MAYOR OF LONDON

London Plan Guidance

Small Site Design Codes

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Acknowledgements

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Table of contents

London Plan Policy	Policy H2 Small sites – Parts (B2 – 4)
Plan making	Where appropriate, planning authorities and neighbourhood planning groups should prepare area-wide housing design codes for a range of 'character types'. This can include identifying and mapping appropriate small sites for residential development, including site allocations; and listing small sites on brownfield registers. This could be brought forward through a Supplementary Planning Document (SPD).
Planning Application type and how the London Plan Guidance will be applied	This guidance only relates to design codes for residential use on small sites which are defined as sites of 0.25 hectares or less. These could be major or minor applications, depending on the number of dwellings as well as householder applications.
Who is this guidance for?	Planning authorities and neighbourhood planning groups should follow the process set out in this document at the plan-making stage when developing design codes for small sites. Once a design code is adopted for a specific area, boroughs and other decision-makers are expected to use these as a basis for their decision-making. Developers of small sites and their design teams should also refer to this guidance. Specialists in urban design, including heritage and conservation officers, should be involved in the process set out in this document and as such should to refer to this guidance.

1 About this document

1.1 What are small site design codes?

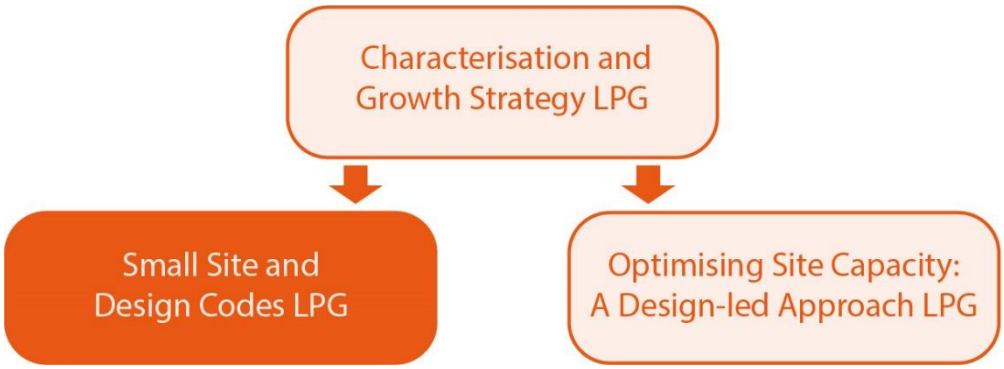
1.1.1 London Plan Policy H2 requires boroughs to prepare design codes for small sites where appropriate. These small site design codes are a particular type of design code that can be applied to a 'character type' within a given area. These design codes should proactively support well-designed new homes on small sites by providing clarity and certainty over the design and quality of small site residential development. They are a key mechanism to delivering a borough's small sites housing target, and an increase in housing through incremental development.

1.1.2 **Small sites:** residential developments on sites up to 0.25 hectares. Development on these sites may include new build; infill development on vacant or underutilised sites; upward extensions of existing buildings (including non-residential developments); residential conversions, and redevelopment of existing sites.

1.1.3 **Design codes:** a set of simple, concise, illustrated design requirements that are, wherever possible, visual and numerical to provide specific, detailed parameters for the physical development of a site or area.

1.1.4 This guidance only covers area-wide design codes for incremental intensification of small sites. These are most useful for site contexts where design features or design approaches are replicable – such as *conserve* and *enhance* areas, as set out in the Characterisation and Growth Strategy LPG. Design coding for larger sites, such as site allocations, is detailed in the Optimising Site Capacity: A Design-led Approach LPG. Boroughs or neighbourhood planning groups may also choose to develop site-specific briefs or design codes for small sites where necessary, but should refer to the guidance above when undertaking this. The Mayor provides support and advice for small developers, housing associations, and communities about developing small sites. Further information can be found here: https://www.london.gov.uk/small-sites.

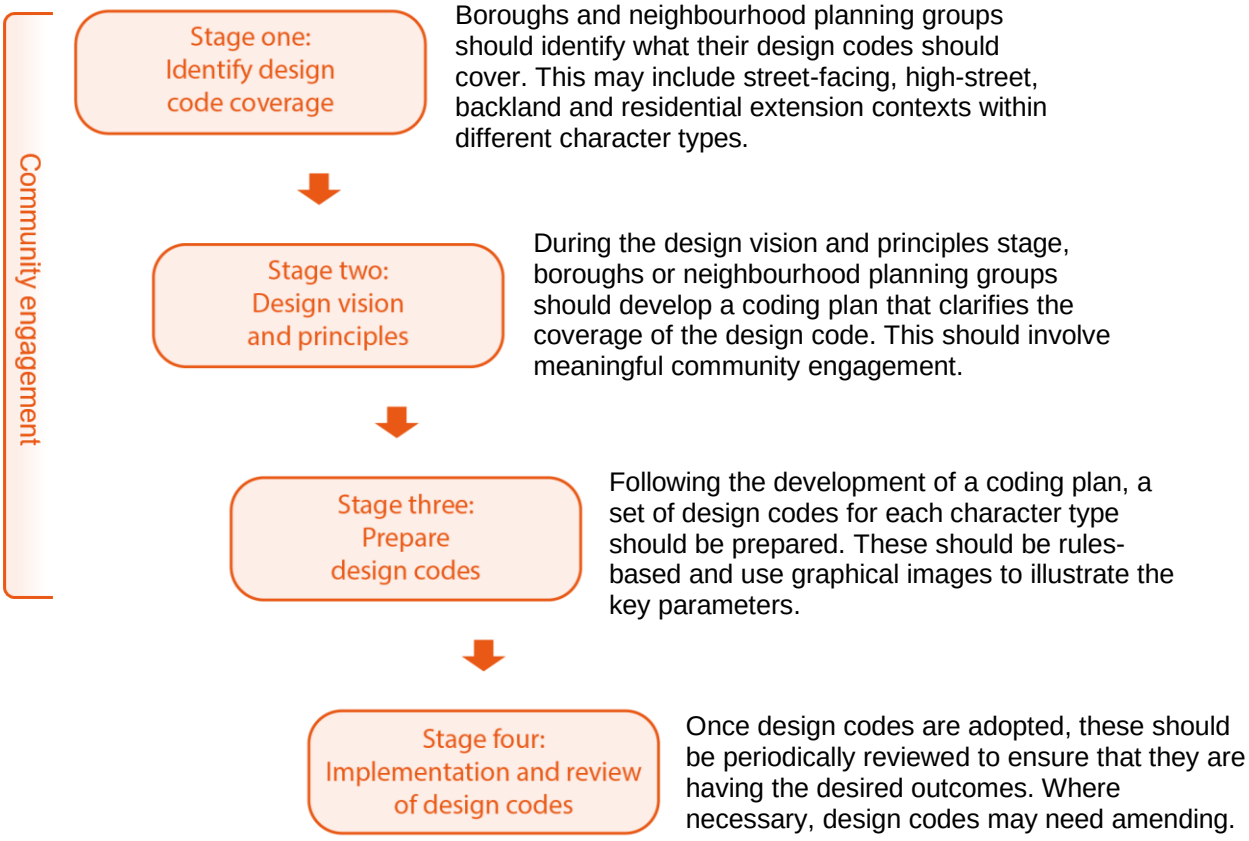
Figure 1.1 Relationship between the design LPGs



1.2 Stages in developing area-wide design codes

1.2.1 The development of area-wide design codes should be carried out using the four stages listed below, in Figure 1.2. These stages aim to ensure that area-wide design codes reflect the character and identity of the area and potential for change, as well as the views of all parts of the community. This document also provides four example design codes, shown in Appendix 2, that illustrate how this guidance can be used.

Figure 1.2 Four stages to developing area-wide design codes



Neighbourhood planning

1.2.2 Neighbourhood planning groups are encouraged to develop area-wide design codes within their designated neighbourhood area. Where applicable, this will include the identification of specific small sites; development of a coding plan and design codes; and the periodic review of these codes. Alternatively, neighbourhood planning groups may wish to collaborate on a borough's area-wide design codes and boroughs are required to collaborate effectively with any statutory neighbourhood planning bodies.

2 Stage one: Identify design code coverage

2.1 Identification of character types

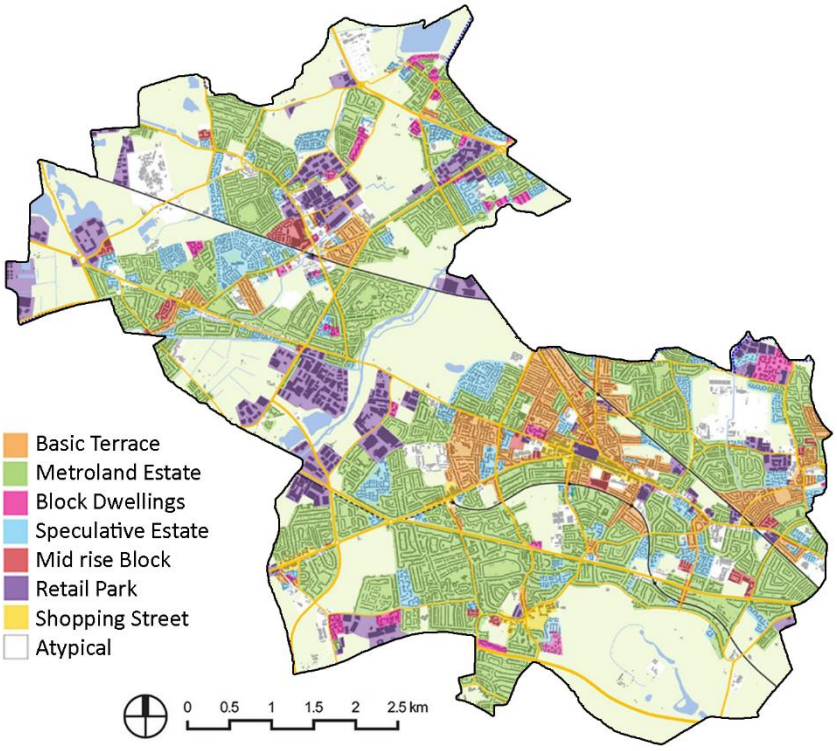
2.1.1 Small site area-wide design codes should use identified 'character types' as a basis for the application of the design codes. The process of determining these character types should be carried out during a borough's characterisation assessment; and is detailed in the Characterisation and Growth Strategy LPG.

Excerpt from Characterisation and Growth Strategy LPG (section 2.2)

Character types: the basic unit of historic characterisation and the building types or typologies within an area. Types are generic, not geographically specific, and can occur in more than one location in the borough or neighbourhood. These types should be identified through use of the London Historic Character Thesaurus (LHCT). Examples include the *Metroland Estate* and *Basic Terrace* types.

Each character type shares common features and characteristics such as their historical origins; block pattern/urban grain; and architectural styles and details. Where appropriate, these types will also form the basis of a coding plan for a borough or neighbourhood-wide small site design code. Each of the identified character types should be analysed to identify its strengths, weaknesses, opportunities and threats.

Figure 2.1 Example map of character types



2.2 Forms of incremental housing development

2.2.1 Boroughs and neighbourhood planning groups should choose to prioritise coding in areas for which the development of small sites is most likely to come forward. Incremental intensification of existing residential areas that are well connected – due to proximity to public and active travel infrastructure or town centres – is expected to play an important role in the delivery of small site development. As such, boroughs and neighbourhood planning groups are advised to prioritise design coding for character types located in or near town centres, particularly areas with Public Transport Access Levels 3-6.

2.2.2 Figure 2.3 and Figure 2.4 show some common opportunities for incremental housing development within the context of terrace, linear block and semi-detached housing. Where appropriate, it is recommended that certain small site contexts are coded for, for each character type selected. Each context will create different requirements for design codes which are discussed in the following sections. These contexts are:

- **street-facing context:** site with direct access to the street
- **high street context:** site situated on or near a shopping street
- **backland context:** site behind development, commonly vacant rear land
- **residential extensions:** extension of an existing development or dwelling to provide additional residential accommodation. This may be in the form of an upward, side or back extension.

Figure 2.2 Backland development

Reference: Goldney Mews, City of Westminster

Figure 2.3 Opportunities for incremental housing development within terraced and linear block context

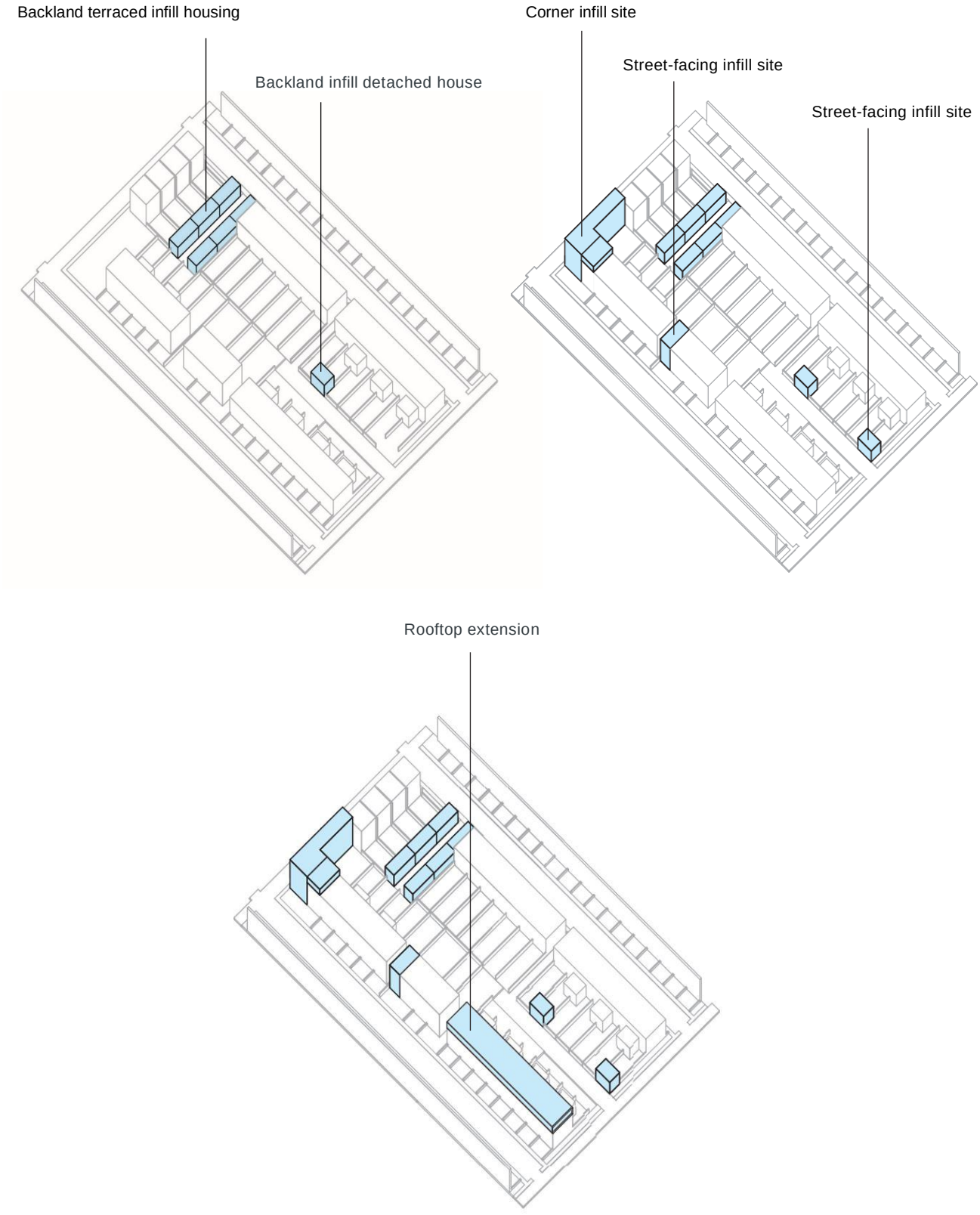
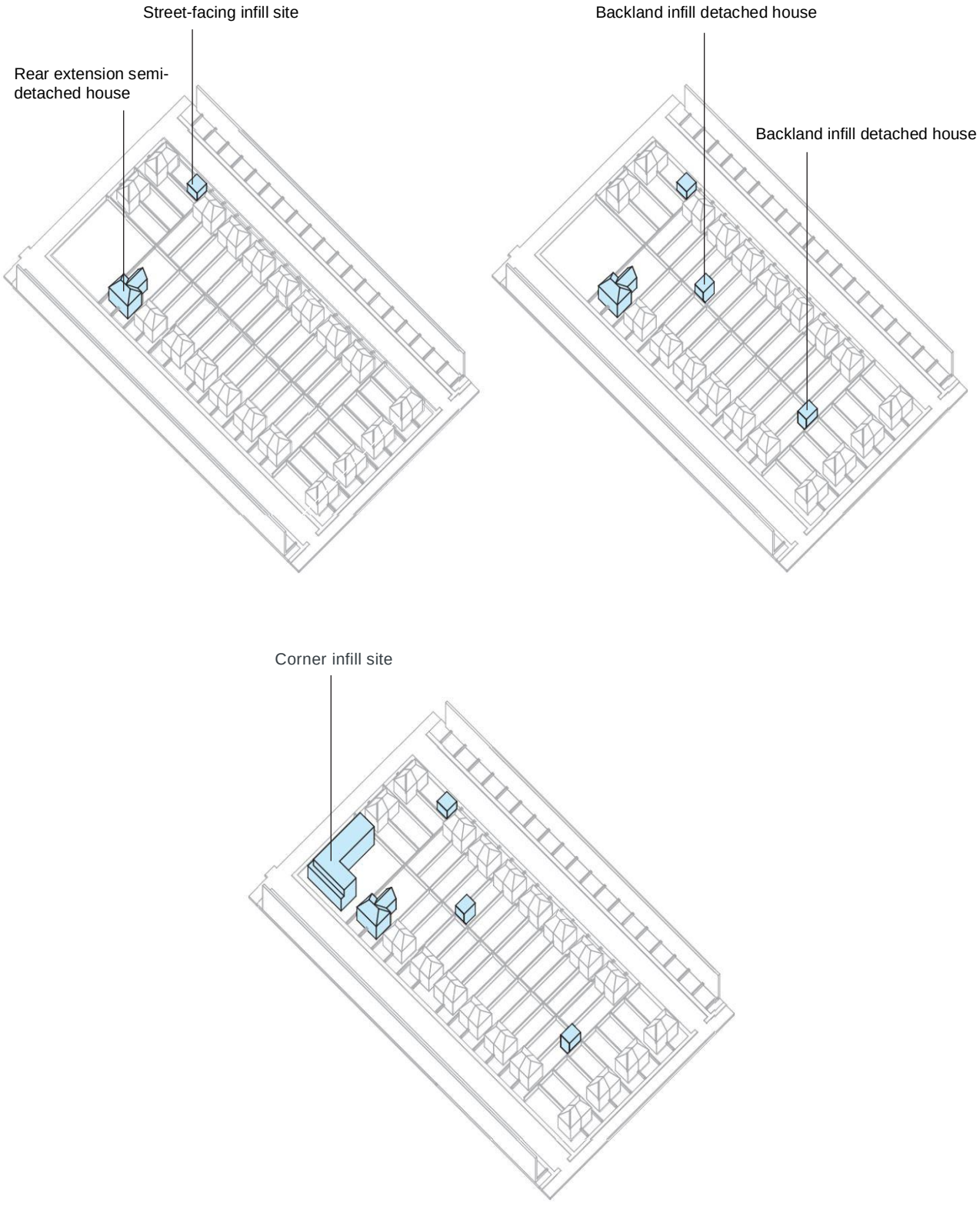


Figure 2.4 Opportunities for incremental housing development within semi-detached contexts



2.3 Street-facing context

Residential street infill

2.3.1 Residential street infill sites are plots situated on residential streets that have a street-facing aspect. These include infill sites in the middle or end of a residential street; and can include car parking spaces and gaps in the streetscape. On a street-facing plot, the character of the existing street scene will closely inform the relationship between the proposed development and the existing surrounding buildings. This character will inform the design codes on the frontage line, front-to-front distances, building heights, rear projections and roof forms.

Figure 2.5 Street-facing infill

These sites have direct access to the street and are often framed by two adjacent buildings. However, they may also be located at the end of a street, as shown in the image to the left.

Figure 2.6 Corner infill

Corner infill sites have direct access to the street and are most likely at road junctions. These corner sites often offer an opportunity to increase the height of development in relation to its surroundings, and act as marker buildings.

2.4 High street context

High street infill sites

2.4.1 High street infill sites are plots situated on or near high streets throughout London that do not currently optimise their site capacity or contribute positively to the streetscape. Appropriate design codes for these sites may permit upward extension or demolition and rebuild depending on the built quality of the site. Important design code parameters for this type of site include building height, frontage line, roof form, materiality, entrance arrangements and ground-floor use class, among others.

Figure 2.7 High street infill

This London high street, with a break in its three-storey frontage, offers the opportunity for redevelopment. Infill of such sites should continue to provide an active mixed-use ground floor, where possible, and reinforce the high street's strong frontage line with dwellings on the upper floors.

Figure 2.8 Surface carparks

Coupled with improved active travel measures, town centres and high streets should look to optimise surface carparks. These sites offer scope to redevelop as residential developments providing additional housing.

2.5 Backland context

Sites that do not have a street frontage

2.5.1 Backland sites are those without a street frontage, or where direct access to the street is limited. They include, among other things, residential garages that are located behind development and estate infill in areas that are not street-facing. These sites offer the opportunity for additional housing and improved public realm. While developments in street-facing contexts are generally governed by a clearer set of rules established by the urban order of an existing streetscape, backland sites require more innovation and reinterpretation to enable development. Consideration of access and servicing, and the inter-relationship between overlooking, privacy and daylight/sunlight, is paramount to the success and acceptability of new development in backland locations.

Figure 2.9 Residential garages

Residential garages should be prioritised for residential redevelopment. Development of these sites can reinstate the streetscape, reduce flood risk and encourage active travel.

Figure 2.10 Estate infill

Estate infill sites can offer the opportunity to reinstate street frontages by providing a frontage line in locations where this has been lost. Much of this space is often where direct access to the street is limited. Redevelopment of such sites is expected to include wider improvements to the estate, such as communal areas, open spaces and access and should not lead to a loss in green space.

2.6 Residential extensions

Upward, side and rear extensions

2.6.1 Sites suitable for upward, side and rear extensions include residential dwellings and housing blocks. A design code for this type of small site may be appropriate for a street or number of streets so to ensure consistency within an area. While a modest uplift on its own, the contribution of upward, side and rear extensions can be significant if done across a neighbourhood. A design code that is applicable to a number of streets is intended to contribute positively to the streetscape by encouraging an element of symmetry and pattern. It can also prevent situations where upward or side extensions are designed differently through the same street, which can negatively impact the streetscape. Applying a design code to a row of dwellings can also encourage a higher take-up of the design code.

Figure 2.11 Dwelling upward extension

A common example of an upward extension is a roof extension. Design codes for these must consider the implications if take-up is low and its impact on the streetscape. Permission to extend also provides the opportunity to attach planning conditions to refurbish the façade and the reinstatement of original architectural features that may have been lost since first built.

Figure 2.12 Linear and villa block extension

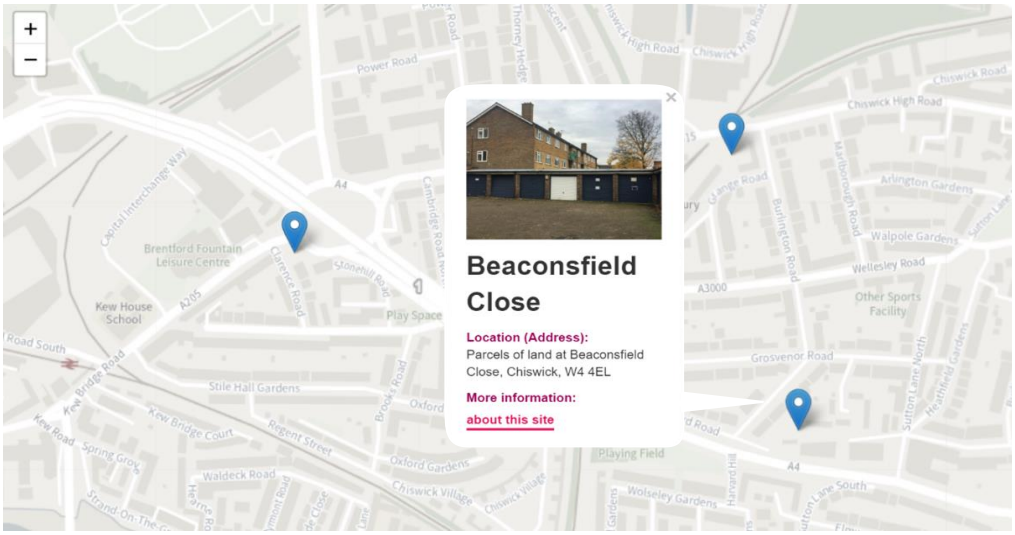
Often under one ownership, upward extensions of linear and villa blocks can avoid some of the complications that terraced or semi-detached dwelling extensions may experience. Permission to extend provides the opportunity to attach conditions to improve the existing façade and amenity space (see Figure A2.35). Regardless of permitted development rights, boroughs are encouraged to set out design best practice.

2.7 Identify and map specific small sites for development

2.7.1 It may be appropriate and advantageous to identify and map certain small sites for development. This is likely to be particularly appropriate for larger sites (those closer to 0.25 hectares in size) but it may also be relevant for a wider range of small sites, given the nature of the built-up area in London. Identification should be carried out in consultation with communities and landowners. Appropriate small sites may also be those that would have a significant positive impact on the character of the area if they were to be redeveloped. Examples could include vacant land, residential garages or carparks/surface parking.[1]

2.7.2 An area-wide design code will apply to these identified sites to encourage future development of these sites. Identified small sites should be listed and publicly accessible via a borough's online Brownfield Land register. A Brownfield Land register can help speed up the delivery of new homes by assisting developers to identify suitable housing sites quickly and easily. Boroughs and neighbourhood planning groups are encouraged to include these on online maps, as this will allow for information on each site to be kept 'live' and updated when sites are developed out. The GLA's Small Site Small Builders map is a good example of this type of tool. For some small sites, it may be advantageous to a develop a site-specific design code. Boroughs and neighbourhood planning groups should refer to the Optimising Site Capacity: A Design-led Approach LPG for details on this process. In a limited number of circumstances, they may also wish to allocate some of these sites.

Figure 2.13 Screenshot of the GLA's Small Site Small Builders programme portal showing identified small sites in west London



[1] For further information on identifying specific small sites, see the GLA's Small Site Small Builders programme for examples of existing small sites that have been identified through this programme.

2.7.3 The process of identifying small sites for residential development should also consider the wider needs within the plan area. As a result, other housing needs – such as supported and specialised accommodation, specialist older persons' housing, and Gypsy and Traveller accommodation – should be considered as part of the process to determine whether a site is more suitable for these uses. Boroughs can allocate sites to meet identified local need for other types of housing in development plan documents. This can provide greater certainty for developers and encourage the provision of sites in locations most suitable for these types of housing.

Call for sites

Boroughs and neighbourhood planning group are encouraged to carry out a community-led 'call for sites' that can be used to identify new locations for small site development.[2] This can support any local community-led housing or community land trust initiatives. This process can be done in tandem with seeking the community's preferences on the type and style of new development. When carried out, engagement should be representative of the local community and include those from hard-to-reach groups.

2.8 Coding coverage

2.8.1 At the end of this stage, practitioners should have identified and determined the coverage of their design codes. This should include the 'character types' where the area-wide design codes will apply, and any specifically identified small sites that are appropriate for development. At this stage, practitioners should also consider whether it may be advantageous for the same character type to have varying design responses. For instance, it may be necessary for character types that have a large variation in location, connectivity and architectural detailing (such as a different roof line or number of storeys) to have different design responses. When considering coding coverage, practitioners should take account of conservation areas and the settings of heritage assets. Existing conservation area management plans and appraisals will be particularly helpful in this regard.[3] While these areas should not be automatically excluded from the design-coding process, a more sensitive approach will be necessary and their inclusion within the design-coding process should be carefully considered. This may result in the setting of a more locally specific design code that responds to the unique and special character of that area. There is also an opportunity to provide clear information for retrofitting to improve energy performance, such as window replacement or the use of solar panels in a conservation area.

[2] See Camden's 'New Homes for Small Sites' programme for an example of this process.

[3] See Tower Hamlets' 'Driffield Road Conservation Area: Character Appraisal and Management Guidelines' for an example of guidelines on extending upwards.

3 Stage two: Design vision and principles

3.1 Character and context

3.1.1 Area-wide design codes should be grounded in a vision and set of design principles for each character type and small site context that is being coded. This should clearly articulate the type of small site development that is likely to be appropriate. The design vision should also reflect, and link back to, the findings of a borough's characterisation work that identified the sensitivity to change of different areas (see Characterisation and Growth Strategy LPG). This may include, for instance, if a character type is particularly sensitive to change; and/or is identified as having heritage value or a heritage asset. This vision should aim to build on the opportunities, strengths and weaknesses of each character type, which in turn will inform the design aspirations and visions, and how best to contribute to the positive aspects of local character. The design vision should also account for the fact that the same design code may be applied to character types in areas of differing levels of connectivity.

3.2 Public engagement and consultation

3.2.1 Fundamental to the process of developing effective and well-designed codes is the involvement of a range of stakeholders from the outset. This includes residents, community groups and local businesses, as well as development professionals. Boroughs and neighbourhood planning groups should undertake meaningful community engagement to determine the potential coverage of a design code, to ensure that the codes reflect the views and aspirations of communities living in or using the neighbourhoods, and who are most affected by and could benefit from change. Targeted consultation with members of the public most directly affected by the code for a particular area is encouraged. This engagement should be inclusive and reflect the range of views across the community in accordance with Good Growth Objective 1 of the London Plan. Engaging the public at this early stage aims to bring forward discussions about the future vision before planning applications under any new codes are submitted. To assist in this process, a range of in-person and digital engagement tools can be used. See the National Model Design Code (NMDC) for more information on public engagement when preparing design codes.

What public consultation and engagement should cover:

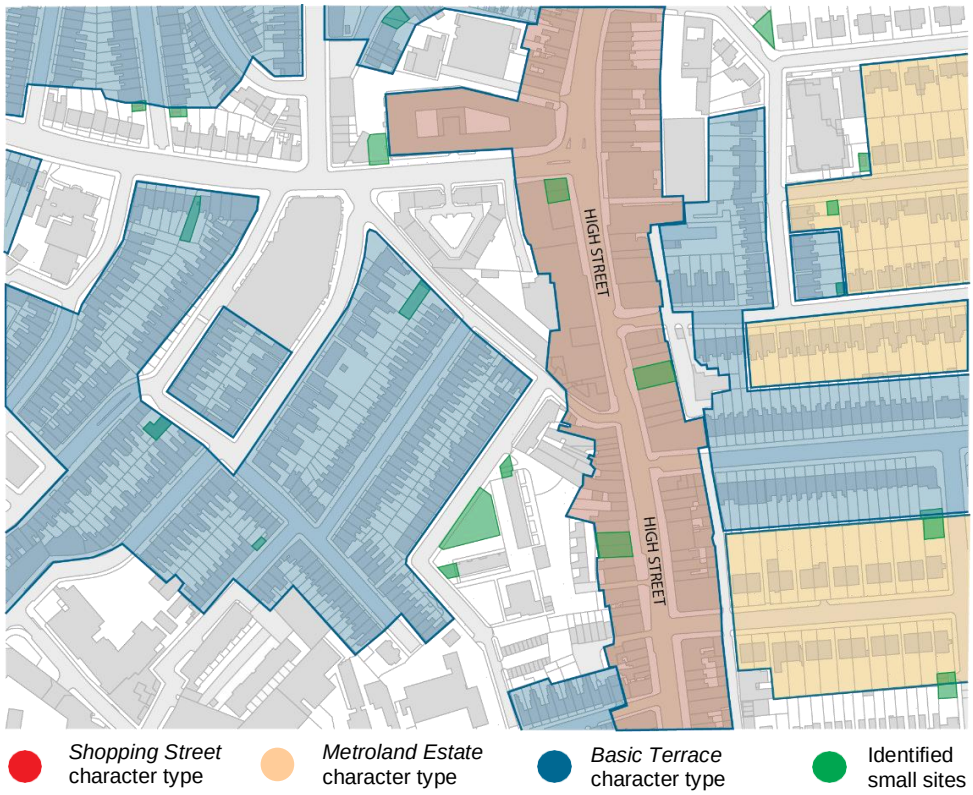
- application of design code and how it influences individual schemes
- identification of the areas where the code will apply
- content of the design code.

3.3 Small sites coding plan

3.3.1 Boroughs and neighbourhood planning groups should develop a coding plan that identifies the different character types to be coded and where any design codes will apply. Each character type should have a different design code that responds to the unique characteristics of each type. For instance, a design code (such as a set of illustrations and rules) for a *Basic Terrace* character type will be different from that of a *Metroland Estate*.

3.3.2 **Coding plan:** the map of the local authority or neighbourhood area that identifies where design codes will apply. This map is likely to be very similar to a character types map. However, it may exclude areas of very mixed character and those near the boundary with other character types where coding would be difficult to achieve. A coding plan should be in the format of a digital map so that it can be updated periodically and accessible to the public. It should also show any identified small sites.

Figure 3.1 Example coding plan for a part of a borough



3.3.3 Figure 3.1 shows part of a coding plan (shown in blue, red and yellow) and identified small sites (shown in green). A design code should then be devised for each character type identified within the coding plan. This code will then guide what is acceptable within that area. This format allows for easy identification for the different character types and the subsequent design codes that are applicable.

4 Stage three: Prepare design codes

4.1 Design code content

4.1.1 Design codes should be rules-based and use graphical images to illustrate the key design parameters. This may include examples of best practice, as well as what is not acceptable in design terms. It is encouraged to use the terms ‘must’, ‘should’ and ‘could’ to clarify the level of compliance needed to conform with a design code. This approach aims to define the elements that are non-negotiable while leaving flexibility in other elements.

4.1.2 Where compliance is mandatory, the word ‘must’ should be used. Where compliance is expected, the word ‘should’ should be used. For codes that are listed as ‘should’, applicants can deviate if they can justify a positive reason for doing so and demonstrate high-quality design will still be delivered. Practitioners may also want to use the term ‘could’ when compliance is optional and up to the discretion of the applicant. When preparing a design code, judgement should be used about the level of prescription contained within codes to ensure design principles lead to a context-based response, without limiting the innovation necessary to successfully realise good design and optimise the capacity of sites. The coverage of design codes will vary across character types and the type of small site context that is being coded.

4.1.3 For extensions to existing buildings, design codes can be utilised to provide guidance, and set requirements or conditions to retrofit or refurbish aspects of other parts of the original building, that would not otherwise have been upgraded or reinstated. These could include upgrades to cavity wall insulation; double or triple glazing; loft insulation; and the refurbishment or reinstatement of original features and detailing (see Appendix A2.5).

4.1.4 As per sections 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990, special attention should be given to design codes within conservation areas, or within the setting of heritage assets, to ensure that they conserve and enhance the character and appearance of an area. Within these areas, design codes may need to provide further detailed and specific parameters. Whilst not exhaustive, a comprehensive list is included within the NMDC and shown in Appendix 1. This list can be used when deciding what elements should be included in a design code. The following section will outline several of the most common elements.

Code testing

4.1.5 The testing of design codes is an important step in the preparation of design codes. Workshops should be held with a range of stakeholders to trial the design codes being prepared. This provides an opportunity to test a code and consider any unintended consequences that could arise, including a failure to optimise the capacity of sites. This exercise should identify aspects of a code where amendments are necessary. Coding should also take into consideration permitted development rights as a fall-back option and should endorse high-quality design solutions that can be used to discourage poorer design solutions that do not require planning permission.

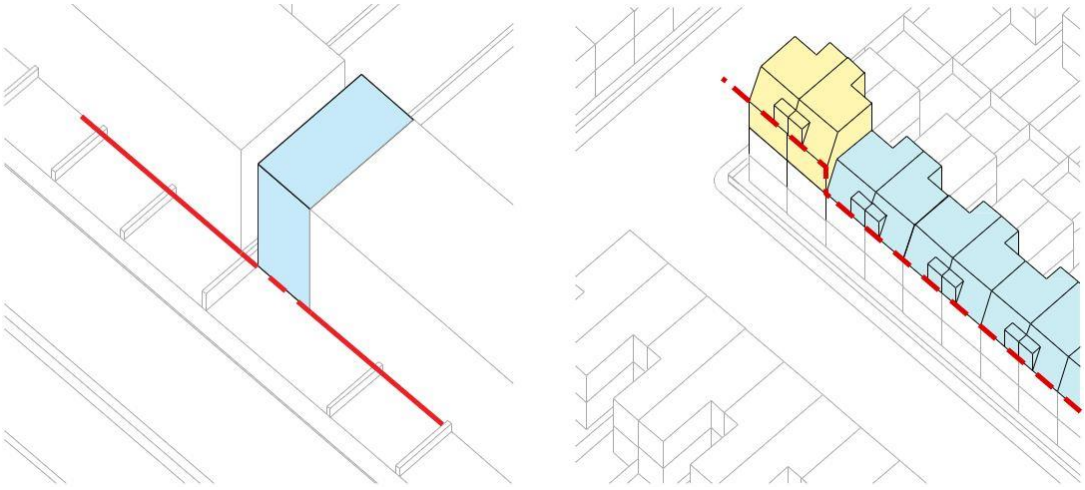
4.1.6 At the boundary of two different character types, it is important to consider the implication of an area's design code on its neighbouring area. As a result, it may be necessary to exclude some boundaries from a coding plan.

4.2 Front building line

4.2.1 Most design codes are likely to code for the front building lines (frontage) of any new development that faces the street. Most commonly, these codes are likely to advocate consistency with the existing building line of the street within which it is located. Typically, terraced housing has a regular, unbroken building line and it is likely that most design codes for these character types will require development to align with the existing building line, so as to not negatively impact the character of the street.

4.2.2 Character types of semi-detached and detached houses may have more variation in their building line, allowing flexibility in the positioning of new development in relation to the street. However, any design codes for these areas should ensure that the building line of new development should not negatively impact the street scene or harm either the privacy or the daylight and sunlight enjoyed by occupiers of existing nearby dwellings. Nor should it create or exacerbate street canyons in areas of existing poor air quality. The code should identify whether incremental development that bookend a street, or are located on a corner site, may have the opportunity to accommodate additional depth due to their prominent position and potential for multiple aspects. In these locations, a building line that steps out in relation to adjacent buildings could be considered appropriate, but care should be taken not to interfere with circulation and the public realm. In town centre and high street contexts with mixed-use ground floors, building frontage lines often have a direct relationship with the pavement and do not include space directly in front of the property that is owned and maintained by an identifiable household. In these circumstances and character types, consideration should be given to upper-level balconies; and the highway authority will need to be involved if balconies that overhang (oversail) the footway are being considered.

Figure 4.1 Building line



4.3 Front-to-front and back-to-back distances

4.3.1 When developing design codes for new streets and backland development, design coding the front-to-front and back-to-back distances can be useful to provide clarity for new development. Enclosure ratios/building height-to street-width ratios can also be used where new streets are envisioned. It may also be advantageous to identify street typologies when setting design codes, as these can provide clarity on the height and width of buildings and streets respectively.

Figure 4.2 Frontage distances and building setback

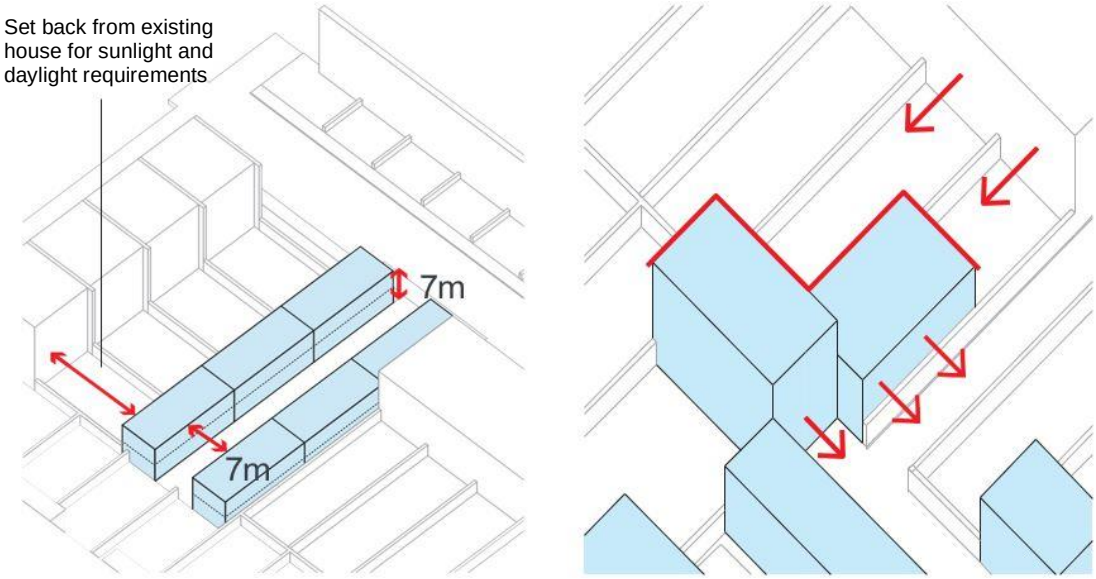


Figure 4.3 Building height-to-street width ratio

This illustrates a building height-to-street width ratio of 1:1, which creates an appropriate level of enclosure for this location. Reference: Chobham Manor, LB Newham.

4.4 Building height

4.4.1 Building height is one of the key design coding elements. It can influence the character of a place, its identity, and the environment for occupiers and users. Design codes may also be used to encourage increases in height particularly where this would optimise sites with good accessibility. For instance, new development may seek to accommodate one or more additional storeys. To ensure that the character and scale of the buildings along a street is maintained, design codes can include requirements to set back the top floor or advocate that upward extensions be partially contained within the roof space. In all circumstances, it is critical to ensure that existing and surrounding properties continue to receive good levels of daylight and sunlight and that the streetscape is positively enhanced.

Figure 4.4 Example illustration of the building heights in a semi-detached character type (such as *Metroland Estate*)

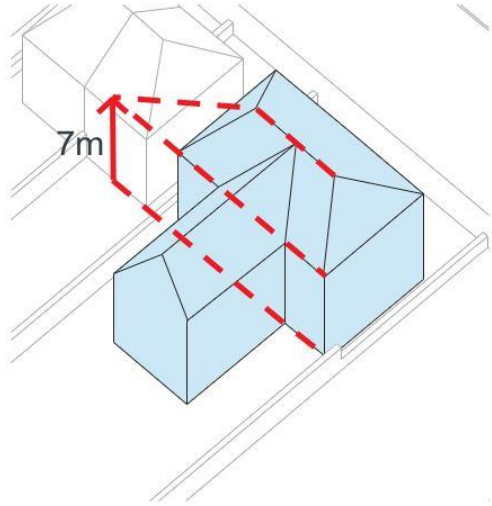


Figure 4.5 Backland development

This is a good example that avoids an unreasonable impact on the daylight and sunlight enjoyed by existing homes. Reference: Otts Yard, LB Islington.

4.5 Rear building line projection

4.5.1 When setting design codes for buildings or extensions that extend beyond a rear building line, parameters should be set to ensure that there is no unreasonable impact on the amenity of neighbouring homes in relation to daylight, sunlight and privacy.

4.5.2 A good rule of thumb is to follow the 45-degree rule illustrated below. This rule specifies that the height and depth of a new development or extension should not breach a 45-degree line drawn from the centre of the window of the lowest, and closest, habitable room on the neighbouring property.

4.5.3 Design codes can also use rear projection lines to set parameters on the height of new developments or extensions. These can ensure that new development is not overly dominant; and access to daylight and sunlight of the habitable rooms of neighbouring homes is maintained.

Figure 4.6 Example code for rear building line projection of dwellings in a semi-detached character type (such as *Metroland Estate*)

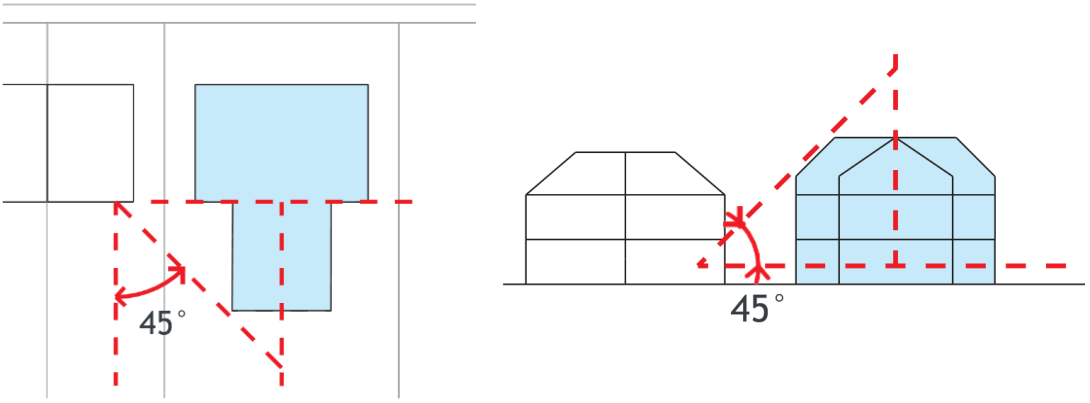
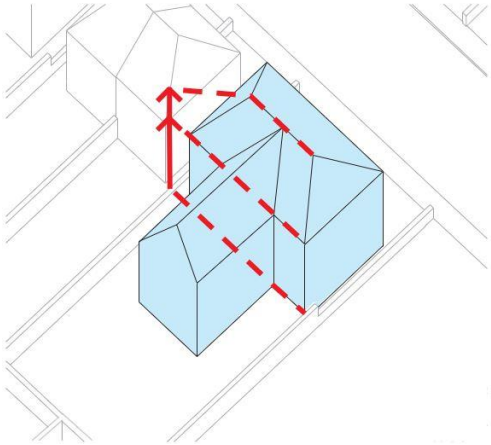


Figure 4.7 Rear building line projection in a semi-detached character type (such as *Metroland Estate*)



4.6 Green cover and landscaping

4.6.1 There are multiple ways that design codes can code for green cover and landscaping. This can be done, for instance, through requiring street trees, green roofs and other natural landscaping measures, such as sustainable drainage systems. Design codes should aim to prioritise the retention and provision of green features that have the most benefits. These should be used to secure net biodiversity gain and no net loss of green cover on minor development. In addition, the Urban Greening Factor (see Policy G5 Urban Greening) will apply to all major developments (10 units and above). As a result, boroughs and neighbourhood planning groups are encouraged to include this requirement as part of their design codes. Below is an example showing how a site can work out the re-provision of green cover so that no net loss of green space is secured.

Figure 4.8 Example of providing green cover and landscaping

Existing site

The existing site is a backland site with residential garages. It is accessible via a side road and has two areas of green coverage that will need to be re-provided.

The site also includes the full canopy of a tree. This will also need to be replaced.

Green coverage of the site

Green area to replace:

Tree		17m²
Area 1	+	53.8m²
Area 2	+	9.7m²
		80.5m²

Proposal A

The tree is retained and green coverage is replaced in the form of two green roofs and a garden.

Green area to replace

Green roof 1	23.5m^2
Green roof 2	33.2m^2
Garden	42.4m^2
	99.1m^2

Proposal B

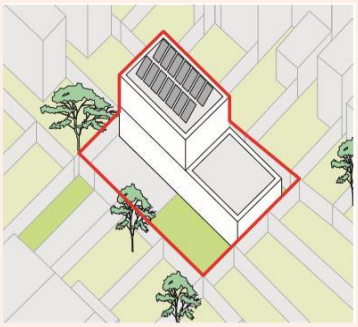
The tree is retained and additional green coverage is added.

Green area to replace

Area	9.7m^2
Gardens	74.8m^2
	86.2m^2

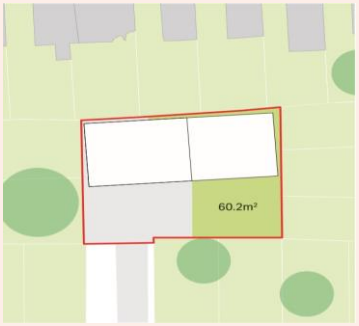
Proposal C

The tree is removed and no additional green space is provided. More green cover should be provided (for instance, by adding green roofs).



Green area to replace

Garden	60.2m^2
	60.2m^2



4.7 Block types and building forms

4.7.1 When setting design codes for different character types, codes may set design parameters on the building type and typology of new development. This can help ensure that the block size of new development positively contributes towards the character of an area; and facilitate a transition to a higher density over time. This can be done through setting design codes on the type and typology of urban block, as well as the urban gain, plot ratio and floor area ratio.

Figure 4.9 Examples of different urban grain

Image source: NMDC

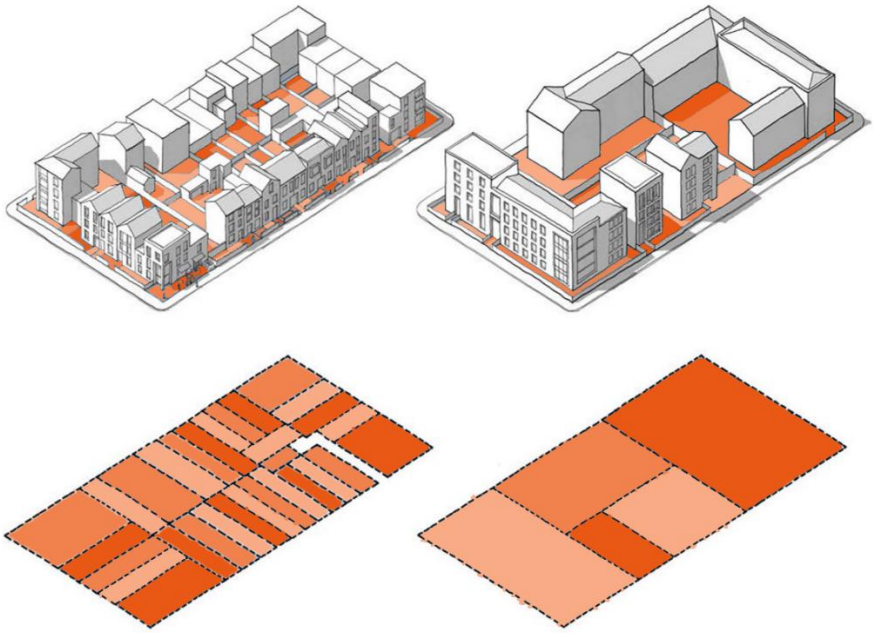
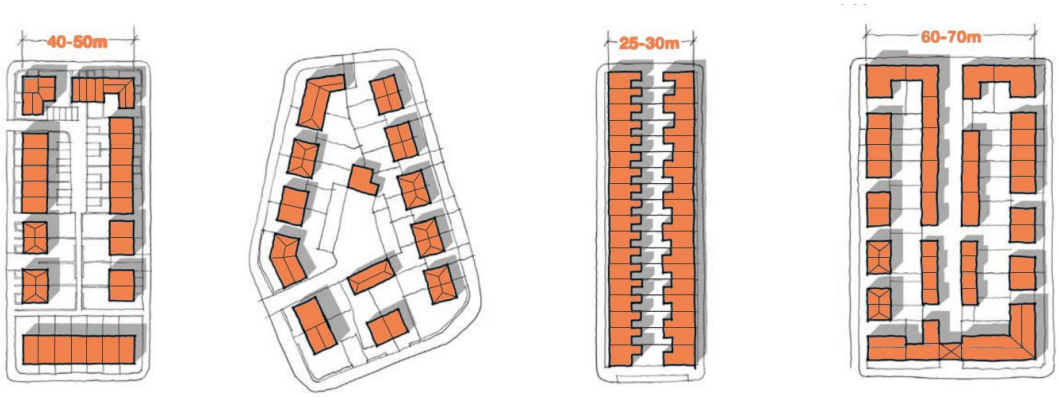


Figure 4.10 Examples of different block types

Image source: NMDC



Perimeter block | Informal block | Terrace | Mews block

4.8 Roof form and windows

4.8.1 The building roof form and window dimensions are important design coding elements for small site development. Clarifying the appropriate (and sometimes inappropriate) design of these elements through a design code can be a useful tool to improve design quality and the impact of new development on the local streetscape. This is particularly the case for infill development coming forward in character types that have a strong and consistent built form.

4.8.2 Innovative use of roof space and form will also be key to the success of small backland developments. Adopting a lower roof height and profile can help lessen the impact on neighbouring development by reducing overshadowing and maintaining privacy.

4.8.3 Design codes for upward extensions may require particular focus on the roof form and windows. This may include parameters on appropriate roof types such as gable, hipped and mansard. Design codes may also provide clarity on the required spacing of windows, which can be important in contributing to a consistent approach along a street. Codes can be used to encourage green and blue roofs and solar panel integration; and to clarify design parameters on private outside space, such as roof terraces, by illustrating appropriate and inappropriate examples/practice.

4.8.4 Boroughs and neighbourhood planning groups should consider the implications if take-up of a design code is low. In these situations of low take-up, a streetscape may be negatively impacted by noticeable gaps in the roofline. For this reason, a design code should be designed in a way to minimise the impact when and if the take-up is low.

Figure 4.11 Design precedents are a useful way to illustrate appropriate and inappropriate design or application of code

Appropriate roof extensions

Setting back the top floor can be a useful way to minimise the impact and appearance on the streetscape. Corner plots have the potential for an increase in height.

Inappropriate roof forms and windows

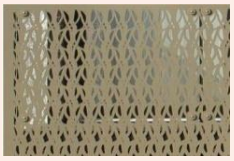
A common approach to window spacing and roof type is important to ensure consistency along a street. An inconsistent approach can contribute to an unbalanced sense of proportions and streetscape.

4.9 Materiality and detailing

4.9.1 When design coding for materials, it may be appropriate to provide a range of options that developments can choose from. This could be in the form a matrix that clarifies which materials are permitted or recommended (shown in Figure 4.12). Design codes can also be used to require matching material to an existing building. This is particularly relevant for extensions to buildings where the same material can be used to avoid the sight of obvious alterations. Where this is done, codes should also specify the need to avoid watermarks when transitioning from an old material to a new (matching) one. Upgrading cavity wall insulation can also be required as part of this.

Figure 4.12 Example building material matrix[4]

All buildings **must** be made from well-detailed robust materials that are durable, age well and are positively enhanced by weathering. New development **should** be clad in the following predominant materials using accent materials where appropriate. Additional and alternative materials **could** be appropriate and will be considered on their merits.

Predominant materials	 Brown clay facing brick	 Buff clay facing brick	 Red clay facing brick
	 Standing seam zinc roof tiles	 Reconstituted slate tile	 Concrete plain roof tile
Accent materials	 White clay facing brick	 Metal railings	 Perforated steel guarding
Examples of how to use materials	 Brick detailing adds texture and interest	 Full brick window reveals give a sense of depth	 Street metal accent used for cycle and bin storage

[4] This building material matrix has been inspired by the Wing Design Code.

5 Stage four: Implementation and review of design codes

5.1 Design code compliance

5.1.1 Once adopted, a borough or neighbourhood planning group's coding plan and design codes should be made publicly available. Boroughs and neighbourhood planning groups are encouraged to display these on interactive web-based maps that link the relevant design codes to each area of a coding plan. Four example design codes are shown in Appendix 2. Small site design codes set by a borough or neighbourhood planning group should be used in the determination of relevant planning applications. They are useful in clarifying design parameters to applicants and should act as an incentive to faster decision-making, due to increased certainty about what is acceptable on a site.

5.1.2 As part of this, planning authorities are encouraged to monitor the effectiveness and use of their design codes (including those prepared by a neighbourhood planning group within the borough boundary). One way of doing this is by developing a compliance tracker or checklist for each of their design codes. This can include a simple approach for use when determining an application.

Figure 5.1 Introductory part of a design code compliance checklist

Image source: Arbury design code

Section 1: Introduction	**Are proposals compliant?**			
Compliance with the Code	**Yes**	**No**	**Non-compliance justified**	**N/A**
Does the proposal fully comply with the requirements of the Code?	☐	☐	☐	☐
Has the applicant provided a Design Code Compliance Checklist accompanying the application?	☐	☐	☐	☐
Has comprehensive contextual and site analysis been undertaken to inform the application to ensure it appropriately responds to the local area?	☐	☐	☐	☐

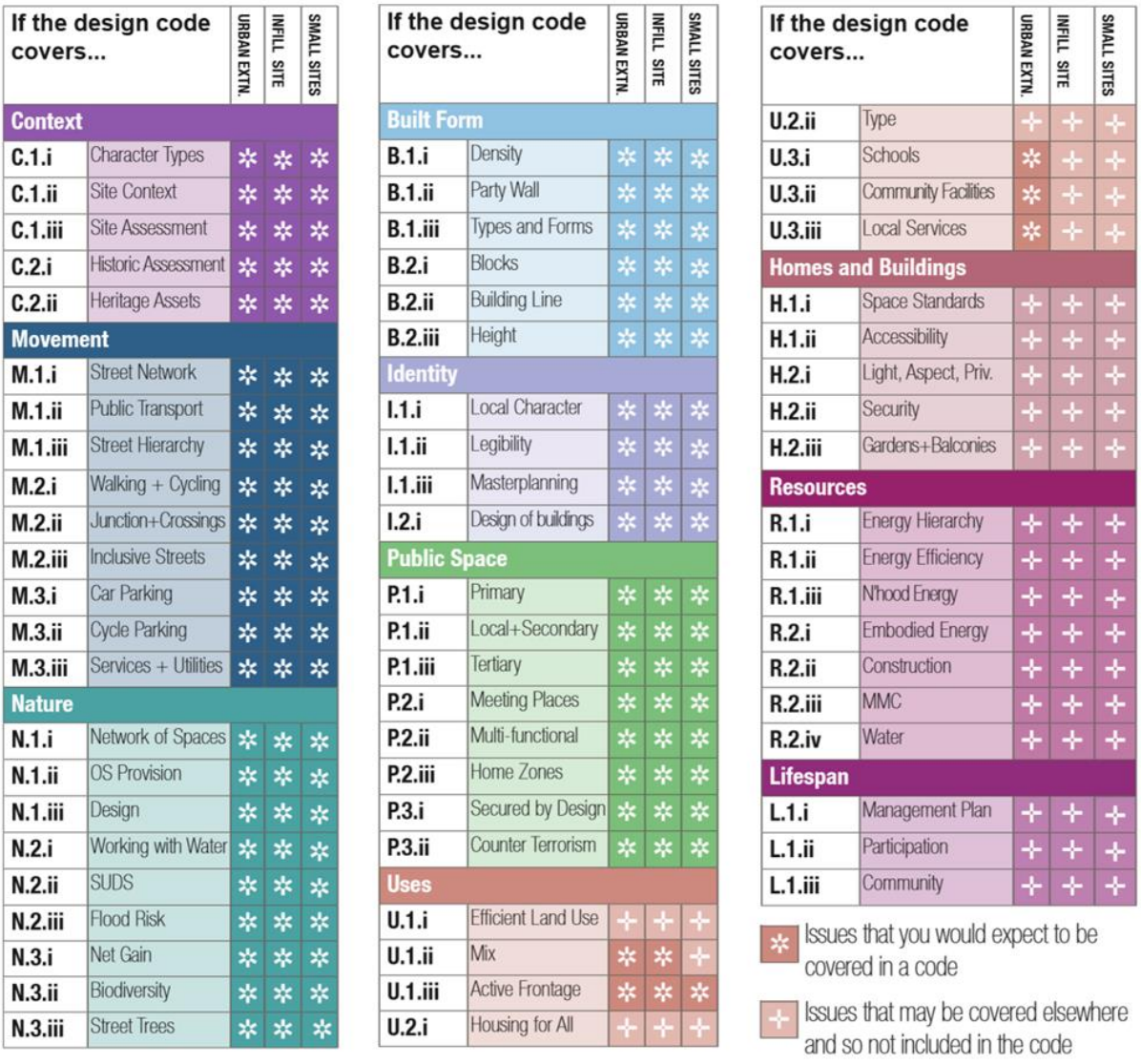
5.2 Periodic review of design codes

5.2.1 Design codes should be periodically reviewed, and their effectiveness assessed, as part of the development plan monitoring and evaluation process. It is likely that elements of a design code may have to be subsequently amended to reflect any issues or learning that have arisen since adoption.

Appendix 1 National Model Design Code elements

Figure A1.1 Design code coverage

Image source: NMDC



If the design code covers...		URBAN EXTN.	INFILL SITE	SMALL SITES
Context				
C.1.i	Character Types	✲	✲	✲
C.1.ii	Site Context	✲	✲	✲
C.1.iii	Site Assessment	✲	✲	✲
C.2.i	Historic Assessment	✲	✲	✲
C.2.ii	Heritage Assets	✲	✲	✲
Movement				
M.1.i	Street Network	✲	✲	✲
M.1.ii	Public Transport	✲	✲	✲
M.1.iii	Street Hierarchy	✲	✲	✲
M.2.i	Walking + Cycling	✲	✲	✲
M.2.ii	Junction+Crossings	✲	✲	✲
M.2.iii	Inclusive Streets	✲	✲	✲
M.3.i	Car Parking	✲	✲	✲
M.3.ii	Cycle Parking	✲	✲	✲
M.3.iii	Services + Utilities	✲	✲	✲
Nature				
N.1.i	Network of Spaces	✲	✲	✲
N.1.ii	OS Provision	✲	✲	✲
N.1.iii	Design	✲	✲	✲
N.2.i	Working with Water	✲	✲	✲
N.2.ii	SUDS	✲	✲	✲
N.2.iii	Flood Risk	✲	✲	✲
N.3.i	Net Gain	✲	✲	✲
N.3.ii	Biodiversity	✲	✲	✲
N.3.iii	Street Trees	✲	✲	✲

If the design code covers...		URBAN EXTN.	INFILL SITE	SMALL SITES
Built Form				
B.1.i	Density	✲	✲	✲
B.1.ii	Party Wall	✲	✲	✲
B.1.iii	Types and Forms	✲	✲	✲
B.2.i	Blocks	✲	✲	✲
B.2.ii	Building Line	✲	✲	✲
B.2.iii	Height	✲	✲	✲
Identity				
I.1.i	Local Character	✲	✲	✲
I.1.ii	Legibility	✲	✲	✲
I.1.iii	Masterplanning	✲	✲	✲
I.2.i	Design of buildings	✲	✲	✲
Public Space				
P.1.i	Primary	✲	✲	✲
P.1.ii	Local+Secondary	✲	✲	✲
P.1.iii	Tertiary	✲	✲	✲
P.2.i	Meeting Places	✲	✲	✲
P.2.ii	Multi-functional	✲	✲	✲
P.2.iii	Home Zones	✲	✲	✲
P.3.i	Secured by Design	✲	✲	✲
P.3.ii	Counter Terrorism	✲	✲	✲
Uses				
U.1.i	Efficient Land Use	+	+	+
U.1.ii	Mix	✲	✲	+
U.1.iii	Active Frontage	✲	✲	✲
U.2.i	Housing for All	+	+	+

If the design code covers...		URBAN EXTN.	INFILL SITE	SMALL SITES
U.2.ii	Type	+	+	+
U.3.i	Schools	✲	+	+
U.3.ii	Community Facilities	✲	+	+
U.3.iii	Local Services	✲	+	+
Homes and Buildings				
H.1.i	Space Standards	+	+	+
H.1.ii	Accessibility	+	+	+
H.2.i	Light, Aspect, Priv.	+	+	+
H.2.ii	Security	+	+	+
H.2.iii	Gardens+Balconies	+	+	+
Resources				
R.1.i	Energy Hierarchy	+	+	+
R.1.ii	Energy Efficiency	+	+	+
R.1.iii	N'hood Energy	+	+	+
R.2.i	Embodied Energy	+	+	+
R.2.ii	Construction	+	+	+
R.2.iii	MMC	+	+	+
R.2.iv	Water	+	+	+
Lifespan				
L.1.i	Management Plan	+	+	+
L.1.ii	Participation	+	+	+
L.1.iii	Community	+	+	+

✲ Issues that you would expect to be covered in a code

\+ Issues that may be covered elsewhere and so not included in the code

Appendix 2 Example design codes

A2.1.1 This section presents four example design codes for street-facing, high-street, backland and residential extension contexts. Each design code is preceded by an example analysis describing the characteristics of a selected character type; and an illustrated demonstration of how key design principles within the scenario may be applied.

A2.1.2 These example design codes are solely illustrative and have been included to highlight a number of design coding tools and language that can be used. These codes do not include all design-coding elements that may be necessary. As a result, boroughs and neighbourhood planning groups should develop their own small sites design codes for the relevant character types and site contexts identified. Three exemplar case studies to each small site context have also been provided, which illustrate a potential design solution.

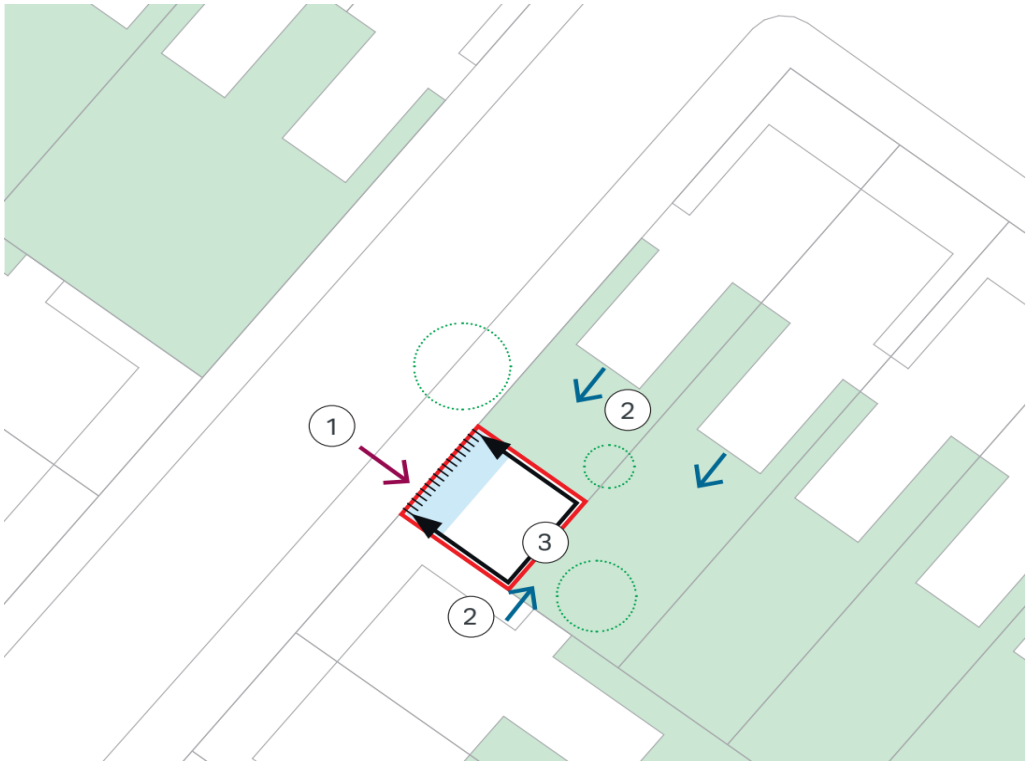
A2.1 Street-facing example design code

Character type description and analysis

Character type: Basic Terrace

Typical site context: This code applies to street-facing plots such as garage plots or other end of terrace sites.

Figure A2.1 Typical street-facing context to which this code applies



Key

1. Streets for refuse collection, emergency access and residential access
2. Windows in neighbouring properties overlook site
3. Potential overlooking issue on three sides towards neighbouring properties or private gardens - mitigation required

Neighbouring trees could provide privacy screening and aspect

Street frontage

Site boundary

Figure A2.2 Aerial of example street-facing site

Figure A2.3 Potential street-facing sites to which this code could apply

A2.1.2 The following page shows an illustration of what an example design code for this small site context could cover.

Figure A2.4 Frontage line

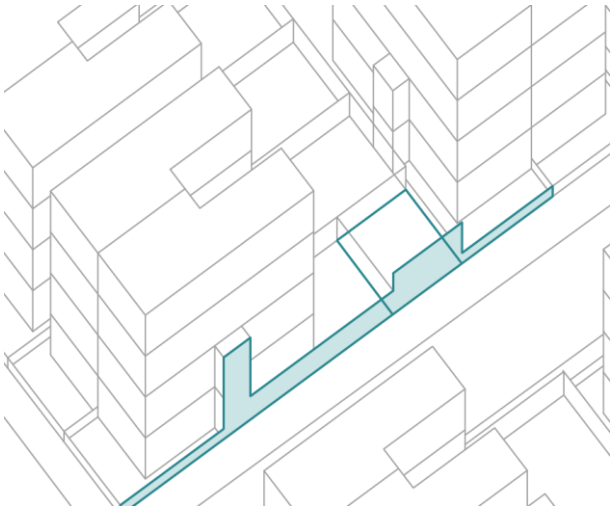


Figure A2.5 Built massing and height

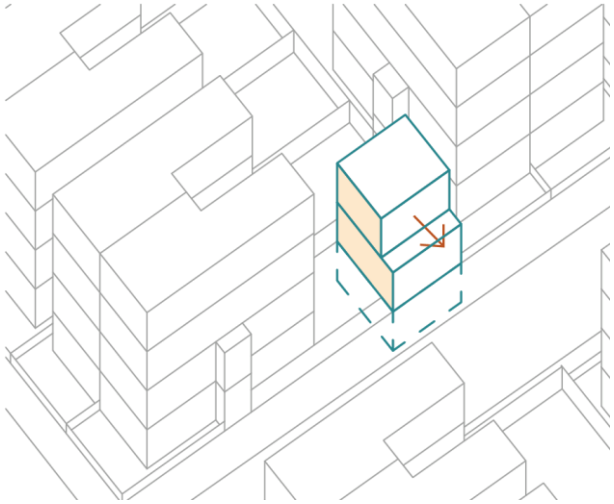
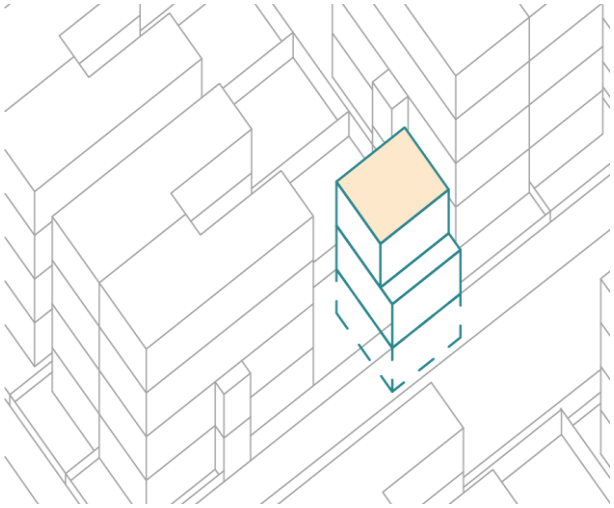


Figure A2.6 Green coverage



Frontage line

New development **must** be in line with the frontage building line of neighbouring properties.

Street-facing frontages **must** avoid large areas of blank facades.

New development **must** retain sufficient private amenity for residents of the host building.

Height, massing and orientation

New development **should** be no taller than its surroundings in height. New development **could** contain a one-storey basement if there is no risk of flooding.

The first floor **should** be set back from street frontage.

The primary aspect and windows **must** face towards the street.

Materiality

New development **should** be clad in a specified material contained within the material matrix (see Figure 4.12)

Green coverage and landscaping

New development **must** ensure no net loss of green cover. This **could** be in the form of a green roof.

Figure A2.7 Adolphus Road, LB Hackney

Wittering House is an end-of-terrace development that provides a new two-bedroom home in a well-connected location. Its two-storey height, and set-back first floor, aim to ensure loss of daylight to surrounding properties is minimised.

Figure A2.8 Sheendale, LB Richmond upon Thames

Sheendale Studios is a cluster of six studio houses built on the site of an old factory in south-west London. The design offers an interpretation of the adjacent architecture; and represents one potential approach for how to architecturally address small site development in a sensitive neighbourhood or conservation area.

Figure A2.9 Barretts Grove, LB Hackney

Barretts Grove provides seven new homes and uses the depth of the zone between the street and the façade of building to provide generous balconies. This is done whilst creating a clear connection between the neighbouring frontages and its own strong building line.

A2.2 High street example design code

Character type description and analysis

Character type: Shopping street

Typical site context: This code applies to single-storey retail unit with neighbouring buildings of three or more storeys. Such sites provide an opportunity for redevelopment with commercial use on the ground floor and residential use on the upper floors.

Figure A2.10 Typical high street context to which this code applies

Figure A2.11 Aerial of example high street site

Figure A2.12 Potential high street site to which that this code could apply

A2.2.2 The following page shows an illustration of what an example design code for this small site context could cover.

Figure A2.13 Frontage and building line

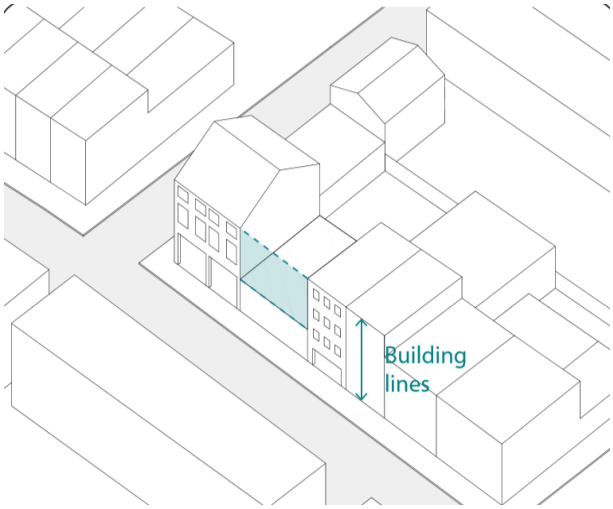


Figure A2.14 Street proportion

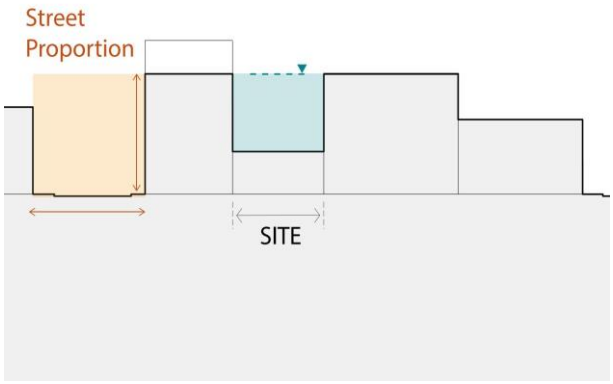
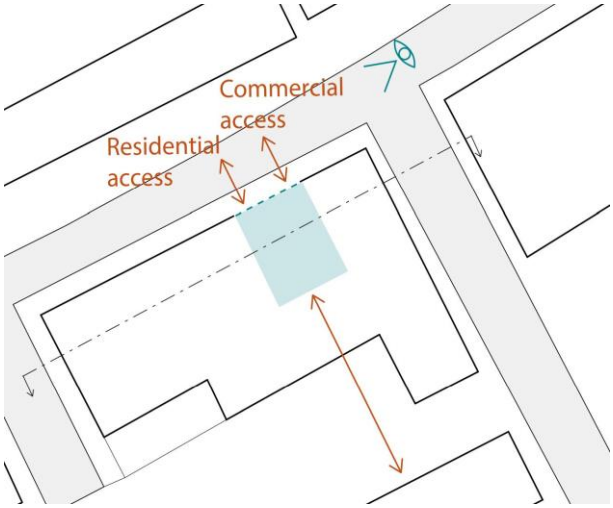


Figure A2.15 Access and movement



Built form and height

New development **should** have a consistent building frontage with the existing building line of the street within which it is located.

Building height **should** follow the predominant roofline; and **could** provide an additional one or two storeys above, providing it is stepped back.

Land use

New development **should** provide an active frontage and mix of uses on the ground floor, with residential use on the upper floors.

Access to residential dwellings on the upper floor should be located via a street-facing door.

Design and appearance

Where there is a variety of building types, the new development **should** follow the design and proportions of the predominant building style to avoid creating a fragmented streetscape.

The building materiality **should** be consistent with the specified materials contained with the material matrix (see Figure 4.12).

If street-facing balconies are proposed, they **must not** project over the pavement. Balconies **should** instead be located on the rear elevation or be inset balconies on the front elevation.

Access and servicing

New development **must** provide well-defined separate entrances to commercial and residential spaces.

(Image source: Tower Hamlets – Central Area Good Growth SPD)

Figure A2.16 Marley House, LB Hammersmith and Fulham

This development in Hammersmith replaces a single-storey extension to a public house. The development provides seven new homes, while re-providing the Class A4 use (drinking establishment) at the ground and lower-ground floors.

Figure A2.17 482 – 486 Roman Road, LB Tower Hamlets

This development replaced two one-storey retail units that front Roman Road. The new development now provides four two-bedroom apartments; and two commercial units on the ground floor.

Figure A2.18 190 & 190A Rye Lane, LB Southwark

This mixed-use high street infill provides 22 residential units on the upper floors, and in a former salvage yard to the rear of the high street. As well as providing a new frontage to the street, the development also retains and refurbishes an existing neighbouring building which is in the conservation area.

A2.3 Backland example design code

Character type description and analysis

Character type: Basic Terrace

Typical site context: Site where direct access to the street is limited. These sites are often located behind residential streets and may include residential garages or vacant backlands.

Figure A2.19 Typical backland context to which this code applies

Key

1 Streets for refuse collection, emergency access and residential access

2 Windows in neighbouring properties overlook site

3 Potential overlooking issue on three sides towards neighbouring properties or private gardens - mitigation required

Neighbouring trees could provide privacy screening and aspect

Street frontage

Site boundary

Figure A2.20 Aerial of example backland site

Figure A2.21 Potential backland sites to which this code could apply

A2.3.2 The following page shows an illustration of what an example design code for this small site context could cover.

Figure A2.22 Frontage line

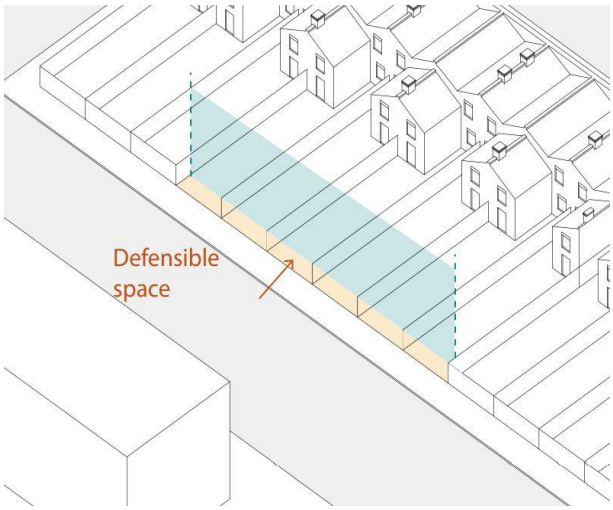


Figure A2.23 Built massing and roof line

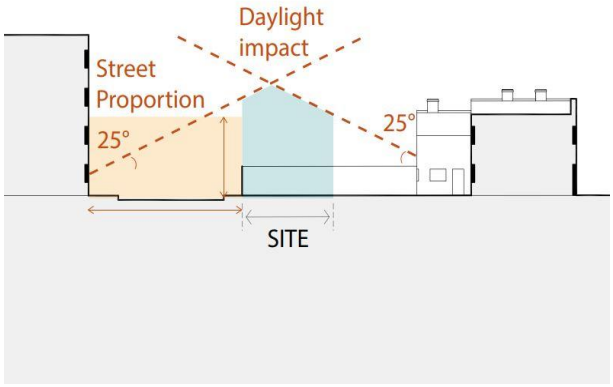
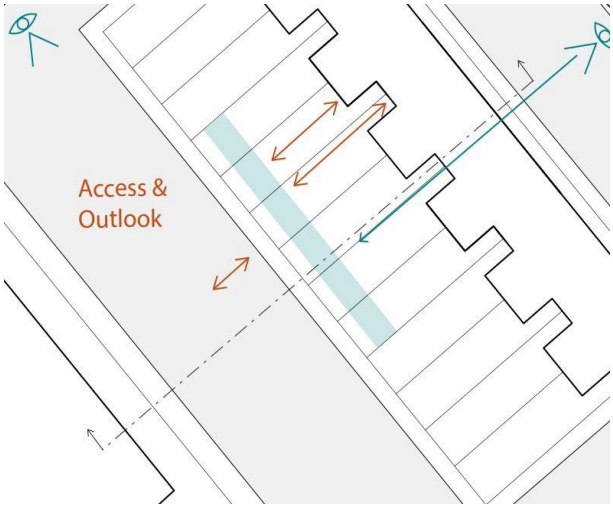


Figure A2.24 Access and outlook



Frontage line

New development **must** create a pedestrian-friendly street frontage.

The primary frontage **should** be street-facing to provide access and passive surveillance to the street.

Height, massing and orientation

New development **should** be no taller than its surroundings in height.

The built form **should not** intrude past the 25-degree angles shown in Figure A2.23.

Amenity space

Amenity space, internal layouts and landscaping **must** be carefully designed to provide adequate privacy in relation to surrounding buildings and back gardens.

Green coverage

There **should not** be a net loss of green cover. Where the development of a site causes the loss of green cover, this **should** be re-provided. This **could** be in the form of green amenity space, planting trees, incorporating green roofs and including other greening measures such as sustainable drainage systems.

(Image source: Tower Hamlets – Central Area Good Growth SPD)

Figure A2.25 Foundry Mews, LB Richmond Upon Thames

This intensification of a backland, light industrial site demonstrates that small developments can both retain employment use and deliver much-needed housing. The scheme comprises residential accommodation above workspace. All homes have external amenity space at first-floor level, in the form of enclosed patio terraces.

Figure A2.26 Strange House, LB Lewisham

This new home is located in an old pub yard, largely concealed from the street by an existing brick perimeter wall. The project carefully uses materials and existing site context to create a new home.

Figure A2.27 Hidden House, LB Islington

This house is located in a conservation area next to a Grade II listed former Victorian school on a site previously occupied by a caretaker's shed. The design carefully carves a space for the new residential dwelling on a site defined by the proximity of a tall perimeter brick wall.

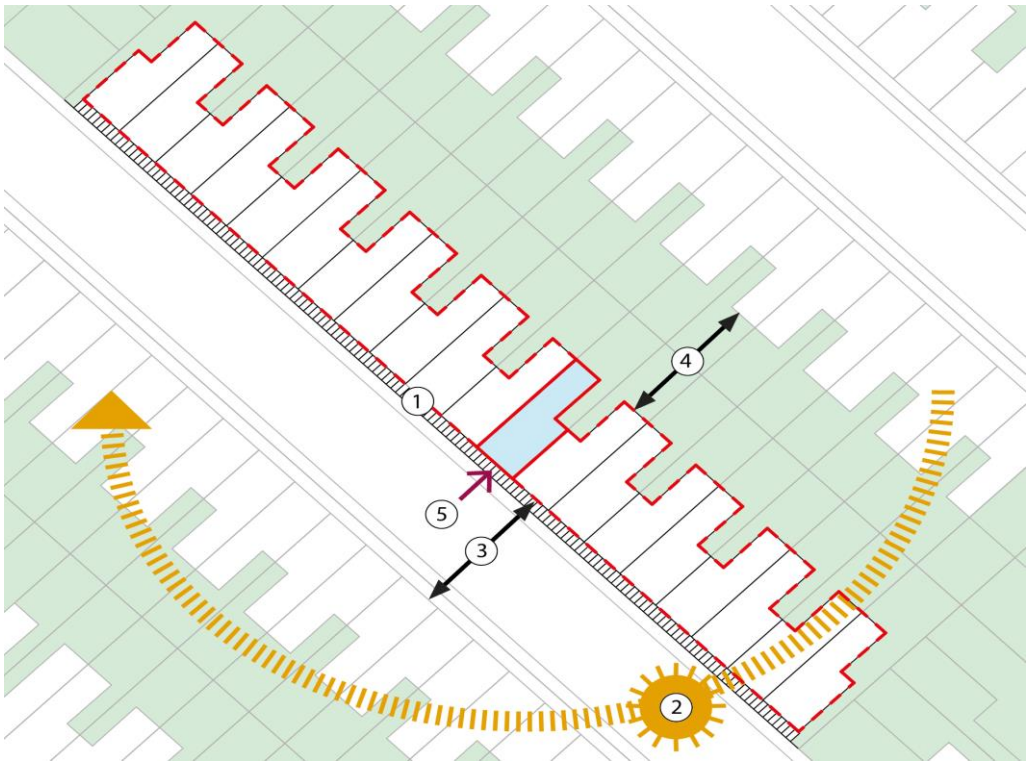
A2.4 Residential extension example design code

Character type description and analysis

Character type: Basic Terrace

Typical site context: Upward extension of existing two-storey terraced housing to create new homes or bedspaces.

Figure A2.28 Typical upward extension context to which this code applies



Key

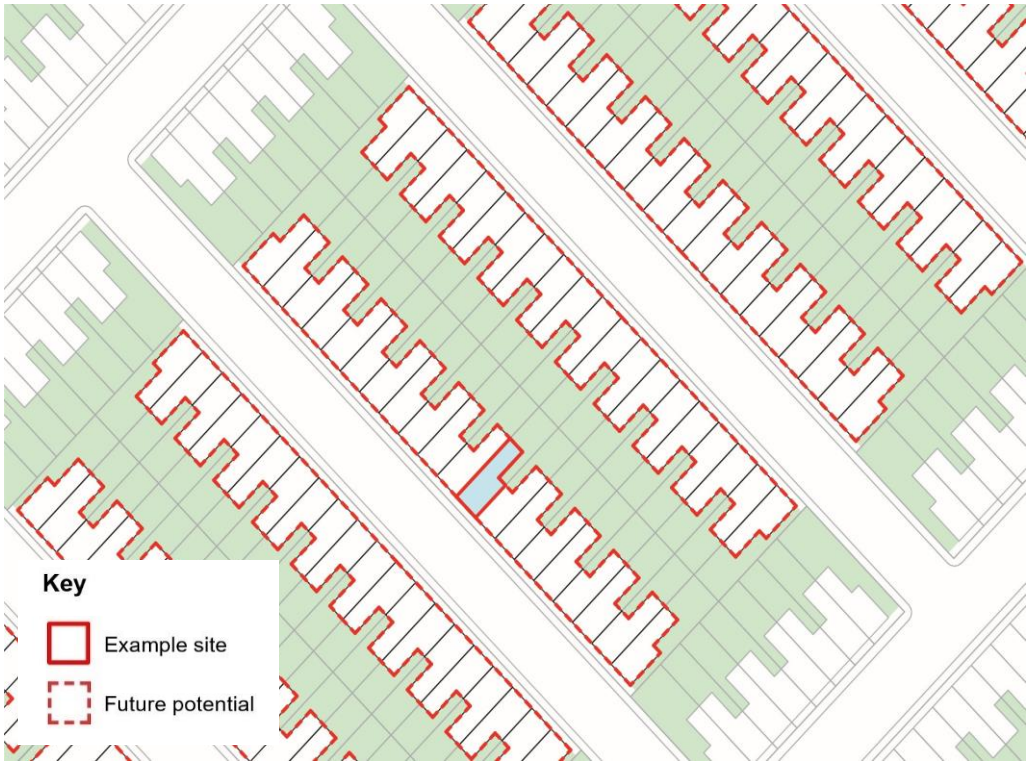
1. Streets characterised by consistent frontage
2. Orientation of streets may affect approach to upper level to ensure development does not unacceptably overshadow rear gardens and streets.
3. Street widths may vary and so parameters for upward extension should ensure enough daylight and sunlight reaches existing homes.
4. Back to back distances may vary and so parameters for upward extension should ensure good levels of daylight, sunlight and privacy for neighbouring homes.
5. Street access for refuse collection, emergency access and residential access

Site boundary for single house

Site boundary for whole terrace

Figure A2.29 Aerial of example street suitable for upward extension

Figure A2.30 Potential sites to which this code could apply



A2.4.2 The following page shows an illustration of what an example design code for this small site context could cover.

Figure A2.31 Existing street

Figure A2.32 Inappropriate extension

Figure A2.33 Appropriate extension

Development **should** be brought forward on a minimum of two terraces next to each other to avoid a sawtooth effect of the street.

Roof and chimney stacks

The extended roof **must** replicate the angle and pitch of the existing roof (and of the existing roofs on the street). The roof **should** be slated in a similar material (by look and appearance) to the existing roofs.

Roof eaves **must** replicate the existing eaves. The distance from the head of the new second-floor windows to the new eaves **must** be the same as the distance from the head of the existing first-floor windows to the old eaves.

Chimney stacks **should** be extended to match original. Traditional clay pots **should** be reused where possible or renewed to match original.

Windows

Windows **must** exactly match the floor below. This includes windows of exactly the same dimensions and finish as those on the floor below.

The size and pattern of windows **should** be reproduced from the floor below. The line of the windowsills and heads will set the line of fenestration, which **must** be maintained.

Bay window **must** be extended to the additional floor, with the bay window roof replicated at the new level.

Height

The height of the extension **should** be no greater than the height of the floor below. This **should** include matching the same distance from the windowsill to the head of the window below, as found in the existing house.

New and modified pitched roofs **should** follow the original roof in materials and detailing.

Material and detailing

All materials **must** match the original house.

Extensions **should** seek the retention and reinstatement of all original, decorative brick and stone details to elevations of extended houses; and such details **should** be replicated where appropriate in extensions.

(Image source: Haringey – House Extensions in South Tottenham SPD)

Figure A2.34 Estcourt Road, LB Hammersmith and Fulham

This row of two-storey terraces has been extended upwards, using mansard roofs, to add additional living space while creating an attractive streetscape. High take-up of upward extensions, and the consistent design of windows and roof line, have also led to an improved streetscape.

Figure A2.35 Abbey Road, LB Camden

Using modular construction, this one-storey rooftop extension provides a new two-bedroom home. As part of extension, the existing façade and communal areas were refurbished to improve the housing block for existing residents (see Figure 2.12 for an image of the block before redevelopment).

Figure A2.36 Lealand Road, LB Haringey

The upward extension on these two terraced properties has been allowed through the adoption of a strict design code in Haringey. The design code applies to a number of streets in which uptake has been high. For more information, see Haringey's House Extensions in South Tottenham SPD.

A2.5 Planning conditions

A2.5.1 It is encouraged to draw up a list of planning conditions for each design code. These planning conditions could include the refurbishing of façades and the reinstatement of original architectural features that may have been lost since first built. Providing a list of planning conditions can encourage improvements to the overall streetscape; and improve energy efficiency and performance of buildings. Encouraging joint planning permissions can also ensure extensions are part of wider programme of street-wide upward extensions.

Figure A2.37 Architectural detailing that could form part of the planning conditions for an upward extension

Image source: Tower Hamlets – Driffield Road conservation area character appraisal and management guidelines

Figure A2.38 Joint planning permission and construction

This project has ensured a consistent streetscape. Reference: Fitzroy Road, LB Camden