation of onplot parking - either planned, or incremental. A generous, well landscaped public realm creates a feeling of the true nature of suburbia: leafy and low density. **Density - 18-25dph**

Layout



Street proportions

- Wide street proportions (width/street ratio) typically 1:4; 1:6

Plot layout

- Occasionally rear access lanes (e.g. Tudor)
- Driveways to side
- Often quite formal, curved streets

Plot width & plot ratio

- Wide, generous plots on average 8-10m
- average plot ratio = 1:3.4 (31%)

Building line

- Strong, established

Back to back distance

- +30m

Parking

- Some on-plot parking has been designed in to side or rear often with associated garaging

Private & public amenity space

- Deep front gardens – boundary walls; some parking/driveway
- Long back gardens



Built Form

i. Scale

- Generally two storey;

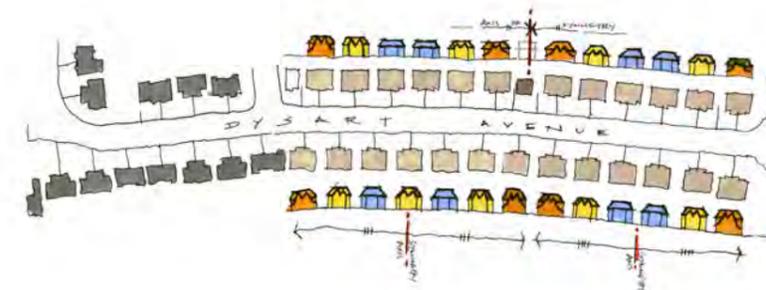
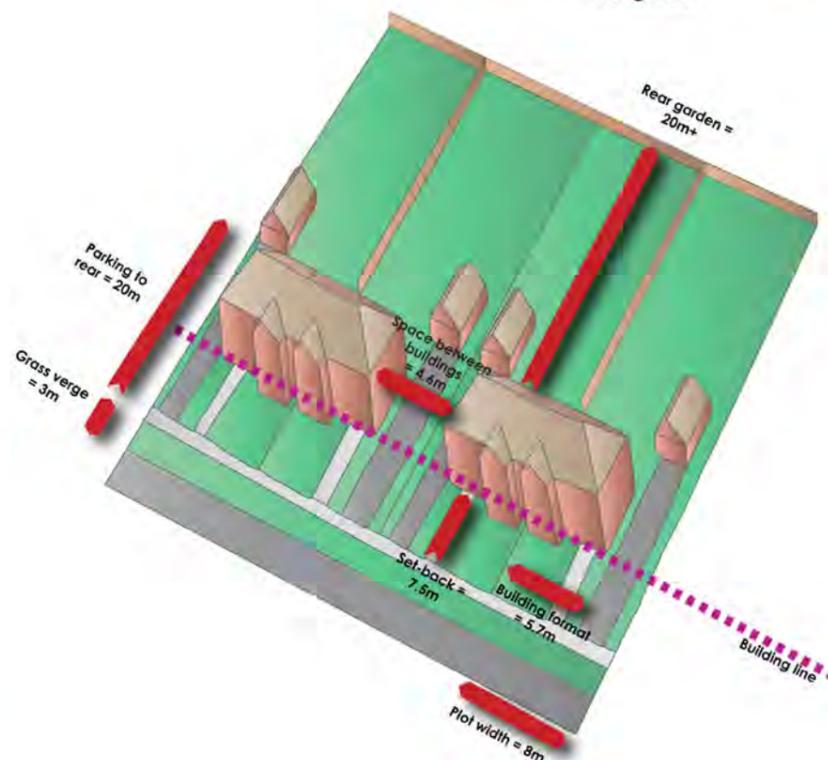
ii. Massing

- Strong, horizontal architectural rhythm – characteristic space between buildings

iii. Form

- two-storey, semi-detached, or short terraces of four to five houses - horizontal emphasis
- Generally hipped roofs;
- Some 'swept' gables – Tudor styling

iv. Frontage composition



Interwar

Landscape

Interwar housing was in general designed and planned to accommodate a reasonable amount of well landscaped open space and good quality public realm. This is still evident today although the rise in the use of the motor car is arguably responsible for the erosion of the natural landscape through the loss of verges and front gardens to vehicle crossovers and parking spaces. Often provision within a typical perimeter block of housing for allotments or areas of amenity space. These are often underutilised due to poor access or a lack of ownership and maintenance. They are a significant asset to this typology however.

Boundary treatment

- Space around buildings;
- Low boundary walls; hedges
- Occasional green/allotments to rear – evoking a rural idyll



Front gardens/verges

- Well thought out, generous and strong public realm - generally bringing coherence to areas of interwar housing
- Planted front gardens;



Street trees

- Street tree planting designed in from outset
- Some wide, formal avenues (e.g. Berrylands)

Other natural features/ opportunities for enhancing biodiversity

- Generous, wide verges



Interwar

Detailing

Key features

- bay windows, some dormer windows
- Predominantly semi-detached, though detached houses/terraces exist in a coherent style; as do shops or flats above shops on some estates
- Coherent materials
- Common architectural features e.g. central chimneys; unenclosed porches; pantiles; leaded light windows;

brick detailing around doorways; decorative brick/ tile panels;

- Some oriel windows and hanging clay tiles

Building materials

- Mixture of brick, pebbledash, rendered finishes

- Clay pantiles

Window format

- Bay window features are common – often 2 storey/ double height – help define rhythm in the street.

Other details

- Chimneys

Bay window features are common – often two-storey - help define rhythm in the street

Some oriel windows and hanging clay tiles



Key planning issues

Unsympathetic roof extensions



Loss of front gardens, boundary wall features, grass verges, and street trees where vehicle crossovers installed

Disproportionate side extension



Enclosure of porch features in unsympathetic materials

Loss of architectural rhythm where properties have been extended – closing characteristic gap between buildings

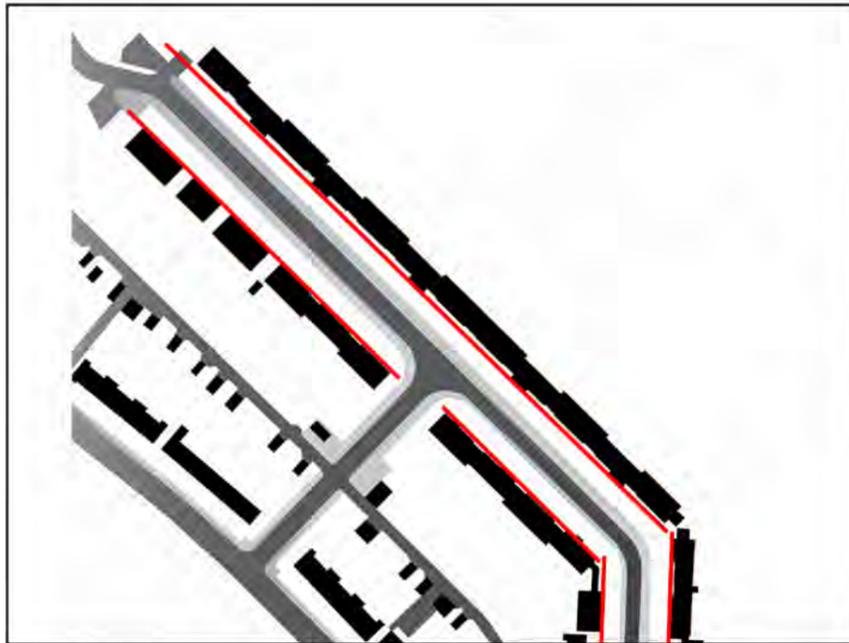


'Back-land' development where former allotments/ green spaces are underused

Post war housing

1950s and 60s housing located in outer suburbs of the borough e.g. Barnfield Gardens, Park Road, Wingfield Road in the north and Sanger Avenue, Moor Lane and Cavendish Road in the south. The 1950s and 60s was a time of substantial public sector development to re-house people after the Second WW and many of the schemes developed around the country at this time follow the form of slab or tower blocks set within open grounds - examples in this borough include the Cambridge Road estate and Kingsnympton estate. For the purposes of describing this era of housing, the guide is primarily concerned with the two-storey housing and bungalows of the period. Post-War housing design typically reflects the austerity of the period which was designed to be simple and functional but which resulted in somewhat bland and dreary architecture and lifeless streets, which have subsequently become car dominated environments.

Layout



- These tend not to be based on a conventional grid arrangement and they often lack legibility and identity, particularly for the visitor.
- One of features of housing layouts of this period was the desire to separate pedestrian movement and vehicular movement.
- Some of the early designs expected little or low car ownership and the result has been heavy on-street parking and loss of front gardens to accommodate parking wherever possible, resulting in a car dominated environments.
- Other later schemes provided parking courts, rear service lanes and blocks of garages remote from front door (e.g. Chantry Rd West which has long garden plots and long rear access routes to garages).

Street proportions

- Roads are typically 11-13m wide

Plot layout and Access

- semi-detached/short terraced blocks; detached bungalows.
- Garages to rear with access lanes to rear

Plot width & plot ratio

- 5.4-6.5m; around 30m - 56m deep
- average plot ratio = 1:2.5

Building line

- regimented blocks; 6.5 from pavement edge

Back to back distance

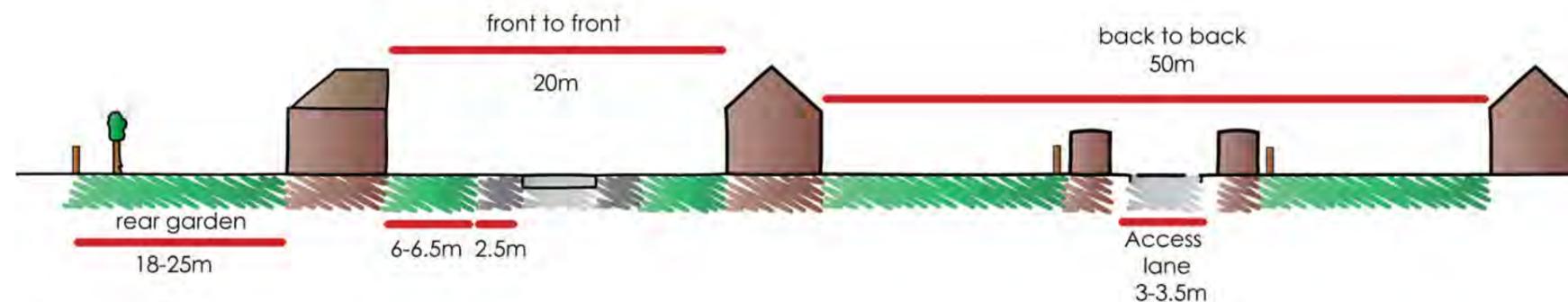
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Parking

- on street and garden with rear access or lanes to side of house.

Private & public amenity spaces

- front gardens circa 6.5m deep and 5.4-6.5m wide



Post war housing

Built Form

Buildings vary in design but typically are characterised by simple blocks (semi-detached two storey and bungalows) with hip ended roofs and have a horizontal feel to windows; or short terraces with square bay and gable topped bay features, (Cavendish Rd CA14 (7) contrasted with unadorned Park Rd CA2 (7b))

Scale/Height

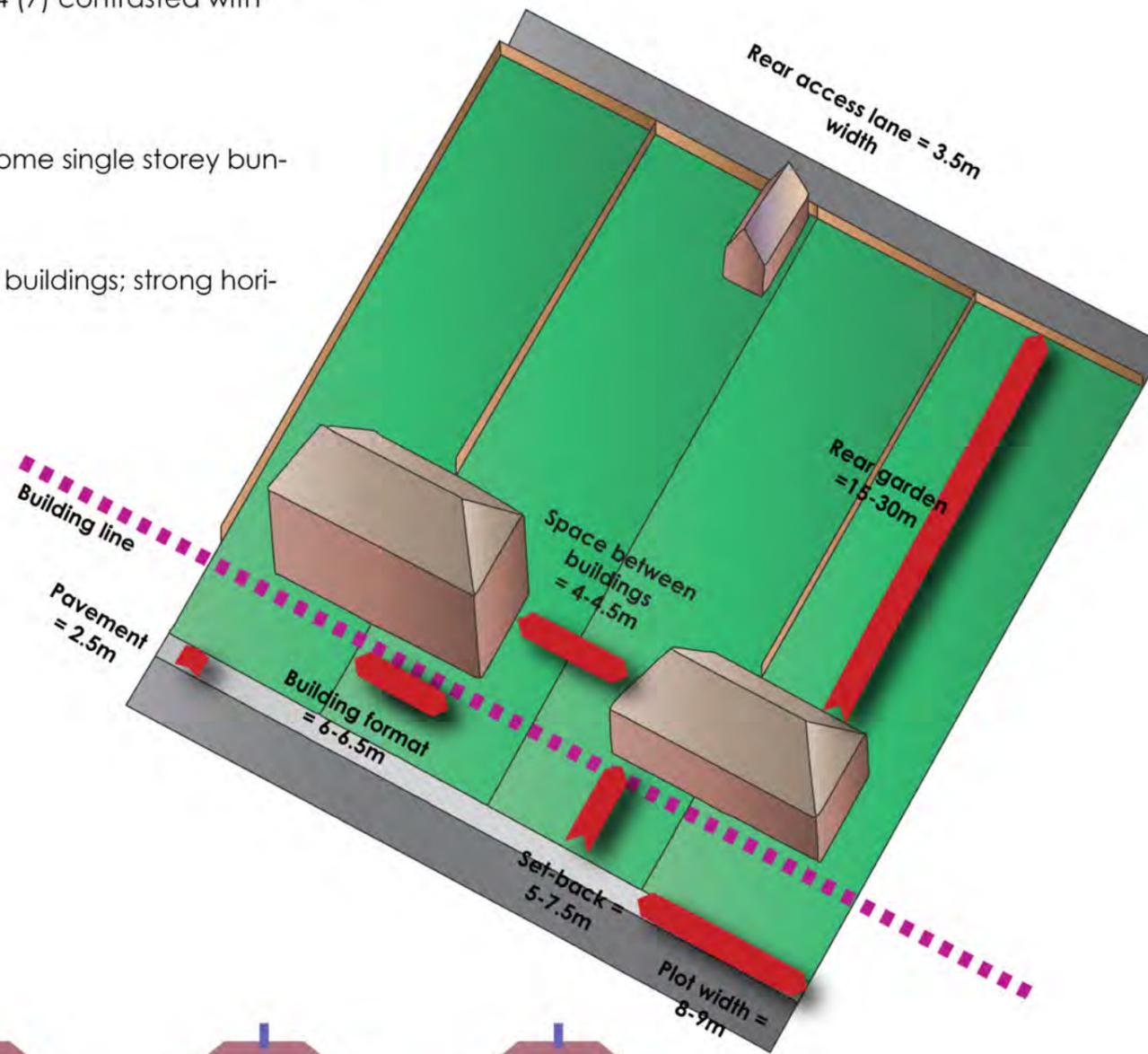
- Generally two-storey; though some single storey bungalows

Massing

- Characteristic space between buildings; strong horizontal emphasis

Form

- 'square' feel to buildings
- typically hipped roofs



Frontage composition



Landscape



Front boundary treatment

- Generally lacking, often lost front boundaries and gardens to on-plot parking

Street trees

- rarely

Grass verges

- some

Other natural features

- Typically such roads are characterised by grey concrete paving slabs and concrete or tarmac roads which lack the uplifting presence of street trees

Post war housing

Detailing

Key features

- Postwar housing generally plain, simple with a lack of architectural detailing



Building materials

- Predominantly pebbledash on walls and manufactured clay roof tiles



Window format

- Small window proportions/close to eaves



Key planning issues

Typically, these areas need enhancement to reinforce or introduce identity and improvements to the public realm, notably through landscaping and tree planting, particularly at the entrances to streets, e.g. home zone design schemes can do much to improve the environments of these housing areas.

Typically, these areas need enhancement to reinforce or introduce identity and improvements to the public realm, notably through landscaping and tree planting, particularly at the entrances to streets, e.g. home zone design schemes can do much to improve the environments of these housing areas.

- Lack of or loss of street trees to accommodate on-street parking.



- Loss of front boundary walls and gardens to off-street or half-footpath parking

- Roofscape (hip ended roofs changed to gable ended roofs, large out - of - scale roof extensions, particularly e.g. box dormers creating 2-storey flat roofed houses).

- Attempts to personalise houses through ad hoc extensions and alterations e.g. changing windows, adding on porches and cladding to front elevations have resulted in further loss of street cohesion and identity.

Modern

Typically car dominated in terms of design and layout, based on a spine road with cul-de-sacs branching off, with a single point or limited points of estate access. The estates are often built on former brownfield sites. Landscaping and tree planting are typically completely subservient to the road network which features large expanses of tarmac and/or regular paving. The quality of the public realm varies from estate to estate but generally fragmented and an afterthought. A mix of on-plot parking and rear or adjacent parking courts, though garage courts are often a feature. The houses are predominantly two storey family houses, or three storey townhouses and flats on relatively small plots, constructed of brick with pitched tiled roofs. The size and scale of these developments is such that an overall masterplan ensures design cohesion despite construction being phased over longer periods of time

Density range = 22-84dph (though typically around 35dph)

Layout



Street proportions

- generally wide; though mainly arranged in cul-de-sacs with fronts of houses facing sides.

Access

- Plots generally accessed from street; though emphasis is generally on vehicular access with pedestrian routes mirroring roads. Some rear access via narrow, enclosed alleyways.

Plot width and plot ratio

- Range from between 4.5 and 11 metres
- average plot ratio = 1:3.4 (34%)

Building line

- grouped around cul-de-sac heads or occupying town centre blocks and infill sites.

Set back/pavement width

- Generally fairly shallow (2-6m) with small front gardens

providing some defensible space between the street and the front of houses. Some front garden parking leading to more generous set-backs.

Back to back distance

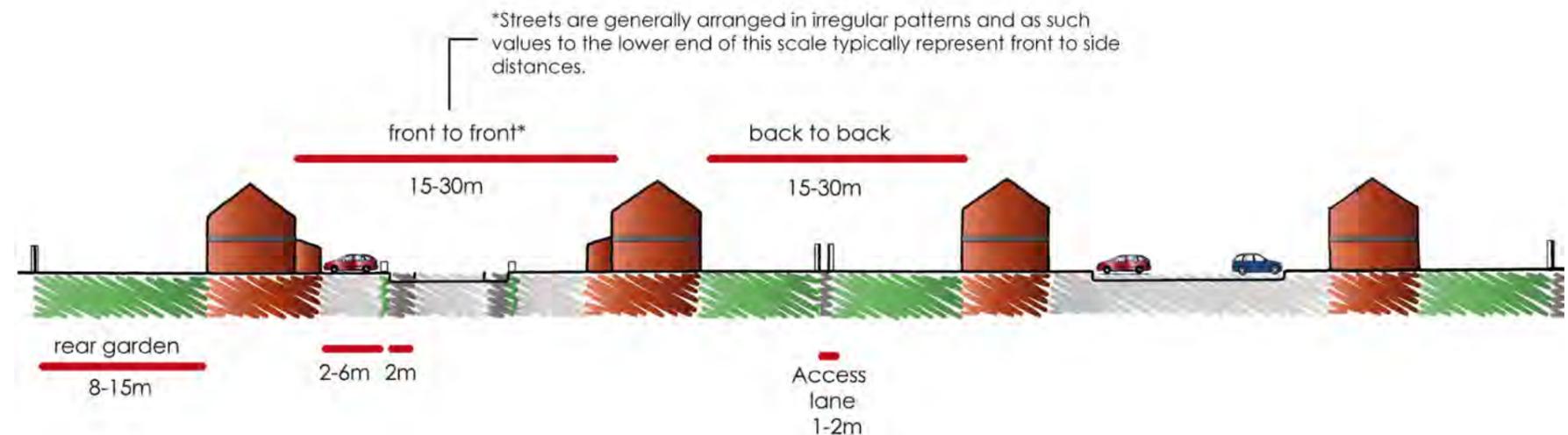
- Varies depending on layout but generally 21m, which is a reflection of achieving reasonable distance between dwellings smaller rear gardens.

Parking

- On-plot (on front gardens and integral garages), in large garage courts to rear and on street.

Private & public amenity space

- Private amenity space is limited to small rear gardens.
- Public realm and communal amenity space is fragmented often not of a high quality and is not well located or suffers from poorly defined links or clear/legible routes through the area.



Modern

Built Form

Plot Sizes

- Widths = 4.5-11m
- Depths = 11-21m

Scale/Height

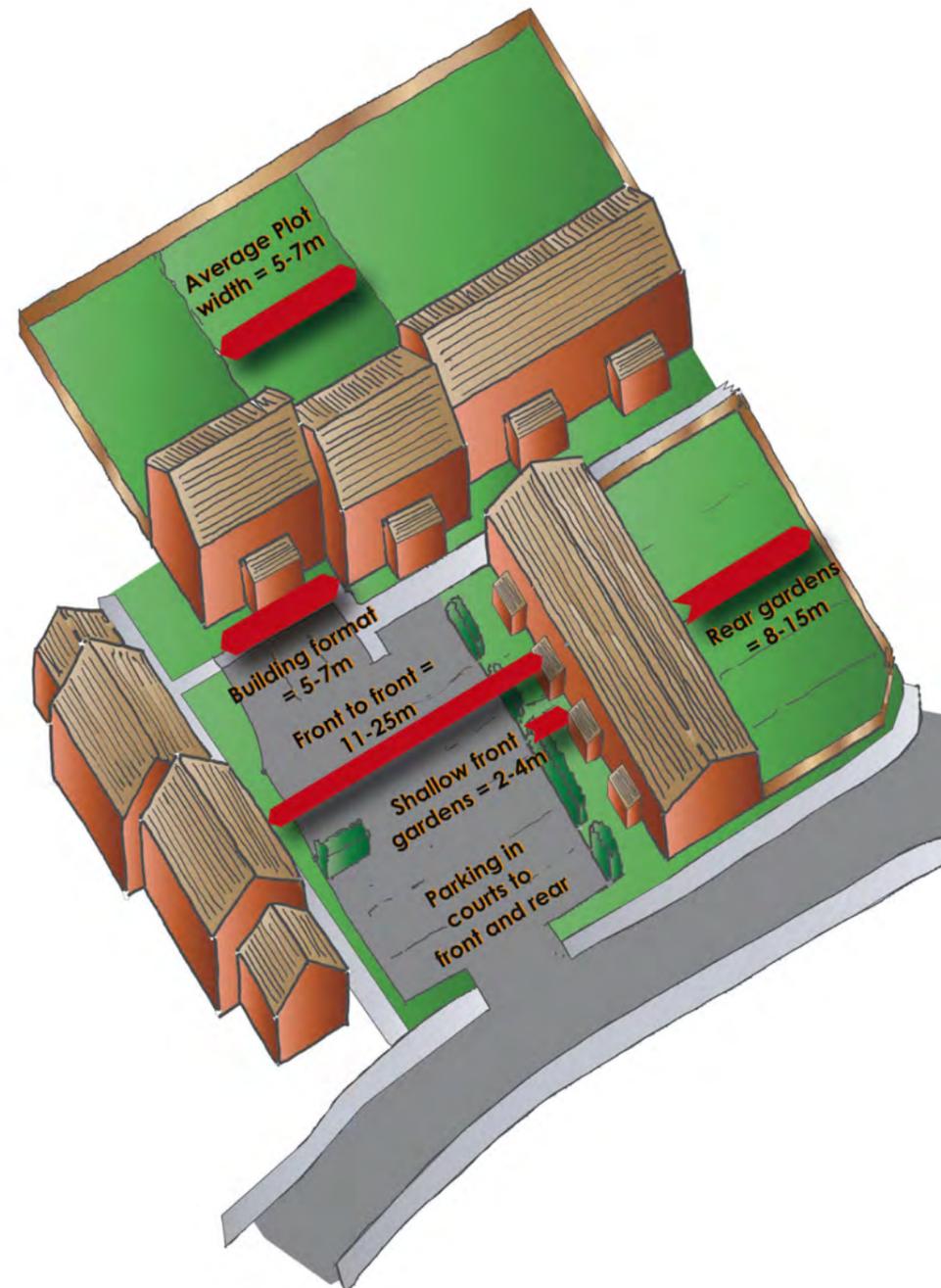
- Mainly smaller family housing of two to three stories, though occasionally four storey blocks containing flats.

Massing

- Varies widely; though emphasis is generally horizontal.

Form

- Houses have pitched roofs, some with gable projections to add variety together with pitched roofs over integral forward projecting garages and porches.



Modern

Landscape

Landscape typically plays a subservient role, particularly to the car in the case of modern housing estates. On the higher quality housing estates, there are some attractive hedge features and corner planting but front boundary treatment is typically lacking with open plan front gardens designed to accommodate off street parking. Where front gardens are provided, they tend to be very small i.e. the length of a single car with occasional ornamental trees.

Front Boundary treatment

- Largely absent, though where provided usually features some token soft landscaping e.g. shrubs, small hedges.

Street trees

- Rarely present

Grass verges and front gardens

- Largely absent, poorly defined front gardens, largely used for on plot parking.

Other natural features

- Largely absent but in some locations development can offer significant views to open countryside or riverside.



Opportunities for enhancing biodiversity

- Few and far between. There is a considerable need to improve public realm open space, reduce the dominance of hard landscaping surface treatments and introduce more soft landscaping which will, in turn, enhance biodiversity.

Modern

Detailing

Key features

- Reasonable quality but largely bland and uninspiring in design terms
- Few if any defining or locally distinguishing or distinctive features - not 'place' specific

Building materials

- The dominant material is brick with some variations in elevational treatment e.g. render, tiling or timber boarding to provide some visual relief.
- Typically use large red and grey concrete roof tiles.

Window format

- Windows are rarely set in a reveal.
- Juliet balconies tend to be a feature of first floor town-house elevations.



Key planning issues

- The lack of locally distinctive character or identity.
- Lack of legibility in the layout of these estates making it difficult for visitors in particular to find their way around.
- Prevalence of car dominated environments with high levels of on plot parking and token boundary planting strips giving the impression of a 'sea of car parking'.
- Lack of regard to *Secure by Design* principles e.g. narrow alleys leading to the exposed backs of houses; parking courts which are not directly overlooked.



- Lack of defensible space to the front of houses and the lack of front boundary treatment result in dilution of the environment's visual quality.
- Poor quality public space and low levels of soft landscaping.
- Balance between on and off plot parking has slipped, particularly where on-plot parking accessed directly off the highway has created a lack of on-street parking in some areas.

Appendix 2 - Waste Management

Refuse and recycling storage requirements for new developments

- Kingston Council provides different options for waste and recycling collections to residential properties, depending on factors such as the number of properties in any one development and available access for collection staff and/or vehicles. The information below explains which waste and recycling services will be provided for different types of developments and outlines the storage and access requirements to ensure that there are no obstructions to the operation of these services.

Houses and bungalows (including house conversions with less than six individual flats)

- Wheeled bins are provided to houses for landfill waste with collections made fortnightly. These will normally be of 180 Litre capacity (one per property). For properties with 5 or more occupants, a 240 Litre bin may be provided on request.
- A range of materials are collected weekly for recycling. The containers provided are:
 - 55 Litre green box – for paper, glass, plastic bottles, textiles and household batteries. A maximum of five boxes can be requested per property.
 - 5 Litre kitchen caddy – for storage of food waste inside the property.
 - 23 Litre lidded container – for storage of food waste outside of the property.
 - Reusable bag for card and cardboard.

Purpose built flats and house conversions with more than 6 individual flats

- Flats and other communal properties require communal facilities in order to dispose of landfill waste efficiently and recycle as much as possible. Where flats are being added to existing houses this may require a review of the waste storage and collection for all properties on site.
- Weekly collection of landfill waste will be made from communal wheeled bins. The collectors will collect, empty and return the bins to the storage area or agreed collection point. Residents should not be required to carry waste or recycling further than 30 metres from each building entrance to the nearest storage area. This may mean that multiple storage areas are required.
- Wheeled bins are available in a variety of sizes, most commonly 660 Litre, 1100 Litre and 1280 Litre. A minimum of 550 Litres of landfill waste storage should be provided for every 3 flats. As a guide, the minimum provision for communal wheeled bins for landfill waste is shown below:

Table 1

No. Flats	Capacity required	Guideline provision of landfill waste bins
6	1100 Litres	1 x 1100 Litre bin
9	1650 Litres	1 x 1100 Litre bin and 1 x 660 Litre bin
12	2200 Litres	2 x 1100 Litre bin

- Capacity for recycling should be 50% of that provided for landfill waste. Residents should be offered the full range of recycling facilities (with space for a minimum of 6 bins) unless there are exceptional circumstances which prevent this. As a minimum, the Council will provide 3 wheeled bins, for food waste, paper and cardboard.
- As a guide, the minimum provision of wheeled bins for recycling is shown below:

Table 2

No. Flats	Minimum no. Wheeled bins for recycling
Between 1 and 16	4 x 240 Litre containers and 2 x 360 Litre containers (for plastic and card)
Between 16 and 22	5 x 360 Litre containers and 1 x 240 Litre container for food waste
Between 23 and 48	5 x 820 Litres and 1 x 240 Litre for food waste

- The size and number of wheeled bins for recycling will depend not only on the number of individual flats but also on the number of recycling storage and collection points located in the development.

- 10** Developers should also consider future need for additional bins. The recycling habits of residents are rarely consistent and, for example, may require the provision of additional wheeled bins for some items. As recycling continues to develop it may be necessary to provide additional containers for types of waste that can't be recycled easily at present.
- 11** Waste and recycling containers are to be housed in storage areas constructed in accordance with the British Standard Code of Practice BS 5906:1980 "Storage and On-Site treatment of solid waste from buildings". Waste storage should be the sole use of the area.
- 12** As a guide, the storage area must be at floor level with the adjacent path or highway, within 15 metres of , but never on, the public highway, and should have:
- A suitable cover or roof
 - At least one external wall
 - Walls constructed of impervious material
 - A double door of minimum width 1.6m, fitted with a hook back facility to prevent damage from bins colliding into doors upon entry or exit
 - A water supply and a trapped gully to allow for regular cleansing
 - Adequate lighting and lighting installations that can withstand water pressure cleaning
 - Means of natural ventilation
 - A minimum headroom of 2.4 m
 - Sufficient space to allow access to all containers individually
 - A floor surface incorporating an integral coving to facilitate cleaning
 - A rubbing strip attached to the wall surfaces and doors to prevent scuffing and unnecessary noise
- 13** Adequate signage should be provided to indicate where items for landfill waste and recycling should be deposited.
- 14** Doors should not swing out onto a public highway.
- 15** Access pathways from the storage area to the collection point (where the vehicle stops) need to:
- Be level, unless the gradient falls away from the storage area, in which case the gradient should not exceed 1:12
 - Be at least 1.5 metres wide with a clear headroom of 2m
 - Be free from kerbs and steps and have shallow ramps where they meet roadways
 - Have solid foundations and a smooth continuous surface (a cobbled surface is unsuitable)
 - Be no more than 15 metres from the point where the collection vehicle will stop.
- 16** If more than four communal wheeled bins for landfill waste are to be emptied, then the collection vehicle should be able to enter the development to avoid the risk of obstructing traffic. In which case the access roads to the storage areas must:
- Have suitable foundations and surfaces to withstand the maximum weight of a vehicle (generally 26t GVW, 11.5t axle loading)
 - Have heavy duty manhole covers, gully gratings etc
 - Be a minimum of 5 metres wide
 - Ideally allow for the collection vehicle to continue in a forward direction but, if not, offer adequate space for turning
 - Allow a minimum of 4.1 meters clearance under any obstruction such as archways or trees

- 17 Collection vehicles should not generally be expected to reverse into a development from a busy main road.
- 18 For tracking purposes, the dimensions of the vehicles currently used in Kingston upon Thames are 10.8m long and 2.6m wide. The minimum turning circles are 18.5m (kerb to kerb) and 20.3m (between walls).
- 19 Appropriate measures must be incorporated into any scheme to control unauthorised parking of vehicles that would prevent access to the bin area by the waste collection vehicle, or impede the movement of the bins from the enclosure to the collection vehicle.
- 20 Access to storage areas must be possible from 06.30 hours to 20.00 hours, Monday to Saturday. Any locks must be a standard 'Fire Brigade' pattern. If there is any electronic gate or barrier control then immediate access must be possible without the need for waste collection staff to know an entry code or carry a swipe-card or any key, other than one of a standard 'Fire Brigade' pattern. Where there are site security concerns, the preferred option is that independently secured access points to the waste storage area should be provided.
- 21 Consideration must be given to any existing or planned traffic control measures such as controlled parking zones, yellow lines, red routes, bus lanes, etc and access planned so that they do not restrict the times when waste collections can be made.