ST RAPH'S ESTATE

YOUR HOME YOUR FUTURE

FUTURE ST RAPHAEL'S

DESIGN CODE

October 2020

Report produced by:
Karakusevic Carson Architects
With:
Periscope

Brent

Karakusevic Carson Architects

Studio 501
37 Cremer St
London E2 8HD

Tel.: +44 (0) 20 7566 6300
Fax: +44 (0) 20 7253 7381

www.karakusevic-carson.com

Document Title: 447-KCA-XX-XX-RP-A-0700-DEC[01]

First Issue	Date	Description	Prepared	Reviewed
DRAFT	14 September 2020	For review by client	SS	SM
00	1 October 2020	Final review by client	SS	SM
01	22 October 2020	Final issue	SS	SM

CONTENTS

A-Z OF TERMS

Throughout the Design Code there are references to architectural and technical terms. The A-Z of terms is a list explaining and defining unusual words and expressions used.

Active Frontage
An active frontage describes a building or aspect of a building that creates animation to the street.

Block
A block is a part of a development, comprising one of more buildings separated from other blocks by streets or public space.

Building Line
The building line is defined as the front of the building beyond which built elements shall not exceed. Also referred to as frontage.

Carriageway
The carriageway is the part of the road intended for vehicles rather than pedestrians.

Communal Cores
The communal parts of a building used for lifts and stairwells.

Datum
A datum refers to a horizontal line of reference on a building, for example the level of windows or the height of the building. Datum levels are useful as they provide a point of reference for how a building relates to other buildings in a development.

Defensible Space
The defensible space is defined by the area between the back of the pavement line and the building frontage. This is an area of private space to protect the privacy of the occupiers of the building.

DOS
'Designated Open Space' is open space that is of local importance, designated by Brent Council and identified on the Brent Policies Map.

Fabric First Approach
A 'fabric first' approach to building design involves maximising the performance of the components and materials of the building fabric itself, before considering the use of mechanical or electrical building services systems.

Façade
A façade is the front face of a building, also referred to as frontage.

Fuel Poverty
A household is said to be in fuel poverty when its members cannot afford to keep adequately warm at a reasonable cost, given their income.

Habitable Rooms
A room used, or intended to be used, for living purposes. It includes kitchens but not bathrooms or storage rooms.

Natural surveillance
Natural surveillance limits the opportunity for crime by increasing the perception that people can be seen in a public space. Natural surveillance occurs by designing the placement of physical features, such as windows and doors, as well as spaces for activities and people, to maximise visibility and encourage positive social interaction.

Perimeter Block
A block of buildings containing a central courtyard.

Podium
A podium is the base level of a building. It is typically used in courtyard blocks to accommodate car parking.

Private Amenity (Outdoor) Space
Outdoor amenity space associated solely with an individual dwelling such as a balcony, roof terrace or garden.

Public Realm
Public realm is another term for public space, meaning the areas that are free and open to use by everyone, including streets, squares, courtyards, parks and open spaces.

Service Uses
Service uses include car parking, bin stores, cycle stores, ground floor storage and building utilities.

Set-back
A set-back occurs when the upper part of a building recedes from the established building line.

Shared Surface
A term used to describe streets where the traditional separation of cars, pedestrians and other road users is removed.

Stacked Maisonettes
A block containing two stacked duplex apartments, one above the other. The upper apartments are accessed via a shared stairwell.

Undercroft
The area beneath a raised podium containing service uses such as bin stores and integrated car parking.

Ventilation Grille
A grille on the outside of a building, allowing air to circulate inside it.

00 CONTENTS

1 INTRODUCTION

1.1 PURPOSE AND USE OF THE DESIGN CODE

OVERVIEW

The Design Code has been developed through an extensive co-design process with residents and describes the key design principles in a simple, concise and mainly graphic format.

It translates residents' design preferences into a code for architects and designers to use. The design code ensures that what is important to residents in terms of the look and feel of the future St Raph's is consistently delivered through every phase of construction. The design code will apply to both the infill and redevelopment masterplan.

The purpose of the Design Code is to:

- **Capture the vision of residents** for the future of their homes and neighbourhood
- **Set out the aspirations** of the Future St Raphael's Masterplan in relation to design quality.
- **Provide design rules** to form the brief for architects and landscape architects of the future phases of the proposed development
- **Act as a way for everyone to measure the success of the design**
- **Ensure high quality design** for the built form and the public realm
- **Create a coordinated character** of the physical environment that detailed proposals will build over time

CO-DESIGN PROCESS

In June 2020, the design team held weekly co-design workshops online with the resident board, St Raph's Voice. The workshops included presentations and discussions of three topics: Public Realm, Homes and Community.

Following the workshops, a summary booklet was sent out to all residents on St Raph's (Area A).

The resulting design code is a summary of residents' feedback from this and all previous events and workshops held 2019/20. It also incorporates the community design priorities and relevant policy requirements and will ultimately be used as a guide for designing the future St Raph's in detail.

APPLICATION & USE OF THE DESIGN CODE

This Design Code is to be applied to the homes, public space and community spaces, in both the infill and redevelopment masterplans.

Mandatory requirements are considered essential design characteristics of a particular aspect of the development and are defined in the code as '**must**'.

Interpretative requirements contain guidance but with greater flexibility for different solutions, these are defined as '**should**'.

PLANNING POLICY CONTEXT

The Design Code is to be applied alongside relevant national, regional and local planning policy, including the relevant Development Plan policies and supplementary planning guidance.

The following documents have informed the illustrative masterplan schemes and this Design Code:

- Draft New London Plan (published Aug 2017)
- Adopted London Plan consolidated with alterations since 2011 (adopted Mar 2016) and associated supplementary planning guidance, including the Mayor's Housing SPG (adopted March 2016)
- Brent Local Plan & Core Strategy
- Brent Development Management Policies

Fig 1. Aerial view of the existing St Raphael's Estate

1.2 STRUCTURE OF THE DESIGN CODE

DOCUMENT STRUCTURE

The Design Code has been arranged into six chapters which define site wide and area specific codes.

Chapter 1 - Introduction

Introducing the structure and scope of the document, as well as the existing site context, project background and vision of the wider masterplans for infill and redevelopment.

Chapter 2 - Character Areas

Presenting the different character areas and neighbourhoods of the estate.

Chapter 3 - Public Space

Containing codes that apply site wide and area specific to the public space such as play spaces, streets, landscape, and parking.

Chapter 4 - Homes

Defining codes that apply to particular character areas. These design codes deal with design issues that contribute to the character of a place and specific identity of a home such as the form, materiality, defensible space, and private outdoor areas.

Chapter 5 - Community

Setting up codes that apply to community spaces and local amenities, in terms of their type, use, materiality, and sustainability.

Chapter 6 - Sustainability

Site-wide design codes which deal with sustainability, including daylight and sunlight, energy , carbon and biodiversity.

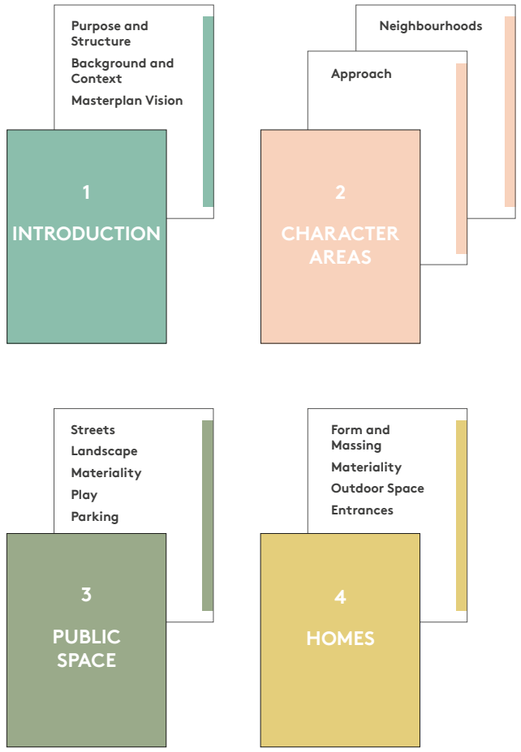


Fig 2. Diagram showing the structure of the Design Code which identifies site wide and area specific sections.

1.3 PROJECT BACKGROUND AND CONTEXT

OVERVIEW

St Raphael's Estate sits within Stonebridge ward, with the North Circular Road to the south and the River Brent to the west. The estate is made up of 759 properties, of which Brent Council own and manage the majority. There are also properties which are managed and owned by Network Homes as well as privately owned homes. The estate also includes a small number of commercial units and organisations.

Brent Council appointed Karakusevic Carson Architects in July 2019 to lead a multi-disciplinary design team working on the future of St Raphael's Estate. Through a co-design process with residents, two masterplan options have been developed:

Infill: New homes would be built on open spaces and in between buildings. In this approach no existing homes would be demolished. Existing residents would remain in their current homes.

Redevelopment: The existing homes and facilities would be demolished in phases over a period of time, with new homes and community facilities built and improvements made to the public realm. Existing residents would be offered a new home on the estate.

1.3.1 KEY OBJECTIVES

- Create more and better homes for current and future Brent residents;
- Engage the community in the future of their neighbourhood through co-design;
- Maximise affordable and family units;
- Implement placemaking improvements across both schemes;
- Accommodate overcrowded St Raph's households;
- Include biodiversity and sustainability measures;

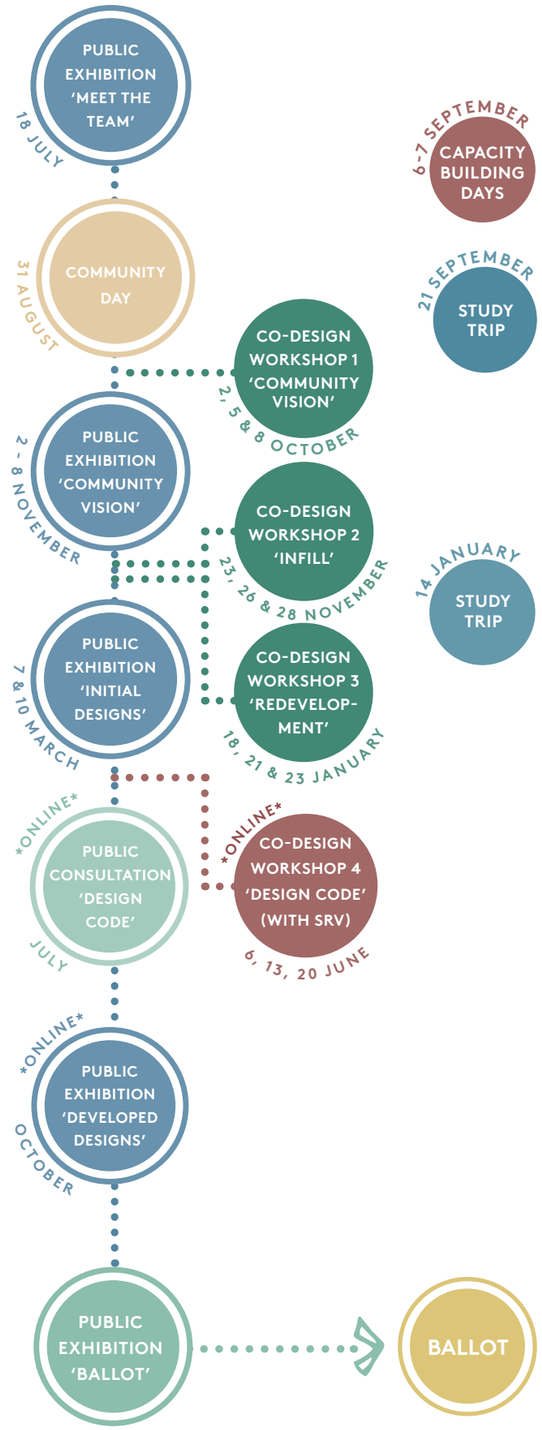


Fig 3. Diagram of the project timeline

1.4 COMMUNITY DESIGN PRIORITIES

A series of design priorities developed with residents in the co-design workshop on Community Vision, October 2019.

HOMES
Modern homes with high-quality materials including both flats and houses with private outdoor space such as balconies and gardens

COMMUNITY
Multi-functional community hub with flexible use for people of all ages and spaces for local businesses on the estate

TRAFFIC AND PARKING
Improvements to parking and streets through design and operational management together with wider traffic control measures

SECURITY
Better safety and security through design of private and communal spaces, incorporating natural surveillance of public places

PUBLIC SPACE
Enhanced green, play and public spaces, through better design, purposeful planting and amenities

MAINTENANCE
Well-designed spaces for waste & recycling and easy to maintain communal areas

1.5 NEIGHBOURHOOD DESIGN PRINCIPLES

The neighbourhood design principles builds on the community priorities and are organised under the same categories.

A mix of types and sizes of homes for people of all ages	*Creating a sensitive relationship between old and new buildings*	*Better relationship of backs and fronts to public spaces*
Opportunities for activity and social gathering in public areas	*Distinct character areas and local reference points*	*Well-designed and flexible community spaces*
Good and sufficient parking	*Improved walking and cycling with reduced traffic*	*Clearly defined streets and routes through the area*
Improved perceived and actual safety and security	*Natural surveillance of public spaces*	*Safe private and communal entrances*
Lots of greenery with places for rest and play	*Good lighting in public spaces*	*Improved existing green spaces*
Clean, clear and easy to maintain spaces for waste & recycling	*Low-maintenance, durable and robust materials for both private and communal spaces*	*Spaces that residents take care of and can be proud of*

1.6 INFILL MASTERPLAN VISION

OVERVIEW

The infill masterplan includes **370 new homes** built on some of the open spaces and in between buildings on St Raphael's Estate. All new homes will be **affordable**, with 35% of units 3 bedroom and larger for **families**.

A new **community hub** will be located centrally on the estate. There will be improvements to existing **green spaces** to make them safer and more usable.

The infill design principles:

1. New high quality, healthy and sustainable homes
2. Natural surveillance through new homes with fronts facing public spaces
3. New community hub with opportunities for activity and social gatherings
4. Better use of public open space for families through landscape improvements in the park
5. Increased greenery on the estate, through planting of new trees along the north circular and around the new buildings
6. Sustainability measures introduced through renewable energy, bio-diverse roofs and homes with high levels of insulation and air tightness
7. Creating new places for rest and play through new playgrounds for all ages
8. Upgraded lighting and safety in the park to encourage use of public space
9. Enhanced light public infrastructure such as bridges and paths to create better opportunities for walking and cycling
10. Naturalisation of the river and clearing up vegetation around it

Fig 4. Neighbourhood street facing the park

Fig 5. New homes viewed from Lovett Way

Fig 6. Communal green space between buildings in the south

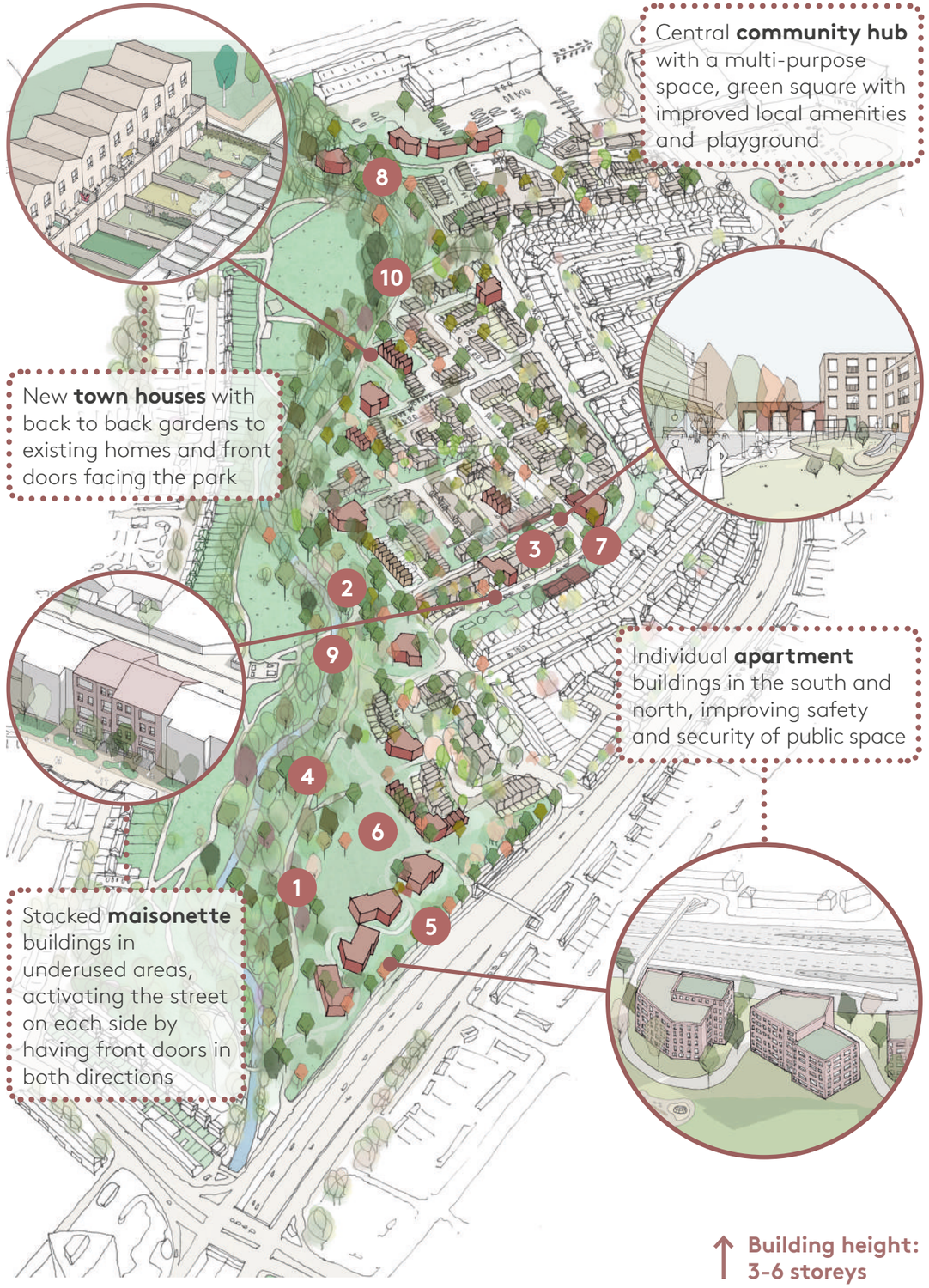


Fig 7. Sketch overview of the infill masterplan

1.7 REDEVELOPMENT MASTERPLAN VISION

OVERVIEW

The redevelopment masterplan includes **2065 new homes**, replacing existing homes on St Raphael's Estate, in phases, over a period of time. 50% of new homes will be **affordable**, and 50% available for **market sale**.

New **community spaces** and local amenities located around a **green square** for all residents. Improvements made to the existing **green spaces**.

The redevelopment design principles:

1. New high quality, healthy and sustainable homes
2. Safe, secure and easy to maintain private and public spaces
3. Generous private outdoor space for all homes
4. Enhanced landscape and planting, spaces for rest and play spaces for children of all ages
5. Natural surveillance created through design of homes with active fronts to public spaces
6. Sustainability measures introduced through renewable energy, bio-diverse roofs and homes with high levels of insulation and air tightness
7. A welcoming community hub, and improved neighbourhood streets and green squares for the community
8. Good and sufficient lighting and increased safety measures in the park to encourage use of public space
9. Improved light public infrastructure such as bridges and paths to create better opportunities for walking and cycling
10. Naturalisation of the river and clearing up vegetation around it

Fig 8. New neighbourhood street

Fig 9. New community square

Fig 10. New homes along Pitfield Way

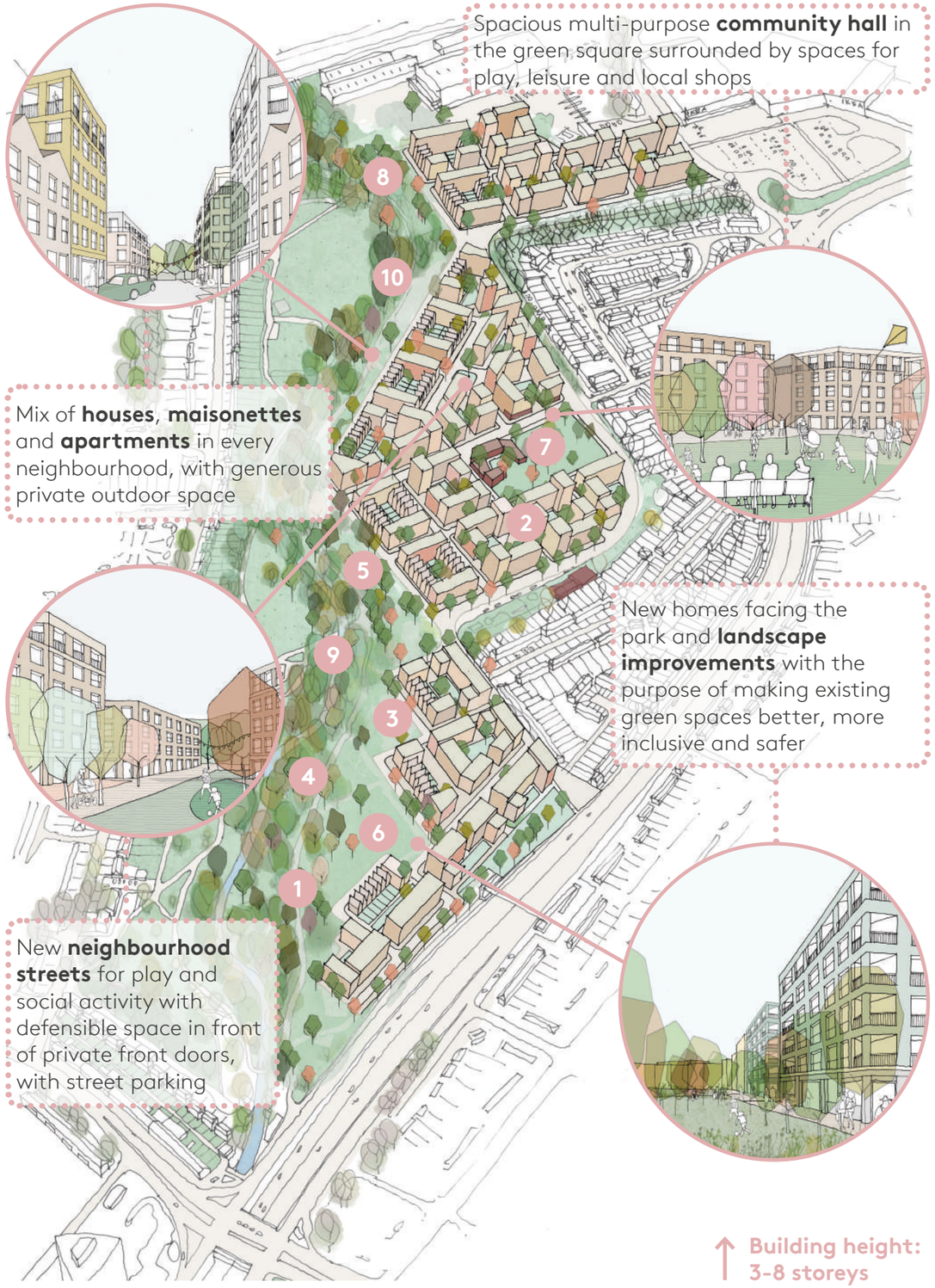


Fig 11. Sketch overview of the redevelopment masterplan

2 CHARACTER AREAS

2.1 CHARACTER AREAS

APPROACH

The future St Raphael's Estate **must** have a strong and consistent architectural character which is respectful of its urban context, whether it is infill development or full redevelopment that is chosen by residents. It's therefore important that both masterplans contribute to a coherent neighbourhood which values the characteristics of the place and community.

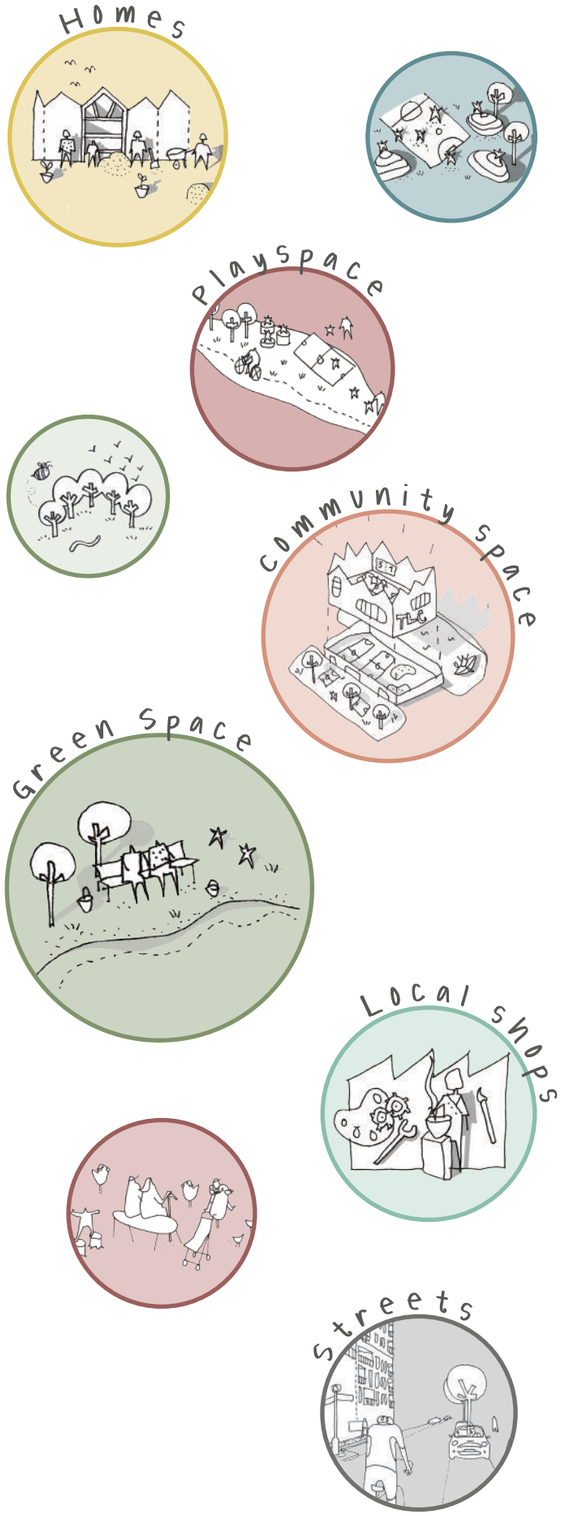
The approaches included in this design code carefully respond to the whole context of the development and build on an understanding of the place, the observation of existing assets, and Brent's vision for the area.

Through the choice of scale, material, form and building type, the development **should** respect the existing character of St Raph's and build on the positive elements.

CHARACTER

Homes, green space, playspace, local shops, community spaces and streets through an area together create a sense of place. Consistency and difference within these elements can reinforce character or create distinction between neighbourhoods or areas.

St Raphael's Estate contains a mixture of building types, including town houses, maisonettes, apartment blocks and a small number of bungalows. Pitfield Way is a key route through the estate, running from the North Circular Road in the south and turning into Besant Way before reaching Drury Way in the north. Buildings with stacked maisonettes face Pitfield/ Besant Way while town houses are located towards the park and river area and small apartment blocks are located throughout the estate. Brick is the prominent material with timber panelling and tiled, pitched roofs.



NEIGHBOURHOODS

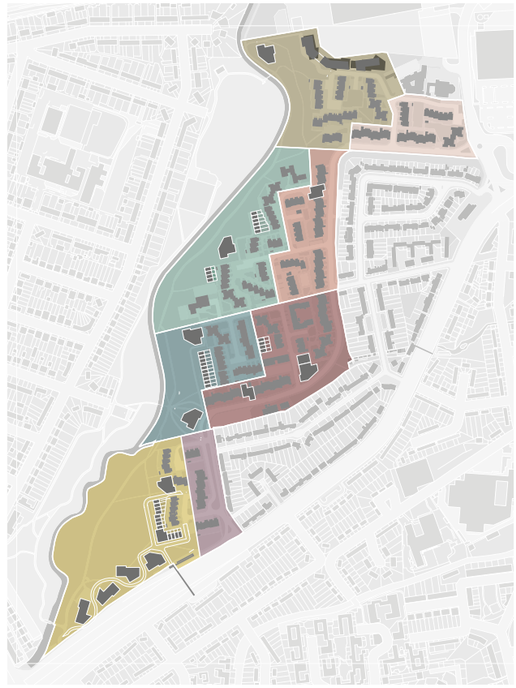


Fig 12. The neighbourhoods of the infill masterplan

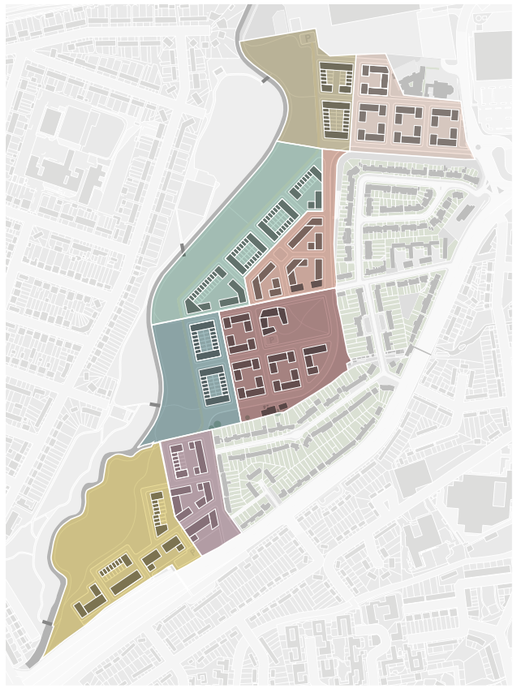


Fig 13. The neighbourhoods of the redevelopment masterplan

KEY:

- URBAN - NORTH
- URBAN - EAST
- URBAN - CENTRAL
- URBAN - SOUTH
- PARK - NORTH
- PARK - WEST
- PARK - CENTRAL
- PARK - SOUTH

3 PUBLIC SPACE

3.1 PUBLIC SPACE

OVERVIEW

The form, scale and quality of the space between buildings is as important as the building themselves.

The **key design principles** that designers **must** achieve are the following:

- **Accessibility for all residents**, with consideration to those with specific access requirements;
- Creating a **safe and welcoming neighbourhood**;
- **Consistent, high quality design and materials** avoiding clutter and obstructions;
- Ensure that all streets have **views to trees and green space**;
- Focus on **multi-purpose spaces**, providing movement, access and **opportunities for play** wherever possible;
- Hard landscape, soft landscape and street furniture should be **robust, easy to maintain and cost effective**.

STREETS

General

Building frontages **should** be parallel with the street line along the length of a street.

Materials **must** be comfortable, safe, durable and accessible for all.

A pavement **must** be provided to both sides of all streets.

Street furniture **should** be located in such a way as to minimise the cluttering of pavements and maintain a clear zone for comfortable pedestrian movement.

Existing vegetation **should** be retained and enhanced wherever possible.

Play in the public realm **must** be designed to avoid conflict with traffic.

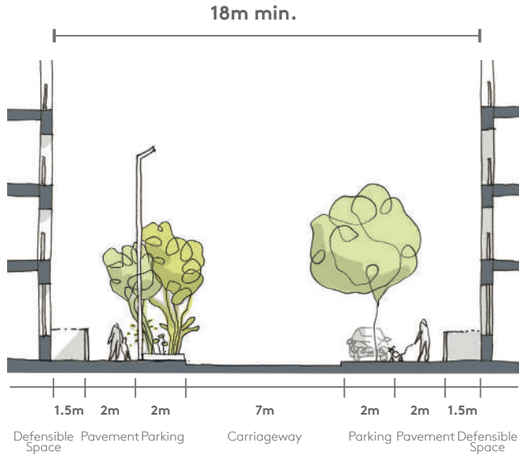


Fig 14. Primary residential street widths

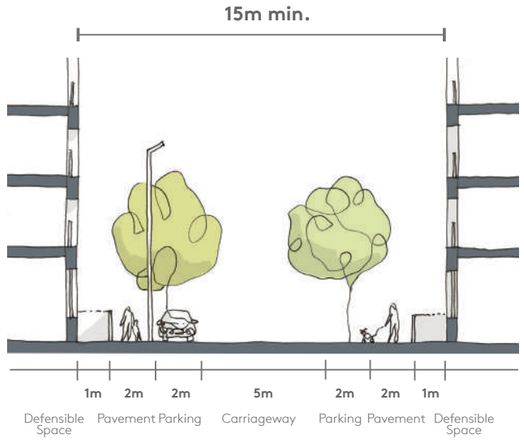


Fig 15. Secondary residential street widths

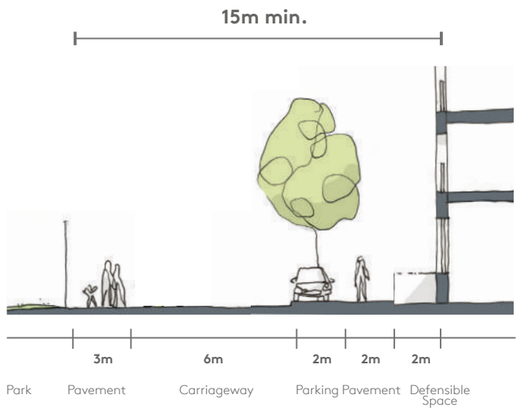


Fig 16. Park-facing residential street widths

Pedestrianised Streets

This type of street **should** be used in specific locations where streets without cars could facilitate a more people oriented public realm.

The design of these streets **should** carefully take into account the kinds of activities that could take place in pedestrianised streets.

Wide Pavements

Pavements **should** be wide enough for families or groups to safely walk together.

A minimum pavement width of 2m **must** be provided on all streets.

Pavements **should** be of a consistent width and parallel to building lines.

Shared Surface Streets

Shared surface streets **should** only be used if a clear border separates pedestrians from vehicles.

Streets for cycling

New streets **must** contribute to creating a high quality, connected environment for cyclists.

Street environments **should** be designed to be safe for cyclists to share with other modes of transport. Measures **should** be in place to ensure traffic flows and vehicular speeds are low.

New streets **should** ensure that cycling is promoted and that the conditions for cycling are enhanced.

An integrated approach to sustainable transport, health and local economy **should** be adopted.

New streets **should** contribute positively to an integrated cycling network for London by providing infrastructure that is safe, comfortable, attractive, and in line with the guidance set out in the London Cycle Design Standards.

Fig 17. Pedestrianised streets

Fig 18. Wide pavements

Fig 19. Shared surface streets with clear separation between pedestrians and cars

Fig 20. High quality green space

LANDSCAPE & PLANTING

Park and Open Green Space

The park by the river is one of St Raphael's Estate's biggest assets and the impact on access and views to green space **must** be considered in all design proposals.

New buildings directly facing green spaces **must** ensure they positively affect the park.

Proposals **should** prioritise retaining and improving existing green spaces, better incorporating the river and creating a visually pleasing and safe environment.

Squares and Courtyards

Courtyards within residential blocks **should** have adequate planting to create urban green squares, with screening for privacy.

The use of landscape and planting within the estate **should** be designed to create pleasant views and mitigate against pollution and noise, especially around the North Circular Road.

Linear Green Spaces

Linear parks, created through small parklets, green alleys and rain gardens (fig. 26) **should** play a supporting role in the overall landscape strategy.

MATERIALITY

Hard Landscape and Street Furniture

The hard landscape material palette **should** be consistent throughout the entire estate masterplan.

Materials **must** be sustainable and responsibly sourced. All timber **must** be FSC certified.

Surfaces **should** be robust and hard-wearing and accessible for everyone.

Soft Landscape

Planting pockets **should** be a minimum of 700mm deep to ensure optimal growing conditions for low level planting. This does not include tree pits. Planters **should** be built-in and flush with footway level. Tree pits should be 1500mm deep.

Fig 21. Residential green square with space for play and rest

Fig 22. Green courtyard with planting and screening for privacy

Fig 23. Tree-lined street with incorporated planting

Fig 24. High quality, usable green spaces

Promoting native biodiversity **must** be a key consideration in selecting plant species for both masterplans. Non-native species proposed **should** be well adapted to the present and future London climate and capable of supporting native biodiversity populations as well as native species.

Plant species **should** be carefully selected to encourage residents and visitors to engage with the environment; utilising plants that are of an attractive form, will flower, provide colour, attract wildlife and provide change through the seasons.

All proposals **must** describe a management and maintenance program for all landscape works .

SUSTAINABILITY

Naturalisation

Naturalising the River Brent **must** be done in a considered manner, carefully selecting the areas where it could be implemented, in order to keep floodrisk at a minimum.

Regular maintenance is also required to ensure that enhanced areas are kept clean and safe.

The designs **should** recognise the importance of providing and integrating opportunities for biodiversity to thrive in and around the site.

Designs **should** include a diverse range of habitats types to maximise habitat heterogeneity and provide a mosaic of habitats.

Urban greening

Incorporating planting, landscaping and green elements into the space between buildings and streets **should** be included in design proposals in all areas of the estate.

Fig 25. Enhanced river front with increased space for ecology

Fig 26. SuDS rain garden in parking court

Fig 27. Integrated soft landscape with dedicated cycle route enhances biodiversity and provides SuDS

Fig 28. Improved access to river for people of all ages and abilities

Trees **should** be carefully located to avoid loss of daylight and potential damage to parked cars.

Blue Network

An integrated SuDS design for the entire estate **must** be developed.

The SuDS strategy **should** connect building, street and park attenuation.

The Blue Infrastructure Strategy **should** explore the use of the River Brent for surface water discharge.

SuDS systems **must** prioritise open, natural systems such as swales and rain gardens as opposed to below ground storage.

PLAY

Play in the Park

Playspaces in the park **should** provide different spaces for particular age groups to ensure safety and appropriate supervision.

Playable spaces and equipment **should** be locally made and respond to the distinctive character of the area and designed into the public realm.

Natural play **should** be prevalent in the public realm and within development plots through sensory soft landscaping and tree planting (fig. 29).

Play in the Estate

Playgrounds **should** be located evenly across the estate to avoid noise in specific areas and to encourage natural surveillance across the estate.

Play spaces **should** also cater for parents and carers, for example by providing adequate seating (fig. 31).

Public spaces and streets **should** be considered together to create a journey or network of playable spaces, allowing children to roam and play (fig. 32).

Fig 29. Natural play within a park setting

Fig 30. Benches and objects for informal play

Fig 31. Play with seating for parents and carers

Fig 32. Play integrated within streets

Informal Play

Informal play provision for 0-5 year-olds **must** be provided within each residential development plot.

This **must** be playable space and **should** not include single use play equipment.

Opportunities for play **must** emphasise physical play, swinging, jumping and climbing and be designed to maximise passive surveillance.

Street furniture **should** be designed to encourage appropriation for play, for example level changes, stepping stones and benches that double as playable elements (fig. 30).

PARKING

All forms of parking **should** be carefully integrated with the design of landscape and buildings, to reconcile residents' desire for convenient access to parking with the aspiration for pleasant streets and open spaces that are not dominated by cars.

The amount of car parking provided **should** conform to London Plan policy on maximum parking provision and **should** relate to the public transport accessibility (PTAL level) of the site.

On-Street Parking

Parking **should** be integrated with street tree planting and landscaping (fig 33, 35).

The number of continuous street parking spaces **should** not exceed 4 spaces.

Parking spaces **must** be laid out with regard to visibility sight lines and the turning radius for servicing and emergency vehicles.

Off-Street Parking

Off-street car parking **must** be secure and over-looked by residential or community buildings and integrated with street tree planting and landscaping (fig. 34).

Fig 33. On-street parking with integrated tree planting

Fig 34. Off-street parking with integrated landscaping

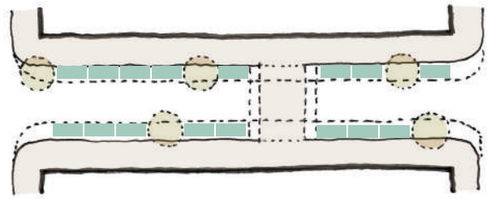


Fig 35. Street parking with integrated planting and safe crossing areas

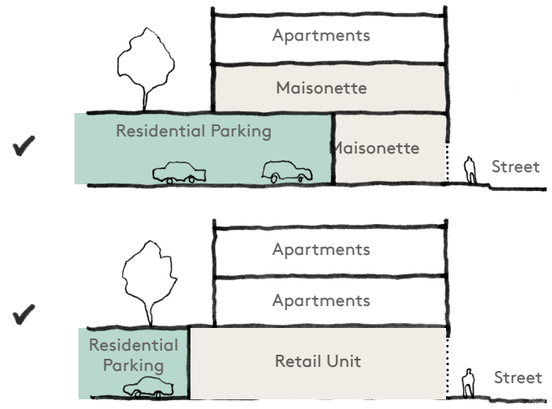


Fig 36. Integrated (undercroft) parking

Integrated Parking

Integrated parking garages **must** be located in permitted areas as fig. 36 shows.

Entrances to integrated parking **must** be secure and only accessible by residents.

Integrated parking garages **should** include natural daylighting through a communal level above.

Cycle Parking

Cycle parking **should** be provided in accordance with TfL's latest standards as set out in the draft London Plan for residential uses.

For long stay cycle parking, 1 space per studio and 1 bedroom home, and 2 spaces per all other homes **should** be provided.

For short stay cycle parking, 1 space per 40 homes **should** be provided.

The cycle stores **should** be conveniently located adjacent to building entrances, lifts, and parking if integrated within the building.

SAFETY & SECURITY

Active Street Frontage and Natural Surveillance

All new routes on the estate **should** be enclosed by strong active frontages offering natural surveillance to publicly accessible areas through regular residential front doors or commercial, leisure, and community uses. To make a building frontage "active" the following features **should** be included:

- Frequent doors and windows avoiding blank walls and fences;
- Visual permeability of non-residential activities happening inside the building;
- Main activity areas visible through façade or spilling onto the street e.g. a community space, restaurant or cafe.

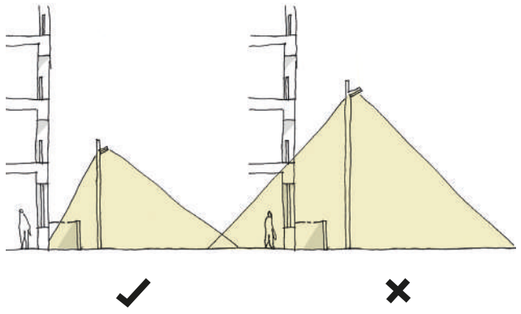


Fig 37. Light Spill

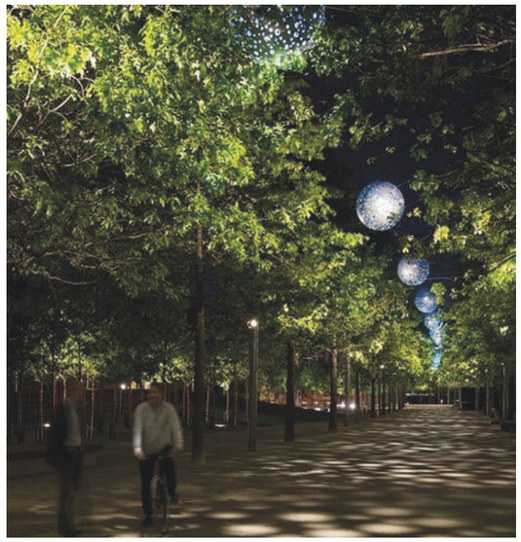


Fig 38. Sensitive lighting providing a safe night-time environment

Fig 39. Ecologically sensitive lighting

Lighting

New lighting **should** reduce risks of night-time accidents; assist in the protection of property; discourage crime and vandalism; make residents and street users feel secure and enhance the appearance of the area after dark (fig. 38).

New lighting **should** signify the hierarchy of streets and be consistent (fig. 40).

New lighting **should** be designed to minimise clutter.

New lighting **must** be designed to minimise energy use and light pollution.

New lighting **must** be ecologically sensitive (fig. 39).

CCTV

CCTV for the public realm **must** be integrated with other street furniture where possible, for example with lamp columns, or other vertical elements (fig 43). The design and colour **must** be consistent.

Cameras or other equipment **must** not overhang vehicle routes (fig. 42).

CCTV **must** be situated at least 4 metres above adjacent ground level. CCTV columns **must** not be more than 6 metres overall height above ground level (fig. 41).

CCTV **must** comply with current Metropolitan Police Service requirements.

The removal of trees to facilitate CCTV functionality **must** not be permitted.

The design of CCTV installations **must** have regard for residential privacy.

Secured by Design

The design of buildings and public realm **must** be in accordance with Secured by Design (SBD) principles, adding outdoor lighting where appropriate, enhancing natural surveillance as well as additional features including glazing, CCTV and secure bicycle and bin stores.

Fig 40. Consistent lighting

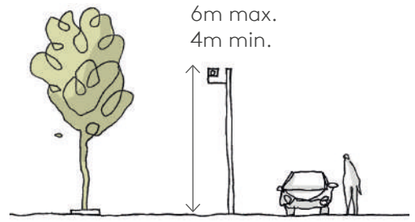


Fig 41. CCTV height

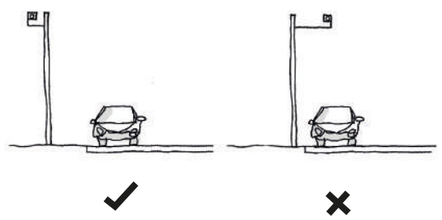


Fig 42. CCTV overhanging vehicle routes

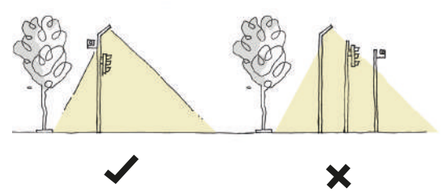


Fig 43. Combined columns

4 HOMES

4.1 HOMES

OVERVIEW

The **key design principles** for homes that designers **must** achieve are the following:

- Modern homes with **high-quality materials,** including flats, maisonettes and houses, all with **private outdoor space**;
- Better **safety and security** through design of private and communal spaces, incorporating **natural surveillance** of public places;
- Well-designed spaces for **waste & recycling** and **easy to maintain** communal areas.

Space Standards

The sizes of new homes **must** meet or exceed that of current St Raph's homes. Kitchens and living rooms should be well proportioned and spacious.

Sufficient storage is important and **must** be well considered and integrated into the design of new homes.

Home working

Work and study have become a regular part of home life for many people, across all age groups. New homes **should** therefore allow sufficient space for a desk, chair and filing cabinet or bookshelf, in the living room (in dwellings with 1-2 bedrooms), one of the bedrooms or dining area, with access to natural light.

Minimum Floor-to-Ceiling Heights

Minimum ceiling heights are described in the table opposite **must** be achieved.

Residential Tenure

All residential buildings **must** be designed as tenure blind. All communal amenity spaces **must** be tenure blind.

Fig 44. High quality and sustainable new homes surrounded by greenery

Fig 45. Natural surveillance of neighbourhood streets

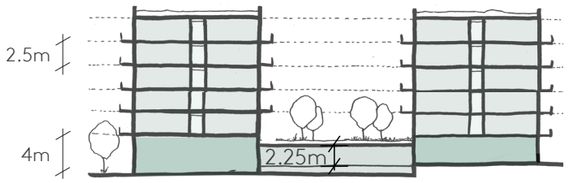


Fig 46. Diagram of min. internal floor to ceiling heights

Minimum internal floor to ceiling heights	
Ground floor non-residential	4m
Integrated car park	2.25m
Upper floors residential	2.5m

Fig 47. Table of min. internal floor to ceiling heights

Housing type 01

TOWN HOUSE

Key characteristics:

Levels per home:	*3 storeys*
Bedrooms:	*4-5 bedrooms*
Private outdoor space:	*Garden, courtyard or terrace*
Density:	*Low*

Fig 48. Townhouse typology

Housing type 02

MAISONETTE

Key characteristics:

Levels per home:	*2 storeys*
Bedrooms:	*3-4 bedrooms*
Private outdoor space:	*Garden, terrace or balcony*
Density:	*Medium*

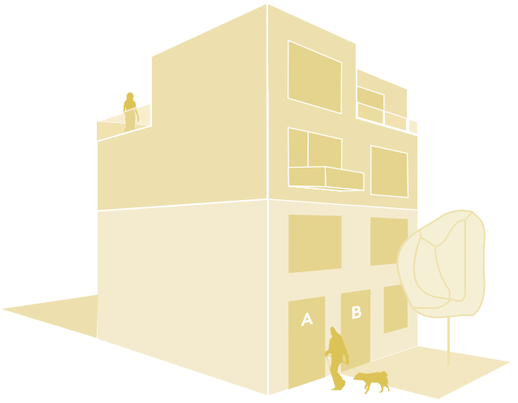


Fig 49. Maisonette typology

Housing type 03

APARTMENT

Key characteristics:

Levels per home:	*1 storey*
Bedrooms:	*1-4 bedrooms*
Private outdoor space:	*Balcony or terrace*
Density:	*Medium to High*

Fig 50. Apartment typology

FORM, MASSING & HEIGHTS

Roof Line and Form

The form and massing of new buildings **should** be varied to create interesting neighbourhoods and avoid monotony. The articulation of rooflines is important and where appropriate, pitched roofs can help create a sense of familiarity.

Elevations **must** have a predominantly consistent and simple roof line as shown in fig. 51.

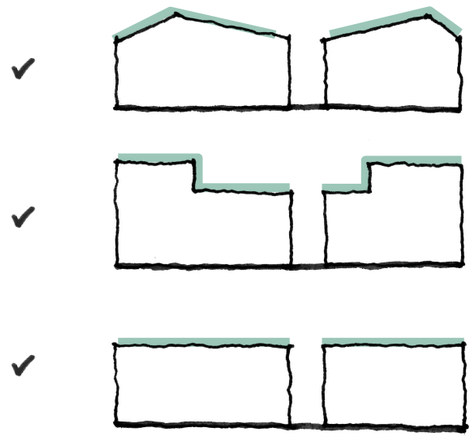


Fig 51. Consistent roof lines

Building Set-Backs

Set-backs **should** be used to reduce the impact of taller buildings to the street.

Building set-backs can also provide additional outdoor spaces as generous terraces.

Set-backs **should** occur on the top storey, or on lower storeys if providing private amenity space. Full height vertical recesses or bays, that may include or exclude the ground floor, are permitted (fig.52).

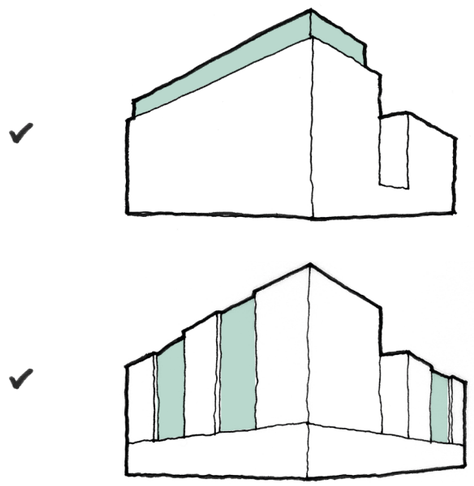


Fig 52. Building set-backs

Corners and Gables

Corners **should** be well articulated, avoiding blank gables and creating interesting and characterful corners to streets.

Gables **should** have active frontages wherever possible.

Breaks and Openings

Breaks between blocks **should** be used to create connections and views within neighbourhoods.

Courtyard blocks **should** incorporate a break in the massing (full break is preferable, minimum double storey height) to provide direct access and views to and from the communal courtyard (fig. 53).

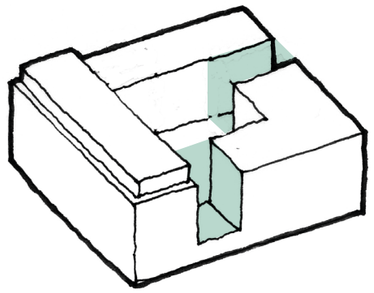


Fig 53. Block breaks and openings

Roof Lines

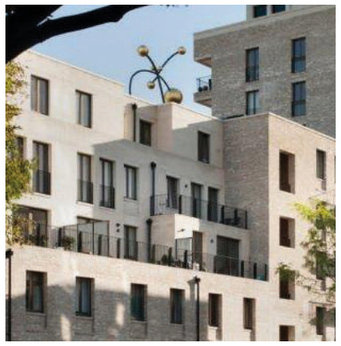
Bacton Estate, London, Karakusevic Carson Architects

Brentford Lock West, London, Duggan Morris Architects

Building Set-Backs

Annedalsterrassen, Stockholm, Kjellander Sjöberg

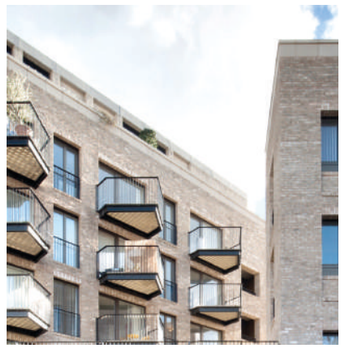
Silchester Housing, London, Haworth Tompkins



Breaks and Openings

Silchester Housing, London, Haworth Tompkins

The Leys, London, Karakusevic Carson Architects



Corners and Gables

Herringbone House, London, Chan and Eayrs

Goldsmith Street, Norwich, Mikhail Riches

MATERIALITY & QUALITY

Quality

Materials **must** be good quality, robust, well weathering and form a simple, calm palette of colours and textures.

Primary Materials

Primary materials are the main materials for the facade of the building.

Primary materials **should** be carefully considered and should be not only aesthetically pleasing but robust and long-lasting, to help the building age well.

The facade material **should** be predominantly brick.

Any set backs **should** also be clad in the solid brick and masonry.

Secondary Elements

Secondary elements are the materials for defensible space, canopies, terraces, balconies, and private gardens

Secondary materials **should** be selected with the view of adding character to spaces and buildings.

Natural, achromatic polyester powder coated or metallic finishes **should** be used.

Balcony and railing fixings **should** be discreet, and hidden wherever possible, to avoid clutter in the elevation design.

Flashings and trims **must** be metal, not plastic.

Details

Details includes facade accents, brickwork patterns, windows and doors, signage and screens.

The design and selection of details is an opportunity to add identity and character to the building.

Details are an important aspect in considering materiality and quality as they contribute to the overall character and will determine how people feel about their homes and environment.

Brickwork patterns, signage and choice of ironmongery **should** be well considered and high quality.

Ventilation grilles **should** be metal to match window frame finishes. Finishes **should** be neutral, metallic or achromatic to match metalwork and window frame finishes.

Rainwater pipes (including from balconies), servicing pipes and sanitary waste pipes **should** not be visible on any street facing facades of buildings over 4 storeys.

Visible pipes **should** be metal, not plastic, to match metalwork and window frame finishes.

Internal (Communal Areas)

The materials for communal lobbies and circulation spaces **should** be high-quality, warm and inviting.

Materials used within these spaces **must** be durable and easy to maintain.

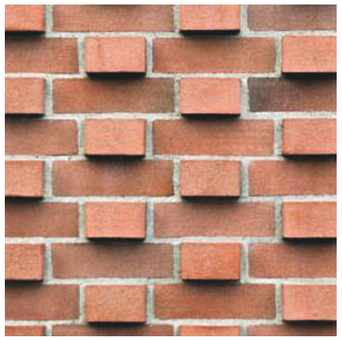
Primary Facade Material

High quality brickwork in earthy tones

Facade details

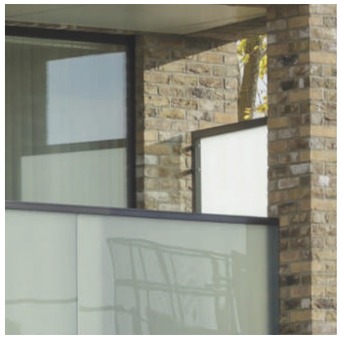
Decorative brickwork:

'Hit and miss' and relief pattern



Secondary Elements

Examples of glass and metal balustrades, and metal window frames.



Internal Spaces

Brentford Lock West, London, Mae;

Kings Crescent Estate, Karakusevic Carson Architects.

ENTRANCES AND LOBBIES

Communal Building Entrance

Entrances **must** be clearly visible from the street, well-lit and inviting (fig. 54A).

Entrances **should** be made of high-quality and robust materials, with defensible space in front of adjacent homes (fig. 54B).

All lift cores **must** have level access from public realm (fig. 54C).

The entrance door **must** have safety features and clear signage and be situated within safe distance from main gate location (fig. 54D).

Communal Lobby and Circulation

The scale, size and proportion of these spaces **should** be well designed to prevent congestion.

The space **should** have a welcoming appearance and generous proportions.

There **should** be natural light (fig. 55) and a direct view of the staircase and lift to upper levels.

The lobby **should** incorporate some seating and resting space.

Private Dwelling Entrance (External)

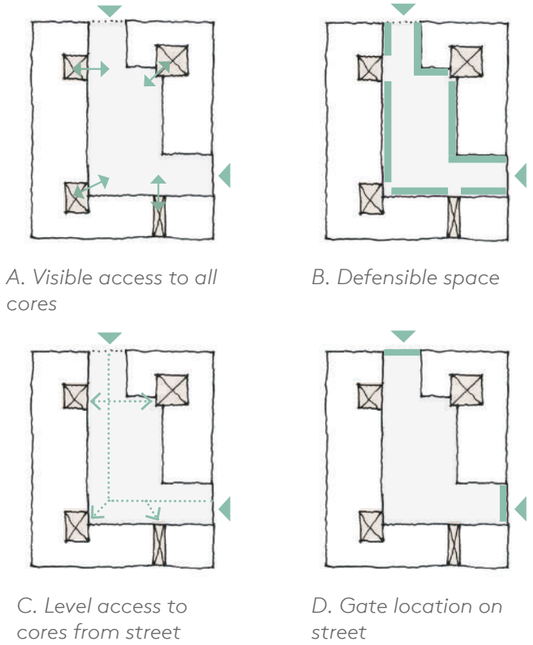
These **must** be clearly visible from the street to give a sense of safety.

The front door **must** be safe, secure and have integrated lighting.

There **must** be a defensible space between the public space of the street and the private home.

Private Dwelling Entrance (Internal)

These entrances **must** be easily identifiable and legible. There **should** be clear and consistent signage, but the visual impact of security features should be minimised.



A. Visible access to all cores

B. Defensible space

C. Level access to cores from street

D. Gate location on street

Fig 54. Communal building entrance principles

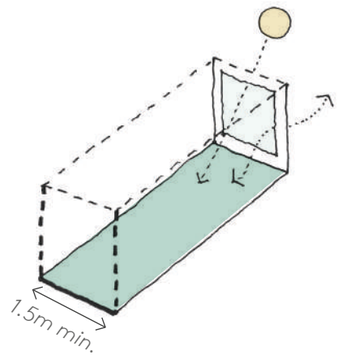


Fig 55. Communal corridor

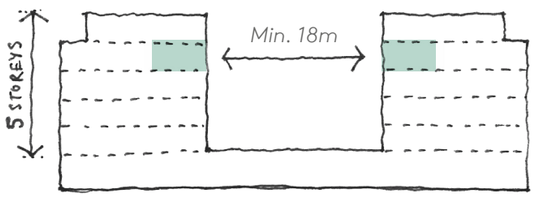


Fig 56. Min distance between habitable rooms

PRIVACY AND DEFENSIBLE SPACE

Privacy

The distance between habitable rooms across communal courtyards **must** be a minimum of 18m for a 5 storey height (fig. 56).

Distances between habitable rooms on side elevations can be reduced provided that the privacy of residents is sufficiently protected through design solutions which could include the careful placement of windows to avoid direct overlooking or angled windows.

Aspect and Views

Single aspect units **must** be minimised. Any single aspect apartments should directly face the park or other green spaces.

The depth of a single aspect unit, measured from the outer face of the façade to the rear wall, **should** be no greater than 7m (fig. 57).

Defensible Space

Defensible spaces **must** be included and **should** be in the form of a front garden, integrated planting and bins, or a raised ground floor.

Defensible spaces **should** be predominantly between 1.0-1.5m meter in depth, if more than 1.5m is required this should be in the form of recessed entrance within the plot boundary (fig. 58).

The material **should** be metal for railings on top of brickwork, or a pre-cast concrete base.

The height of the defensible space **should** be between 0.45m and 0.90m. Where bin stores are incorporated in the defensible space, taller sections of masonry walls up to 1.2m are permitted (fig. 59).

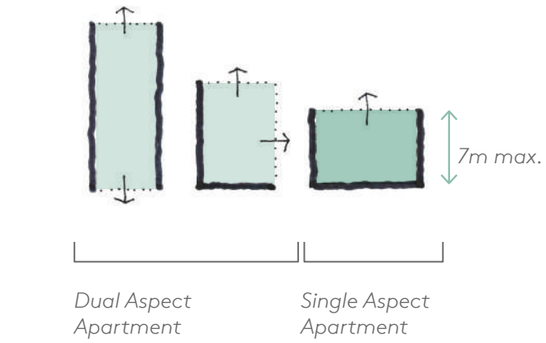


Fig 57. Aspect and views

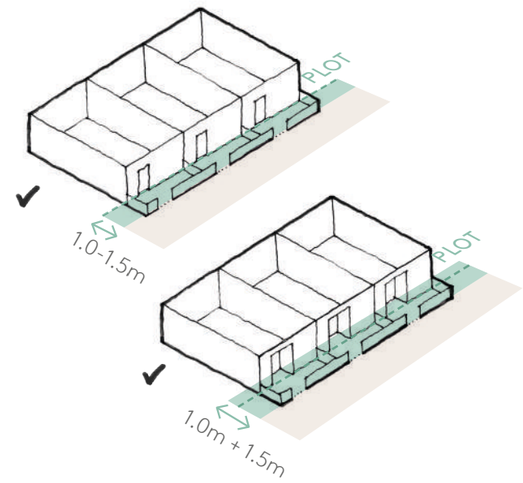


Fig 58. Defensible space

Fig 59. Defensible space incorporating bin stores

PRIVATE OUTDOOR SPACE

General

Private outdoor space **must** be provided for all new homes and, in general, the more private open space provided per home, the better.

A minimum of 5sqm **must** be provided for all 1-2 person dwellings with an extra 1sqm for each additional occupant.

Gardens

Front and rear gardens **should** be functional as well as social spaces; incorporating bike storage, for example.

Fences **should** be designed according to Secured by Design principles.

Terraces

Private terraces can be located on any level of the home, including the roof.

Terraces **must** be designed to provide shelter and privacy from neighbouring homes.

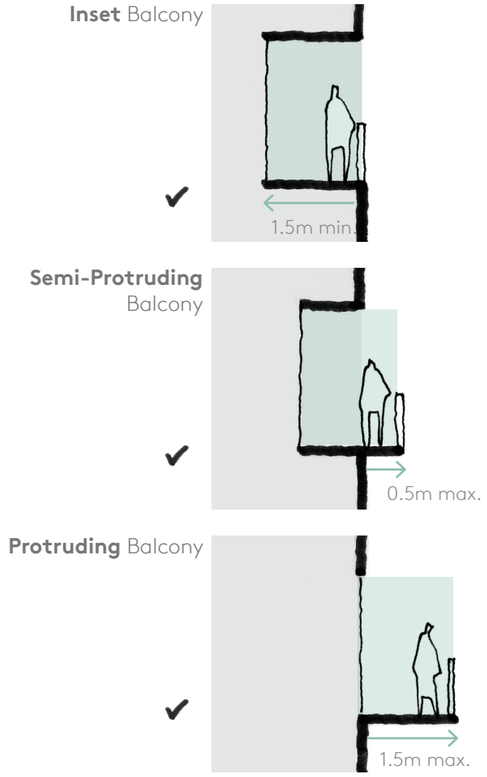


Fig 60. Balcony options

Balconies

Balconies can be either inset or external to building volume, as shown in fig 60.

Balconies **should** be glazed and ventilated winter gardens where necessary to be shielded from noise and pollution.

Balconies **should** provide sufficient space for a table and chairs, so that residents can sit outside.

Courtyards

Located at ground floor it can be a private area or connected to a larger communal courtyard.

Courtyards **must** be designed to provide shelter and privacy from neighbouring homes.

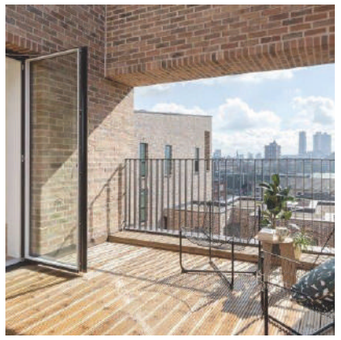
Fig 61. Balcony with space for seating and views to the park

Gardens

Private gardens in proximity to communal green spaces

Terraces

Generous terraces that provide privacy from neighbouring homes



Balconies

Examples inset and protruding balconies

Courtyards

Private and communal courtyards

WASTE AND RECYCLING

General

Private and communal bin storage **must** be well designed, discrete, secure and accessible only to residents.

Spaces **must** be designed to have a clean and clear appearance from the street for residents and visitors.

External areas for communal use **must** have suitable screening or landscaping and located near vehicular streets for ease of access.

Houses and Maisonettes

For houses and maisonettes, bin storage **should** be incorporated within the defensible space at the entrance of the private dwelling.

Apartment Buildings

For apartment buildings, the waste and recycling stores **should** be internal spaces located next to entrances.

All communal refuse and recycling containers and enclosures **should** be accessible to people of all ages and to wheelchair users.

Storage areas **should** have washing and cleaning facilities.

SUSTAINABILITY

General

All new homes **should** satisfy the London Plan policy on sustainable design and construction and make the fullest contribution to the mitigation of and adaptation to climate change.

The infill and redevelopment masterplans for St Raph's **must** take a long-term view of sustainability through well designed and long-lasting buildings. Sustainability goals should be met through low cost and easy to maintain solutions. A fabric first approach should be adopted with high levels of insulation and air tightness.

Renewable Energy

New homes **must** incorporate on-site renewable energy generation to reduce carbon dioxide emissions and fuel poverty.

Renewable energy systems include solar thermal, biomass-fuelled heating/power, ground or air source heating/cooling, photovoltaics, wind power, renewable energy from waste.

Rainwater Drainage

Managing surface water run-off from new developments **must** be considered.

Sustainable Drainage Systems (SuDS) techniques include permeable paving, soakaways, storm water retention, green roofs, soft landscaping, holding ponds, swales and reed beds.

Bio-diverse Roofs

Bio-diverse roofs **should** be included wherever possible for new homes.

Green roofs contribute to biodiversity, reduce heat loss from buildings and help mitigate the urban heat island effect.

Green roofs **should** also be designed, where appropriate, to provide amenity (outdoor) space.

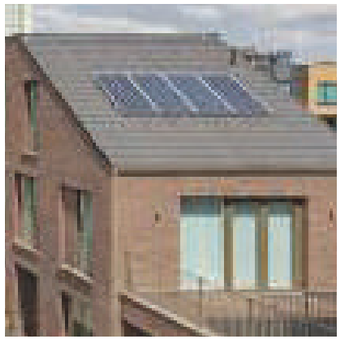
Solar Shading

Overheating is an increasing concern for homes in London and new homes **should** mitigate the effects of this.

New homes with south facing facades **should** use fixed or adjustable shading devices and planting deciduous trees to achieve shading and control solar gain in summer.

Renewable Energy

Solar panels on the roofs of individual houses and apartment buildings



Rainwater Drainage

Drainage beds incorporated in front of homes

Bio-diverse Roofs

Examples of bio-diverse roofs as accessible and in-accessible spaces

Solar Shading

Adjustable blinds and trees as solar shading

5 COMMUNITY

5.1 COMMUNITY

OVERVIEW

Existing community

There is a strong sense of community at St Raphael's Estate due to the fact that many residents have lived there for a long time and have formed strong bonds. The estate has a range of community spaces, but there is a lack of multi-use, flexible facilities for people of all ages.

The facilities currently include Henderson House, local shops on Lilburne Walk, a nursery, St Raphael's Edible Garden, the church, the Living Room, the Children's Centre, the Cage (leisure facility) and the Mosque.

Vision

The vision for a new community space is focused around creating a space that is inviting, open, bright and safe for everyone.

New community facilities **should** become a local destination for the estate.

The **key design principles** that designers must achieve for community spaces are:

- A **multi-functional hub** in a central location;
- Facilities connected to **green space**;
- **Welcoming and inviting spaces** for people of all ages and backgrounds.

TYPE

Community Hub

A central community hub where individual spaces are located near one another to create a destination for the estate.

Multi-purpose Space

Flexible, multi-functional spaces that residents can use for events and gatherings.

Local Commercial Space

New shops or other spaces for employment must be community focused, affordable and located in close to other community amenities.

USE

Community uses could be grouped together to create more efficient buildings that can be used by everyone. Religious spaces and amenities for children **should** be separated from other uses, through a separate entrance. Ancillary spaces could be shared where appropriate.

MATERIALITY AND QUALITY

Materials **should** be robust, long-lasting, low maintenance and environmentally sustainable.

SUSTAINABILITY

Environmental Sustainability

The environmental sustainability of new community spaces **must** be a high priority. New community spaces **should** incorporate green and renewable energy sources such as solar panels where appropriate. Community spaces **must** incorporate landscape and greenery and **should** also support activities that are nature friendly such as bee-keeping and urban food growth.

Social Sustainability

Social sustainability can be achieved by creating spaces that represent the multitude of backgrounds and cultures of residents on St Raph's. New community spaces **must** be flexible and adaptable, allowing them to be changed to suit residents' future needs.

Economic Sustainability

The economic sustainability of new community spaces is a key priority for residents. This could be achieved by ensuring the building generates an income through rentable spaces or having an anchor tenant. A resident led group such as St Raph's Voice, could also support community spaces by running social events such as coffee mornings, homework clubs and social groups for the elderly.

Multi-purpose spaces

Community hall with opportunities for a variety of uses and events

Connection to green space

Spaces that open up to the public open areas

Spaces for food and drink

Community-led cafe for rest and gatherings

Form and appearance

Look and feel of the building within the neighbourhood

6 SUSTAINABILITY

6.1 SUSTAINABILITY

OVERVIEW AND APPROACH

All new homes **should** satisfy the London Plan policy on sustainable design and construction and make the fullest contribution to the mitigation of and adaptation to climate change. This means minimising overheating, reducing flood risk, improving water efficiency and protecting and enhancing green infrastructure, as well as taking steps to reduce carbon dioxide and other greenhouse gas emissions.

Good design should generally be sustainable but the codes in this section target specific aspects that affect the environmental performance and impact of the new homes and public space.

CARBON

The proposals **must** minimise embodied and whole life carbon, maximise the use of low carbon, regenerative, secondary and recycled materials, make decisions based on whole life carbon appraisal. The masterplan **must** demonstrate how embodied carbon of concrete and steel has been significantly reduced in design and delivery of the new homes.

PASSIVE DESIGN

Passive design strategies that use on-site energy sources instead of purchased energy like electricity or natural gas **must** be incorporated into the design of the new buildings and public space on St Raphael's Estate.

These strategies **must** include at least one but not limited to:

- Daylighting
- Natural ventilation
- Solar energy
- Ground source heat
- Tree shading
- Wind
- Water

Consideration in early stages of design can significantly reduce mechanical cooling, heating, ventilation and lighting demand in buildings.

DAYLIGHT AND SUNLIGHT

Daylight Access

The design of development **must** achieve excellent daylight and sunlight access to new housing, public space, green spaces, play spaces and communal amenity areas that is appropriate for its character, location and density.

Daylight Access Standards

More than two hours direct sunlight on the ground to 70% of open spaces and 50% of courtyard spaces on 21 March.

Above four hours direct sunlight on the ground to play spaces on 21 March.

SHADING AND VENTILATION

External shading in residential buildings **must** be considered to limit overheating. This **must** be done together with tree specification and planting and shown to include passive provision for future adaptation, such as adding louvres.

Urban Heat Island

The masterplan **must** mitigate the urban heat island effect through material selection, incorporation of urban greening, enhancement of the waterways and use of wind to flush heat.

WIND AND MICRO-CLIMATE

The building design **must** be assessed by a qualified specialist and incorporate measures to mitigate excessive wind and down-draft, such as use of podium levels, vegetation, porches or setbacks to create a comfortable environment for pedestrians at ground floor and other levels.

Creating favourable conditions in the public realm is key to activating public spaces, enabling residents and visitors to use the space around buildings and encouraging sustainable travel by making walking and cycling easy and pleasant.

AIR AND NOISE QUALITY

A holistic approach **must** be taken when considering the environmental quality of the site; an assessment of the existing air and noise conditions **must** be made, and suitable mitigation measures **must** be assessed and agreed.

Where development plot frontages face existing industrial areas or the North Circular Road, design measures **must** provide residential occupiers with mitigation in relation to potential noise, vibration, dust and air quality effects.

A good level of insulation, both in terms of noise and air pollution, helps to achieve a good co-existence of different uses on site and protects both new development and existing businesses.

CAR PARKING

Car Parking Targets

The masterplan **should** aim to minimise car parking and give priority to accessible parking and shared transport platforms.

Parking areas **should** be future proof for conversion to alternative uses. Shared transportation such as car sharing, bike rental etc. **should** be promoted by partnering with existing providers.

Electrification of transport **should** be supported with a continuous network of charging points including facilitating smart grid development with vehicle to grid charging and/or communal battery installations.

Fig 62. Creating favourable and sustainable conditions for homes and public space

Fig 63. Appropriate daylight and sunlight levels for homes and public space

Fig 64. Future proofing on-street car parking

Fig 65. Landscape integrated with parking

BIODIVERSITY AND GREEN INFRASTRUCTURE

Green Space

There **should** be ample and accessible green space on everyone's doorstep.

Green spaces **must** be multifunctional and provide a good mix of facilities.

Green spaces **must** benefit from optimised environmental design.

The quality and mix of green space **should** respond to the density and location within the masterplan.

Green and blue spaces **must** be connected as part of a grid grid/blue ribbon network.

Green Space Standards

The development **should** have more than 30% public green space (7 sqm/resident).

There **should** be a maximum of 100m to a green space from every dwelling (at a minimum linear or pocket park as per public open space categorisation NDLP Policy G4 Table 8.1).

Green Space Maintenance

The masterplan **must** consider and provide for long term management and maintenance of green spaces.

Green spaces **should** be designed to minimise maintenance.

The masterplan **should** demonstrate that resource have been set aside to support long-term maintenance and management of all green and blue infrastructure.

The masterplan **should** consider community-led 'friends of parks' groups in the long-term maintenance plan of green spaces.

Urban Greening Factor

Maximise incorporation of urban greening elements including green roofs/walls, rain gardens and tree planting.

Fig 66. Green space on everyone's doorstep

Fig 67. Easy to maintain green spaces

Fig 68. Sufficient public green space for residents to enjoy

Green Roofs

Green roofs **must** be provided wherever appropriate (minimum 50%), with access made for all occupants from main cores and be of sufficient depth to support rainwater attenuation. Green roofs should incorporate photovoltaics (PVs).

Tree Planting

Provision for trees **should** be made to the public realm, streets, green spaces and shared external amenity spaces including roof gardens.

Native species that are resilient to climate change and diseases **should** be specified.

Training **should** be provided for local stakeholders and the local community to encourage planting and proper management.

Tree Planting Standards

The following standards **should** be adopted:

- 22% minimum tree coverage across St Raphael's Estate.
- 100% native species.
- More than 50% of species sourced from 100 miles of the site.

Growing Space

Growing space **should** be provided in addition to private or communal external amenity space.

Appropriate levels of solar variation over the growing season **should** be ensured.

Growing Space Standards

The following standards **should** be adopted:

- 0.5 sqm min. private growing space per home or;
- 1.5% min. communal growing space of total Gross Development Area (GDA).
- Minimum 50 sqm total.

Fig 69. Accessible green roofs

Fig 70. Green roofs with photovoltaics (PVs)

Fig 71. Communal growing space on roof

Fig 72. Allotments for residents to grow their own plants

Biodiversity Net Gain

The following principles **should** be included:

- Protect and enhance areas of ecological significance; provide compensation where any biodiversity loss occurs.
- Maximise naturalisation of existing water bodies to support biodiversity.
- Create new habitats as part of the development of blue and green infrastructure.
- Sensitively integrate nesting and roosting areas into building design.
- Create a long-term management plan to eradicate invasive species.
- Specify native, climate resilient, disease resilient and locally grown planting.

Biodiversity Net Gain Standards

- 100% of development on brownfield land.
- 75% native species.
- 100% of invasive species to be eradicated.

Water Sensitive Design

The following principles **should** be included:

- Provide resilience to flooding that is integrated with enhancement of waterways, landscape and biodiversity.
- Optimise use of ecological and amenity SuDS within public realm and landscape, following the London Plan hierarchy to reduce flood risk and improve surface water quality.
- Maximise opportunities for reducing on and off site flood risks.
- Improve floodplain storage and river capacity.
- Adapt peak discharge to river to catchment hydrology considering

Fig 73. Enhancing areas of ecological significance

Fig 74. Maximising biodiversity across the area

Fig 75. Locally grown native plants in rain gardens

Fig 76. Rain gardens adjacent to streets and squares

timing of storm and fluvial events.

- Surface flooding adapted to the land use type in line with BS EN 752.

Flooding & Sustainable Drainage Systems (SuDS) Standards

New buildings **must** be protected against climate change flooding.

Extreme event flooding to be considered for all buildings.

Fig 77. Rain garden incorporated with parking

Fig 78. Sustainable Drainage Systems