RIVERPARK GARDENS

Design and Access Statement

March 2015

BELL PHILLIPS ARCHITECTS

Issue summary

Client: **Karl Phillips**
Phoenix Community Housing
The Green Man
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Consultant Team:

The following consultants have been appointed by Phoenix Community Housing form the consultant team:

Architect:	Bell Phillips Architects
Engineer:	Abstruct LLP
Sustainability/ CfSH/ Energy Assessor:	Stroma
Daylight and Sunlight Surveyor:	Gordan Ingram Ass.
Arboricultural Surveyor:	DF Clark Bionomique
Transport Surveyor:	Cundall
Topographical surveyor:	EDI Surveys Ltd

Contents

1 Introduction

1.1 Executive summary

This document has been prepared by Bell Phillips architects in conjunction with the professional consultant team listed above, and forms part of the planning application submitted by Phoenix Community Housing (PCH) for a new residential development. This development will provide 8 flats, parking for the new residents, the removal of a commercial unit, relocation of a sub-station and adjustments to the highway. The design has been carefully considered to provide high quality, energy efficient and sustainable homes at the entrance to the Riverpark Gardens estate.

1.2 Architectural brief from Phoenix Community Housing

At Pre-Qualification Questionnaire (PQQ) and Invitation to Tender (ITT), Bell Phillips Architects were chosen to produce a feasibility study for this site and continuing to RIBA Stages C and D to a detailed planning application. The Brief was issued as part of the ITT documentation and is for a private for sale residential development. The proposals must comply with the following:

- The design must comply with the GLA London Housing Design Guide (essential to the feasibility including all priority 2 standards)
- The design must comply with Lifetime Homes
- The design must achieve Code for Sustainable Homes (CfSH) level 4
- The Design will need to obtain Secured by Design (SBD) accreditation
- The development will be designed with regard to national, regional and local policy and planning guidance and will consider the socio-economic benefit to the local community as well as potential impact on the neighbourhood in terms of landscaping, noise, view, shading effect, wind etc.
- The budget for this project was initially set at £1,618 per m^2. Following a meeting between Bell Phillips Architects and Karl Phillips (of PCH) on 24/06/2014 this was amended to £1700 per m^2.
- The design must maximise accommodation on each site.
- The design should assume the sub-station on the Site will be relocated to a more convenient site to allow for development

1.3 Introduction to Bell Phillips architects

Bell Phillips Architects was established in 2004 after Tim Bell and Hari Phillips won an international design competition to carry out a major regeneration project in East London. From this first £8 million project the practice has grown and diversified with a portfolio that currently includes a wide range of projects across a number of sectors.

The practice has a strong track record of high quality design demonstrated through high profile competition wins, awards and features in publications and exhibitions. Nevertheless our approach is grounded in a fundamental understanding of the technical, financial and practical issues which ensures that our designs are viable and deliverable. We work at all stages from feasibility studies, through to planning applications, detail design and production information.

Most recently the practice won the Housing Design Awards 2014 HAPPI Sector for a development of homes on six different sites in the London Borough of Greenwich. We have a particular experience in housing design, with a number of significant projects currently under construction. We have extensive experience working with different client bodies across a wide range of sectors. This includes Local Authorities, housing associations, private developers and commercial clients.

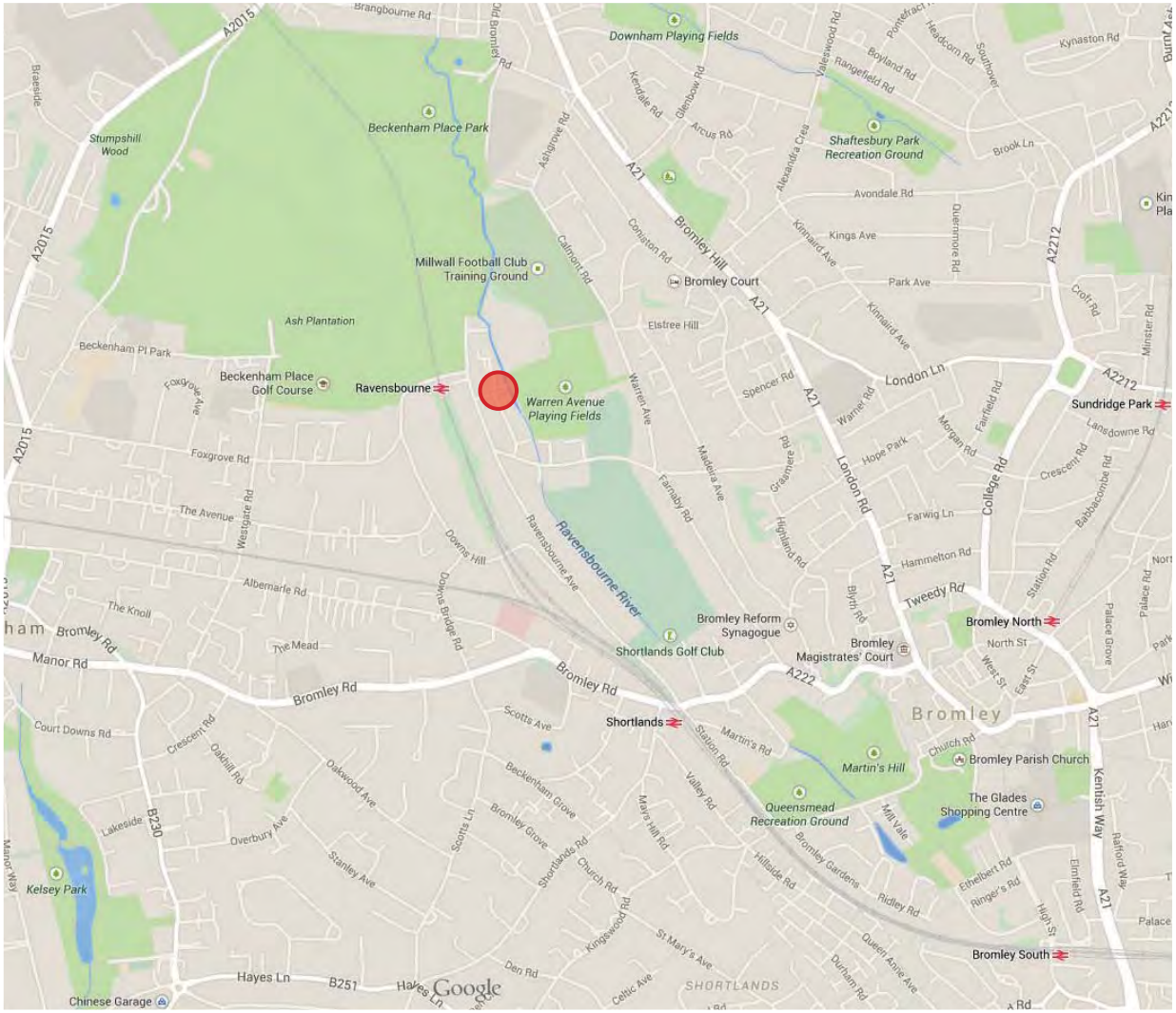
Following a process of Pre-Qualification Questionnaire At

2 Site context

2.1 Site location with-in London

2.2 Site location

The Riverpark Gardens estate is located in the London Borough of Bromley, close to the borough boundary with Lewisham. The site is located close to Ravensbourne railway station to the west. The site is also surrounded on the north and east sides by large areas of public amenity; Warren Avenue playing fields to the east and Summerhouse playing fields and Beckenham Place Park to the north. The nearest town centre is Beckenham which is located to the west.



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2.3 Aerial photographs

The estate comprises both low rise semi-detached housing and mid-rise, deck accessed flatted blocks. The low rise houses are sited to the south and west of the site and are generally two-storeys of brick construction with white framed windows and blackened timber weatherboards to the front elevations.

The deck access blocks are sited to the north and east of the site (overlooking the green spaces) and are 4 storeys of a similar brick construction with a tiled cladding to the elevations. There is an interconnecting stair and bridge link which provides access to the upper deck levels. The accommodation of the flatted blocks is understood to be a mixture of maisonettes and flats.

Aerial view with site highlighted in red

The main access road winds onto the site and circles an area of grass and a large mature tree. The low-rise houses have private front and rear gardens. The flatted blocks have generous and visibly well used amenity space between the blocks. There is a row of 10no. garages to the west of the site. All other parking is provided on road in unmarked parallel spaces.

The streets approaching the site (Ravensbourne Avenue and Ravensmead Road) are characterised by 2 storey semi-detached houses in two distinctive styles; a typical 'traditional' style and a 'neo-art deco' style. These houses are set back from the road with parking to the front and large gardens to the rear.

The large areas of public amenity (to the north and east) are accessed via a small footbridge over the Ravensbourne River. There is a line of mature, predominantly deciduous, trees on the opposite riverbank to the east which will afford views over the green spaces during the winter.

Aerial view looking West from Warren Avenue playing fields (site highlighted in red)

2.4 Site photographs

View looking East from Ravensmead Road

View looking North-West from pedestrian footbridge

View looking East footpath to South of site (Green Route)

View to rear of empty building and garages on the site

View to rear of 6-32 Riverpark Gardens and storage cupboards

View looking North towards Riverpark Gardens estate

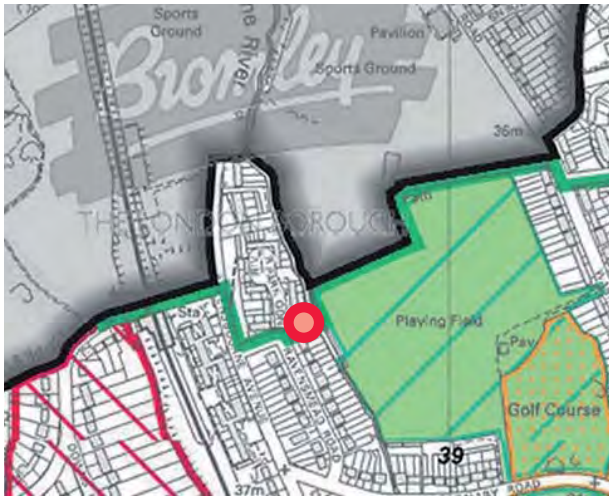
2.5 Site panoramas

Panorama looking West across the site (Ravensbourne River behind camera)

Panorama looking East from the junction with Ravensmead Road and Riverpark Gardens

3 Site Issues

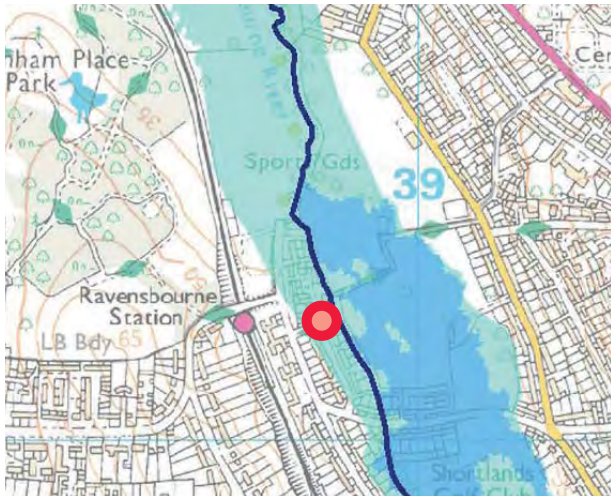
3.1 Bromley Planning Proposals Map



The site has no specific designation. There are areas of metropolitan open land to the east and north. There is a 'Green Route' and public right of way identified running adjacent to the site. The Downs Hill Conservation area is located to the west of the site which has the following explanation: Cohesive inter-war development mainly in neo-tudor-vernacular styles.

- Metropolitan open land
- Conservation area
- Green route
- Flood zone 3
- Flood zone 2
- Areas benefiting from flood defenses (not all may be shown)
- Main rivers

3.2 Flood Risk : Rivers and Seas



The plan above is taken from the Environment Agency website and shows the site sitting within a zone 2 flood risk area with areas of zone 1 flood risk shown in the playing fields opposite. Following the flood risk assessment (appendix 7.7) it has been proven that the site is not likely to flood and therefore sleeping accommodation at ground floor level will be possible.

3.3 Flood Risk: Surface Water

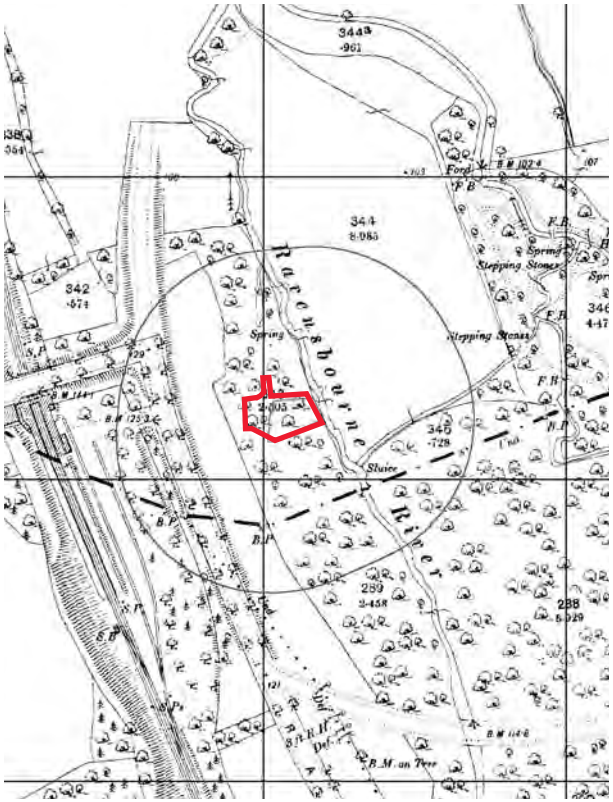
The plan above is taken from the Environment Agency website and shows pockets of surface flood risk in the vicinity of the site. The flood risk assessment has identified that there may need to be some mitigation of surface water flooding on the site.

3.4 Listed Buildings

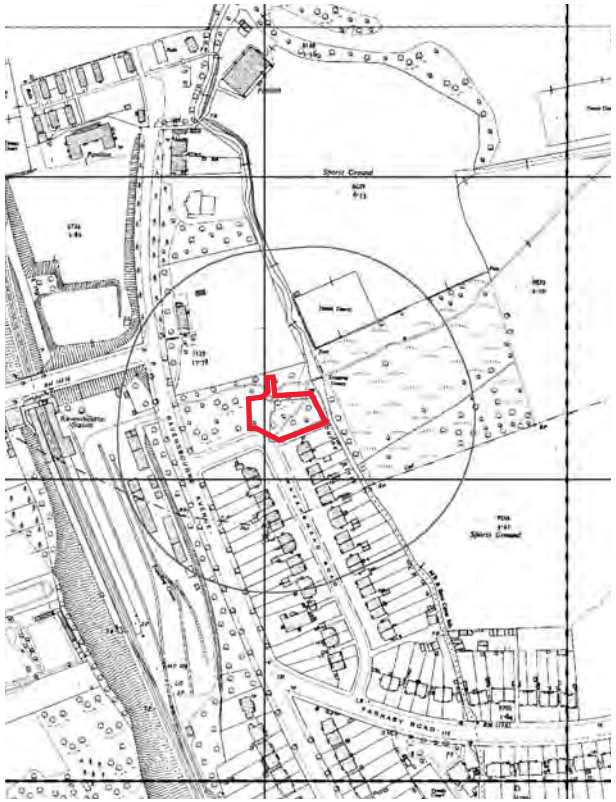
The plan above is taken from the English Heritage website. Blue triangles denote listed building and as shown, there are no listed buildings on or adjacent to the site.

3.5 Historical site uses

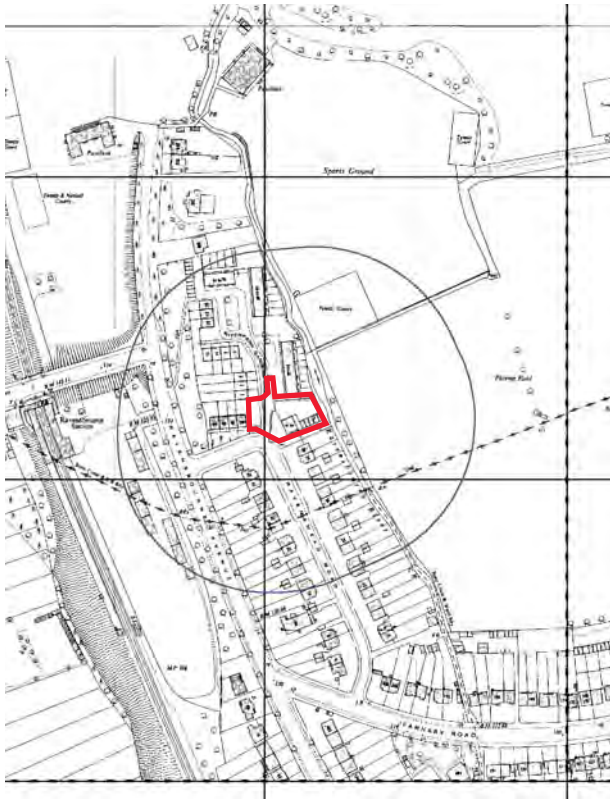
The site was part of a field until approximately c.1958, when the site was developed to its current layout. Ravensmead Road was developed adjacent to the site between 1937 and 1940.



Map showing the site in 1896



Map showing the site in 1953



Map showing the site in 1970

3.6 Existing buildings / uses on site

The site currently comprises of the following:

- A total building area of 275m^2 . This includes;
- A 2 storey disused building with commercial shop at ground floor and flat above. This building also has a single storey extension to the rear. Total= 175m^2 (100m^2 at ground floor and 75m^2 at first floor)
- 3no. single storey garages. Total= 45m^2
- 1no. single storey storage/ workshop space. Total= 19m^2
- 1no. single storey sub-station. Total= 18.5m^2
- 9no. lockable stores. Total= 17.5m^2

The site on which the existing buildings sit is approximately 720m^2 however the red line boundary of the proposed development (including proposed parking and relocation of sub-station) is 1205m^2. The 3no. garages, store/ workshop and 9no. lockable stores are in the clients ownership and will be taken out of use in preparation for this development. The garages are currently being let.

9no. lockable stores (left of image)

3.7 Removal of commercial unit

The existing buildings on the site are to be demolished to make way for the proposed housing development. The ground floor of the existing vacant two-storey building was formerly used for retail purposes. It is not proposed to include any retail provision with the new housing scheme.

The retail unit was vacant when Phoenix Community Housing acquired the site in 2007 and it is understood that the unit has been unused and boarded-up for at least two years before acquisition. The retail unit and the flat above are in a poor state of repair and the building detracts from the approach to the Riverpark Gardens estate. A good range of shopping and other services is available at Shortlands (one kilometre to the south) and in Beckenham and Bromley centres.

3.8 Site levels and topography

EDI surveys Ltd were appointed to carry out a topographical survey of the site and immediate surroundings (please refer to drawing P003 for details). The site is relatively flat with a slight slope towards the river. Three large mature trees were identified adjacent to the site.

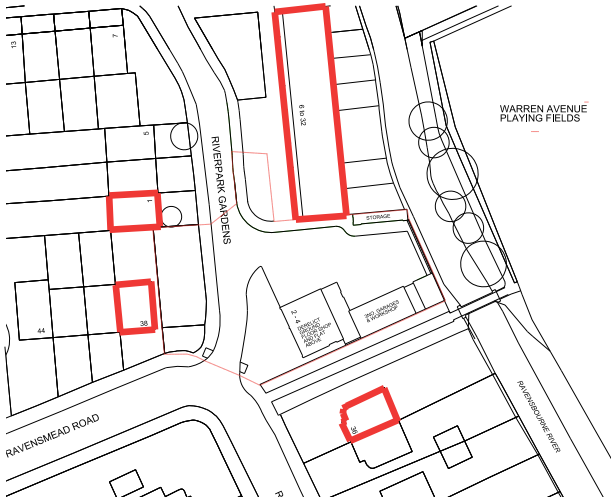
3.9 Archeology

The Bromley UDP map does not indicate the presence of any areas of archaeological interest within the boundaries of the site or directly adjacent to the site. In addition, no archaeological issues have been raised in the geotechnical desk study prepared by Ground and Environmental Services Limited and we therefore assume at this stage that there are no issues relating to the site.

3.10 Party walls

The proposed development will be building new foundations on the site. There will also be the demolition of existing buildings and a new sub-station building. All party wall negotiations will need to take place prior to construction and party wall agreements must be in place prior to any works in association with the dwelling being carried out on the site. A party wall surveyor will be required for this work.

The properties which may need to be considered for party wall agreements are shown below:



Existing site plan.

The affected adresses:

- 38 Ravensmead Road
- 36 Ravensmead Road
- 1 Riverpark Gardens
- 6-32 Riverpark Gardens

3.11 Title/ Legal issues

Trowers & Hamlins were instructed by the client to produce a report on the title for this site. The main issues arising from this include:

- As the development is proposing changes adjacent to the public highways and footpaths, a section 278 agreement may need to be in place to agree the extent of these changes.
- Services diversions will be required as part of this development. Negotiations will need to be carried out with the appropriate service providers prior to construction.
- The report on the title identified a possible high flood risk on the site due to its proximity to Ravensbourne River. The flood risk assessment (see appendix 7.7) has identified that the site is in a low flood risk zone.
- There is currently a right of access across the site for UKPN to access the sub-station. This will need to be amended to suit the new location of the sub-station. The terms of this access will need to be agreed with UKPN.

3.12 UDP Side Space Policy

=In the Bromley Unitary Development Plan, ***Policy H9 Side Space*** states that for a residential development of two or more storeys in height, a minimum of one metre space from the side boundary should normally be provided, However, the Planning Consultant advised that;

- ***With regard to policy H9 of the UDP, it is considered that there are no sound architectural or townscape reasons to provide a one metre space between the north elevation of the development and the blank south elevation of 6-32 Riverpark Gardens. Indeed, the articulation of the roof of the new building and the visual transition between the four-storey maisonette block and the lower development to the south of the site would be less effective if such a gap were introduced. There would, of course (by virtue of the public footpath that abuts the southern boundary) be a generous side space of 10 metres between the new building and the pair of semi-detached houses to the south. It should be noted that the side space policy in the UDP is not included in the more recent Housing SPG.***

Please refer to appendix 7.1 for a copy of the full statement.

3.13 Trees

D F Clark Bionomique Ltd were appointed to carry out a detailed survey and impact assessment of the proposed scheme for all existing trees on site. The report identified 4no. existing mature trees on the site. 3no. bordering the site to the south and 1no. adjacent to the proposed location of the sub-station (in the front garden of 1 Riverpark Gardens). The key points from this report are as follows:

- T3 is very close to an existing wall, and a proposed terrace within the new development, and will require protection during the demolition and construction phases. The trees root protection area (RPA) will need to be considered in the final design.
- The existing parking area to the front of the flats is within the root protection area of a T2 (ash). This area is currently surfaced with concrete, and if this is to be renewed the impact on the rooting zone could be minimised by using a porous material for any new surfacing.
- Construction activities should be limited within the root protection area of T1 (ash), and a combination of protective barrier fencing and ground protection methods should be used to protect this tree during the demolition and construction phases of the development.
- Provided tree protection and methods of work close to trees outlined in this report are followed, the impact of the development on trees will be negligible.

Refer to appendix 7.3 for the full Arboricultural report.

Tree protection plan (DF Clark Bionomique Ltd)

4 Proposed Development

4.1 Key design ideas

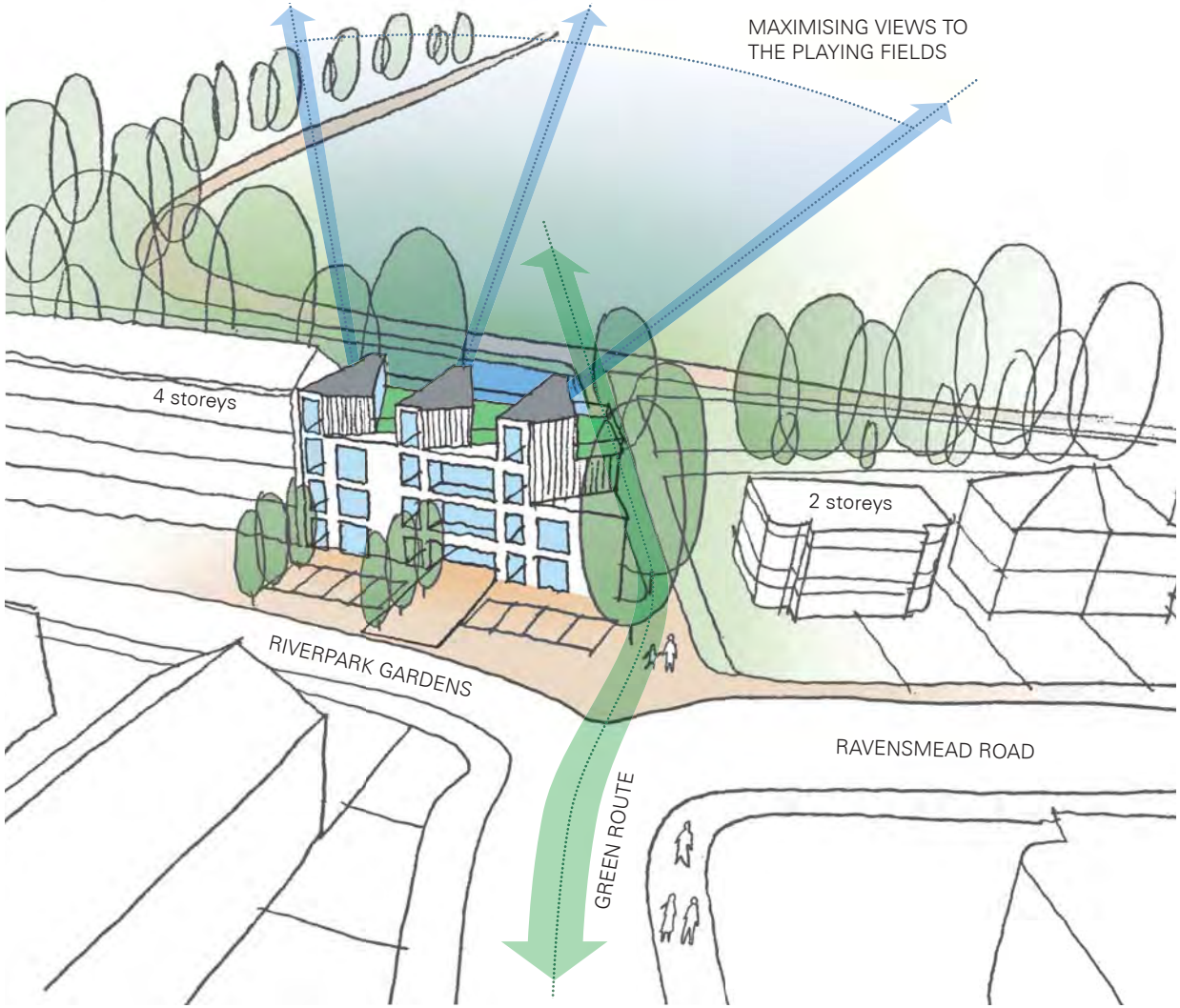
1. Ideal location for residential development owing to:

- Close proximity to transport
- Quiet location
- Excellent outlook to river and playing fields
- Existing established communities

2. The existing maisonettes to the north are four storeys while the semi-detached houses to the south are two storeys (some with an additional storey height in roof pitch). We propose a building which is articulated as a three storey development, but with a further floor as a series of localised volumes articulated as a roofscape.

3. A key element of the design comprises the living areas and roof terraces to the duplex flats on the top floor.

- Desirable outlook to the Ravensbourne River and trees in the foreground, over Warren Avenue Playing Fields in the middle distance, and to the tree-lined horizon in the distance.
- Roofscape living areas are wedge-shaped volumes, with an extensive glazed wall facing south-east towards the sun and the views.
- The resulting terrace opens out towards the view and will be a fantastic private external amenity for each top floor dwelling.

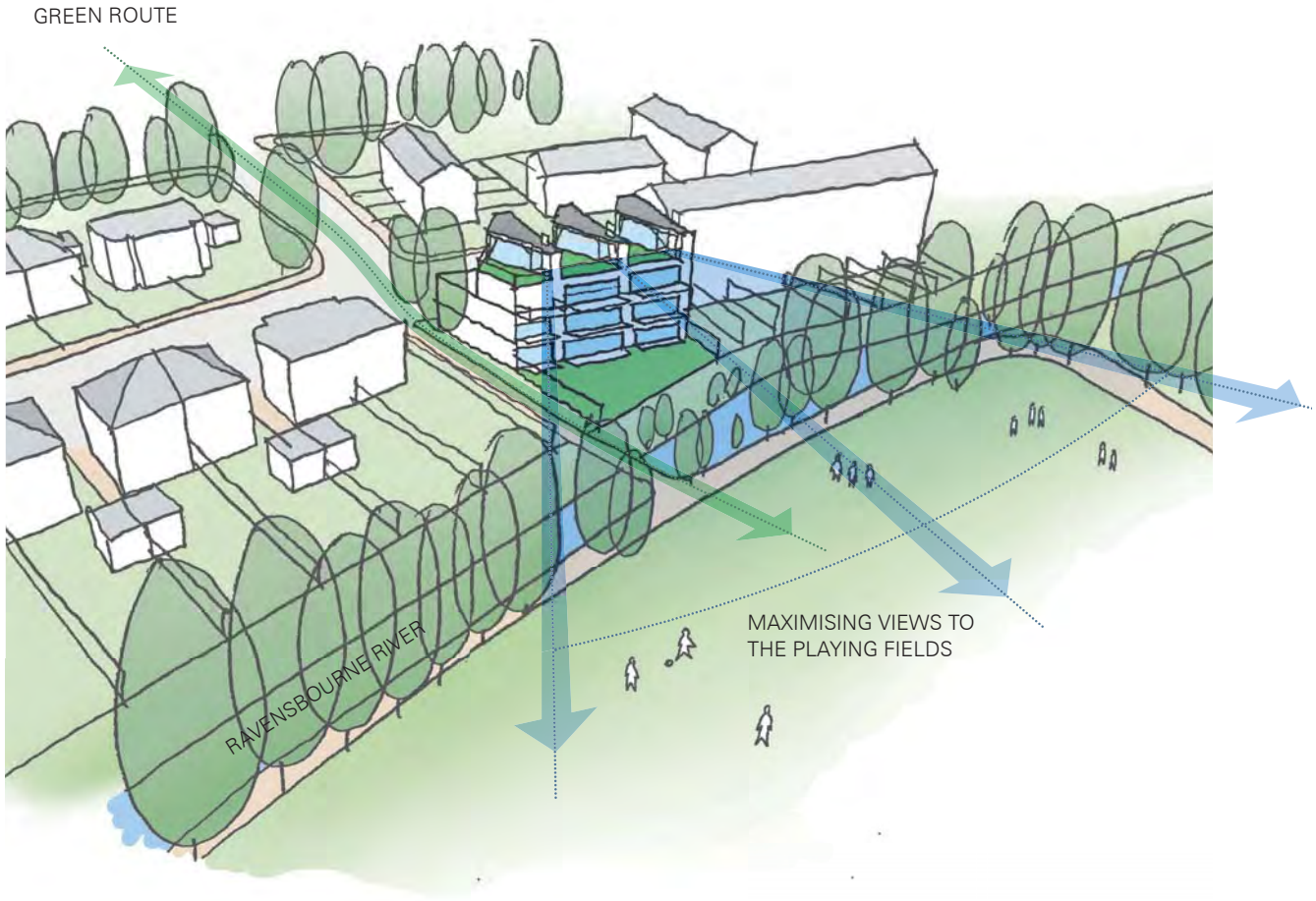


Initial concept sketch

4. The single stair core at the front of the block provides access to flats at ground, first and second floor. Six of the eight flats are double aspect, and the two remaining single aspect flats have good aspect towards the playing fields.

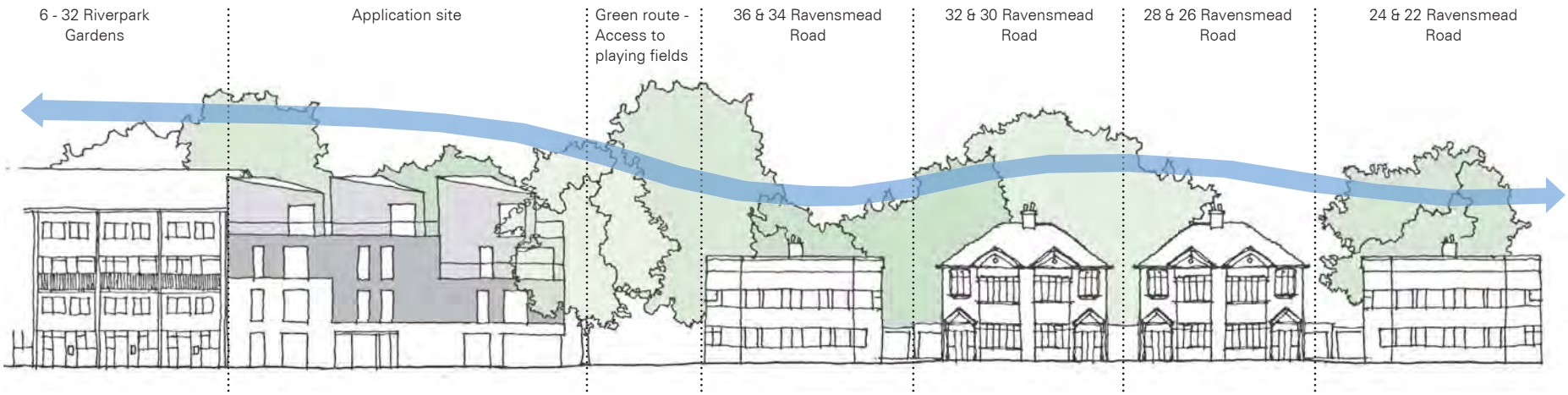
5. There are twelve new parking spaces proposed in the development.

6. The existing public right of way connecting Ravensmead Road with the playing fields will be well overlooked for better personal safety, and could be re-landscaped so that that it feels wider and more accessible; this could form part of a S106 contribution.



Initial concept sketch

4.2 Scale and massing



Sketch elevation along Ravensmead Road and Riverpark Gardens

The design of this building has paid particular attention to the transition of heights across the site.

6-32 Riverpark Gardens is a 4 storey building with a pitched roof. The response at this junction has been to match the roof line with articulated roof level accommodation.

The proposed building is articulated as a 3 storey building with dynamic triangular rooftop additions which break up the massing of the building at high level. This rooftop accommodation is angled both horizontally (in elevation) and in plan (away from the main elevation line of the building) to further reduce the perceived height.

The southernmost upper floor dwellings step back in elevation and step down in height to further transition across the site. This both aides the transition in height and provides useful private amenity space on the front elevation of the building.

The space between the proposed building and the neighbouring houses along Ravensmead Road benefits from three large mature trees which act as a buffer zone between the two sites. These trees also aide the transition in height across the site.

The 'Green Route' is identified on the local Authority proposals map and further planting and 'greening' of this area will be encouraged.

The semi-detached houses at 36 & 38 Ravensmead Road are characteristic of the 1930's style house typology in the area. There are also more 'traditional' pitched roof semi detached houses along this road. The more 'traditional' houses appear taller owing to the pitched roof and this in turn aides the transition in height across the site and further along Ravensmead Road.

The semi-detached houses at 36 & 38 Ravensmead Road

4.3 Articulation of the façade

The view of the proposed development from Riverpark Gardens has been carefully considered in relation to the neighbouring houses along Ravensmead Road. The articulation at roof level and the set back of the elevation at the corner combine to create the effect of reducing the building height at this corner. The set back also lines through with the building line of the neighbouring houses.

The view from Ravensmead Road has been similarly considered in response to the transition in height across the site. This view demonstrates how the set back balcony lines through with the neighbouring houses.

4.4 Architecture - Street facade

The design of this proposal seeks to act as a continuation of the existing 4 storey maisonette block to the north of the site. The proposals will have a brick ground floor which will act as a plinth, bedding the development on the site. A section of the first floor will also be brick. The main entrance will be via a set-back in the façade with a projecting canopy above.

There are angled planting zones either side of the entrance to both define the entrance and also provide defensible space in front of some of the habitable rooms at ground floor. The bin store will be accessed on the right hand side of this elevation and benefits from good passive surveillance from the habitable rooms and balcony directly above.

The first and second floor fenestration follows the ground floor with the exception of the southern end of the building which peels back at second floor level to line through with the geometry of the houses along Ravensmead Road. The material for the above ground/first floor elevations will be a dark grey/ blackened pre-weathered timber vertical cladding.

This cladding draws inspiration from the surrounding context where blackened timber is used as a cladding material. Also, Timber is a natural material and will help to blend with the buildings surroundings. The design of the top floor breaks down the massing of the proposed development and also creates articulation in the façade when viewed from the street. The angled set-backs coupled with angled roofs further add to the dynamism of the proposed development.

Again there is passive surveillance as a result of the roof terraces at third floor level. The third floor 'pods' house the living accommodation for the duplex flats and maximise the views to the playing fields to the east. This was one of the key design drivers for this project as demonstrated in the preceding concept diagrams.

4.5 Architecture - River facade

The river façade is a more articulated elevation as a result of the balconies and the step back in plan towards the existing maisonettes. The balconies follow a triangular geometry on plan and will create dynamic shadows on the elevation in the mornings as the east light hits the building.

There are large glazed openings in this façade to give high quality natural light deep into the plan. The ground floor has a brick clad balcony which is a continuation of the brickwork on the other elevations. This balcony would also have a brick clad soffit to further add to the mass and feeling of the building being grounded on the site.

The new boundary wall and retention of the planted border between the development and the path will minimise the impact of this development on the green route running to the south of the site.

There will be a new balustrade between the communal garden and the river. This will be designed to match the proposed balustrading to the balconies of the development. There will also be an area of lawn accessible to all residents and decked private terraces to the two ground floor flats.

The upper floor balconies have 1.8m high privacy screening (designed to be in keeping with the balustrading) to prevent overlooking to neighbouring balconies and gardens.

The top floors again break down the massing of the proposal whilst making the most of the views of the playing fields. The top floor ‘pods’ peel back towards the rear of the building to increase the amount of roof terrace available, open up the view even more and encourage the residents to use this space in conjunction with their open plan living, kitchen and dining room.

4.6 Materials

The building has been designed to have a single storey brick base (ground floor) which grounds the building on the site and gives the proposals a solidity and permanence. This quality of brick is crucial to achieving this aesthetic and we would propose a stock brick (not wire cut) such as a 'London Weathered Yellow (Traditional Brick and Stone)' or 'Select Dark Facings (Freshfield Lane)' (examples below)

London Weathered Yellow brick

Select Dark Facing brick

The upper floors of the building draws inspiration from the surrounding context. The proposed design uses vertical timber boards to clad the building. These boards would be blackened (either charred or painted) as a contemporary reference to the creosoted timber fences and cladding boards found on the facades of other houses on the Riverpark Gardens estate (see examples below):

3 & 5 Riverpark Gardens (blackened timber cladding)

4.7 Site model

A 1:500 site model was built to further explore the massing of the proposal on the site and to also inform the residents consultation.

4.8 Architectural precedents

There are many examples of contemporary architecture which utilises blackened timber cladding. Below are some recent successful architectural precedents utilising blackened timber cladding:

Marchi Architectes timber clad extension in Normandy

Camusdarach Sands by RAW Architecture Workshop

Shadow house by Jonathan Tuckey Design

Hunsett Mill by ACME architects

4.9 Landscape design

The landscape design can be broken down into public and private areas:

Public landscaping:

The proposed development will require adjustments to the current road layout at the entrance to Riverpark Gardens (1). This is to facilitate the inclusion of parking bays and the associated widths of carriageways required. The landscaping to the west of the site (around the proposed new sub-station) will consist of a new access pavement. There will also be a dropped kerb to allow access to the sub-station (2). The pavement and parking bays may be subject to a section 278 with Bromley council.

The public landscaping around the proposed residential development will consist of 12no. parking spaces (3), new pavement access (4), planted zones between every 4no. spaces (5) and a dropped kerb to allow for bin access to the public highway (6).

Private landscaping:

There are 2no. proposed borders either side of the main entrance of the development consisting of mid-low level planting and small trees (7). The rear garden of the development will consist of an area of paving at the communal access point (8) and an area of lawn which forms the communal garden (9). There will be some new trees and a new balustrade to match the balustrading of the development between the communal garden and the river (10). There will be timber decking to match the balcony finish to the areas of private patio to the rear of the ground floor dwellings (11).

External amenity:

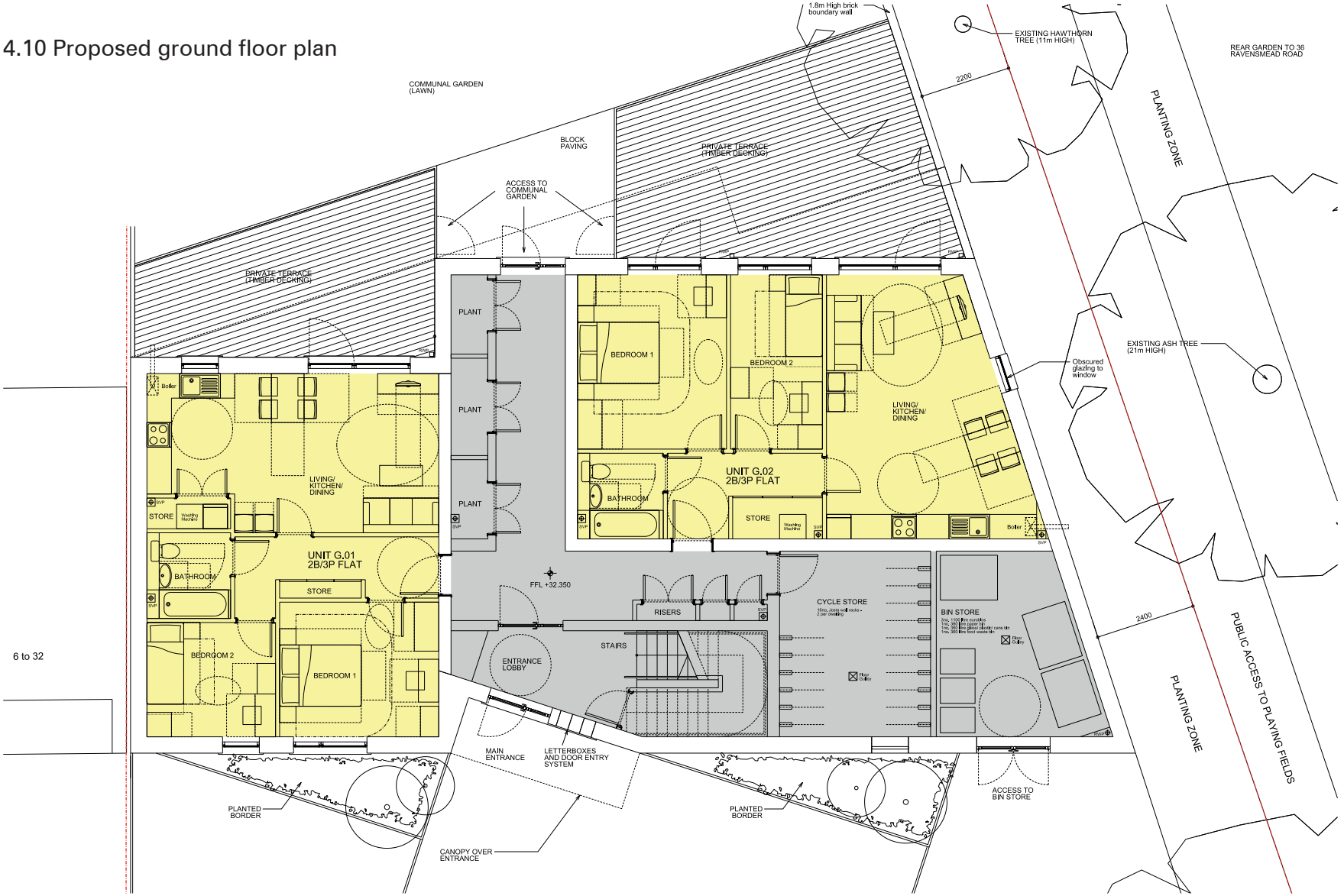
- Communal rear garden at ground floor level: 141m^2
- Private terraces at ground floor level: 62m^2
- Balconies and terraces:
- 3no balconies at 1st floor: 23m^2
- 4no. balconies at 2nd floor: 34m^2
- 3no. roof terraces at 3rd floor: 113m^2
- Total balconies and terraces: 170m^2

Total: 373m^2

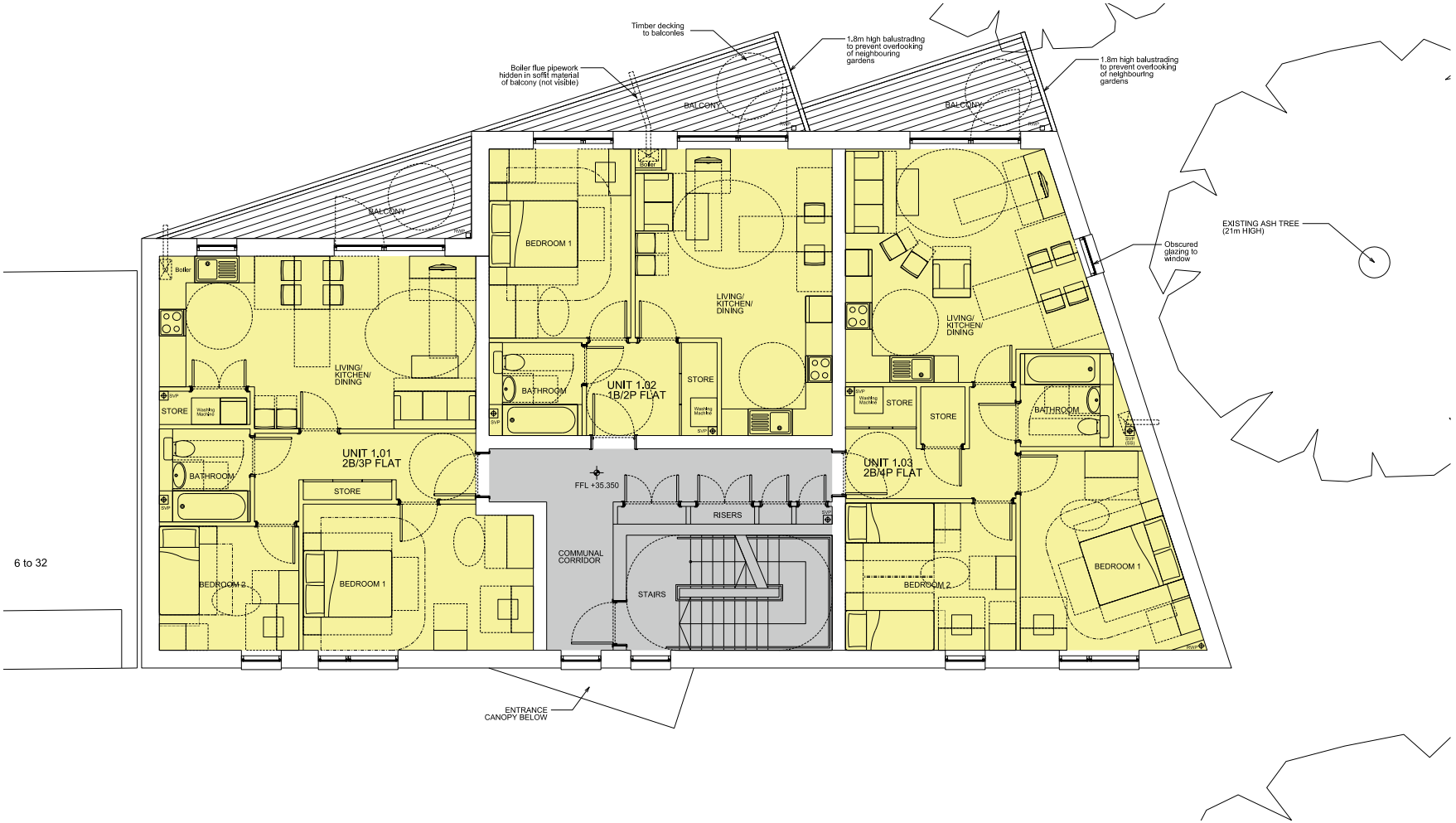
Average per dwelling: 373m^2/8 (dwellings) = 46.6m^2

Proposed Landscape plan

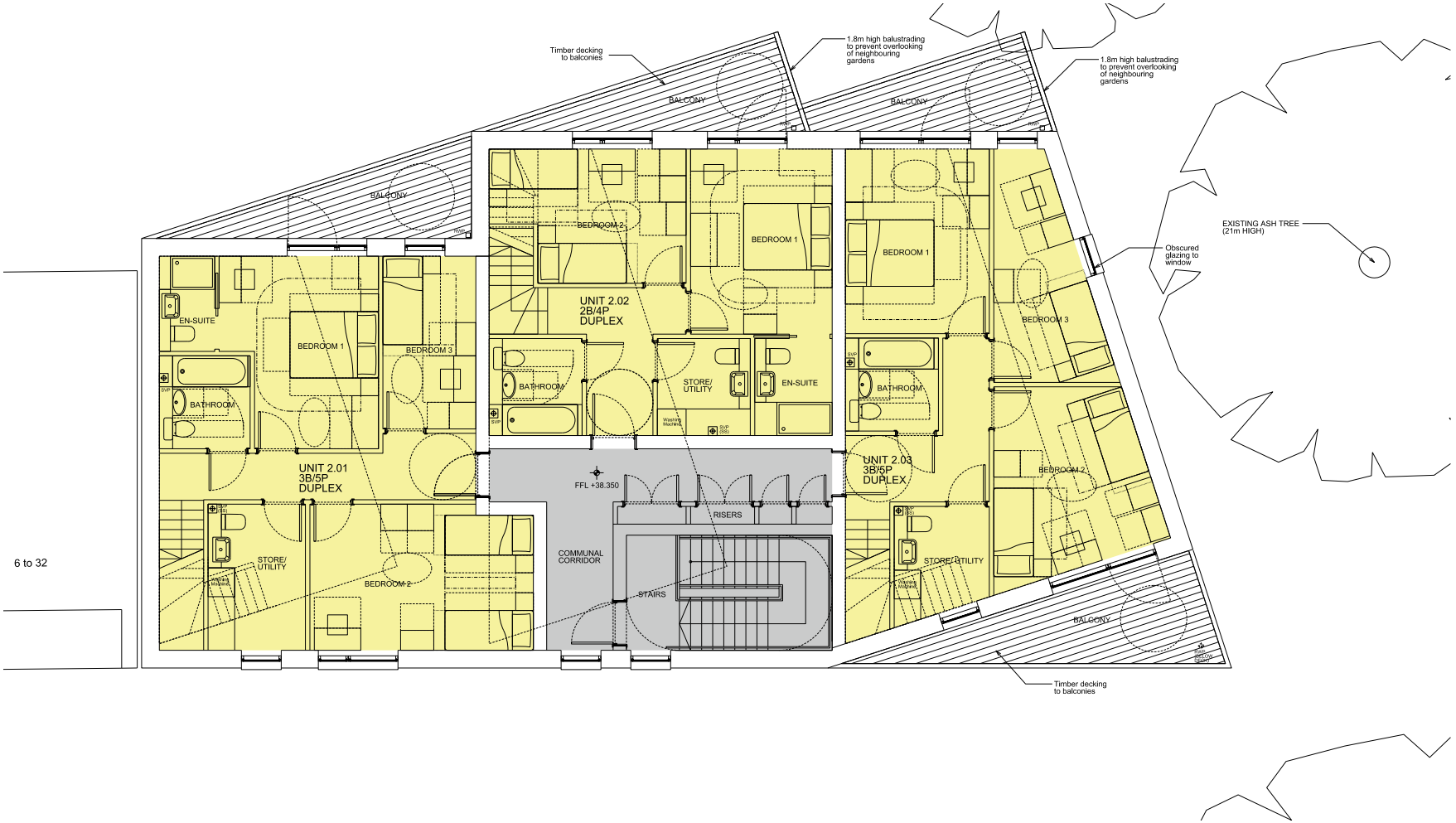
4.10 Proposed ground floor plan



4.11 Proposed first floor plan

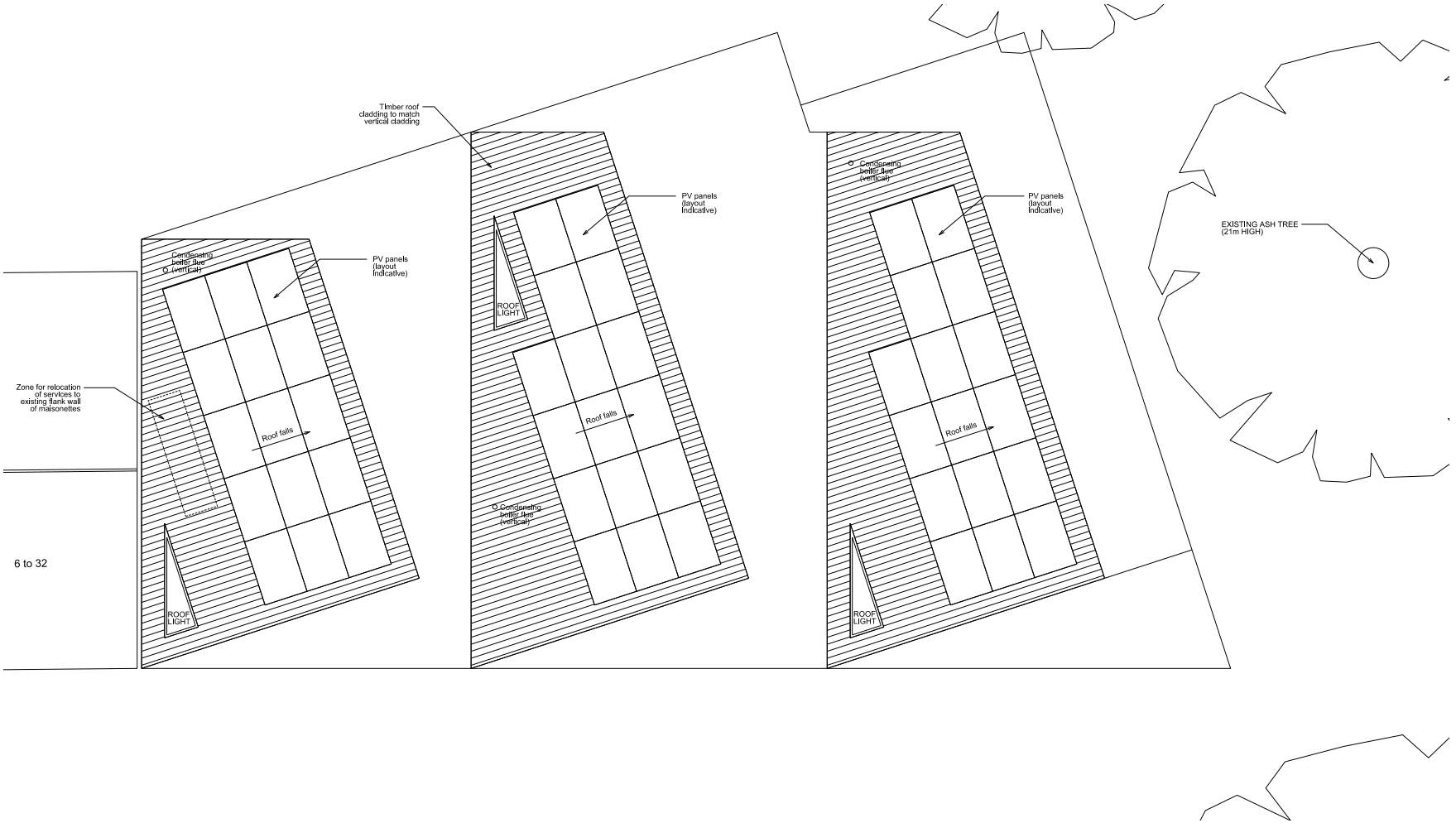


4.12 Proposed second floor plan



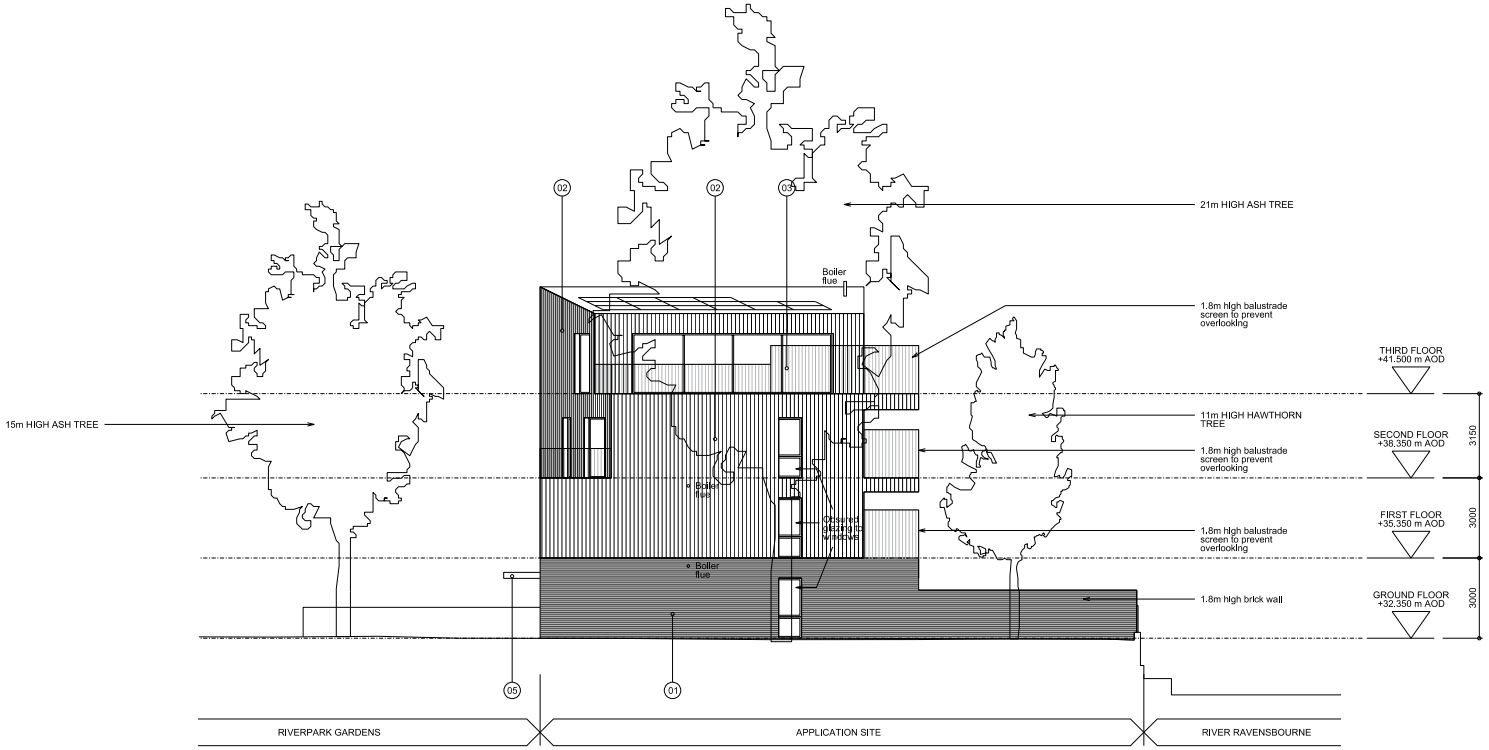
4.13 Proposed third floor plan

4.14 Proposed roof plan



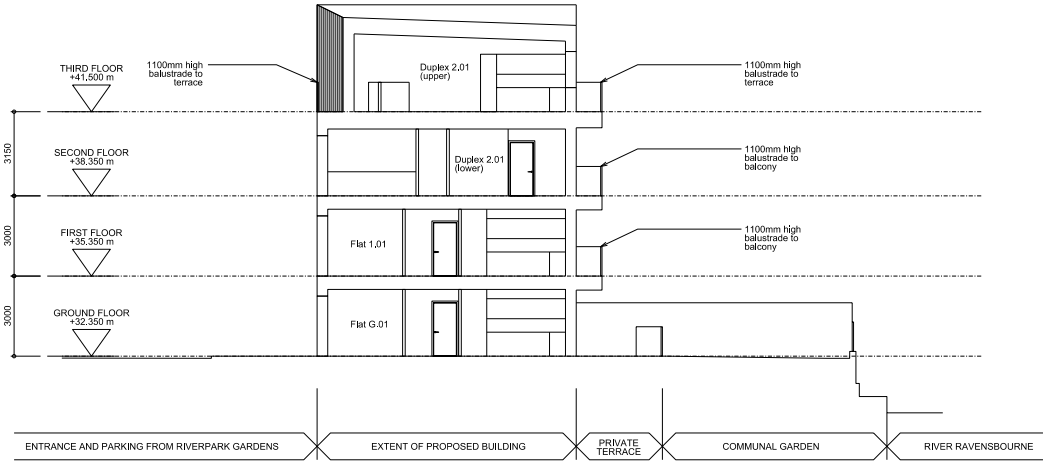
4.15 Proposed west elevation

4.16 Proposed south elevation



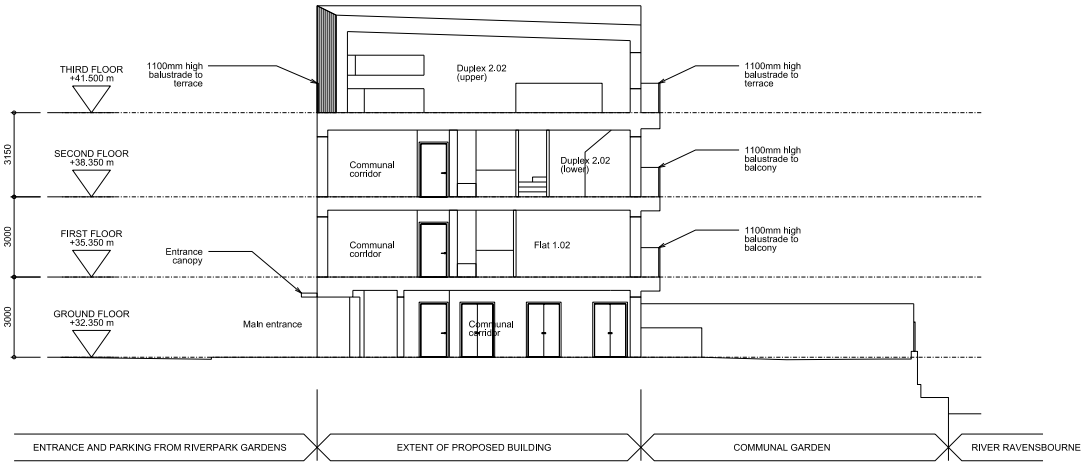
4.17 Proposed east elevation

4.18 Proposed section A-A



01 PROPOSED SECTION A-A

4.19 Proposed section B-B

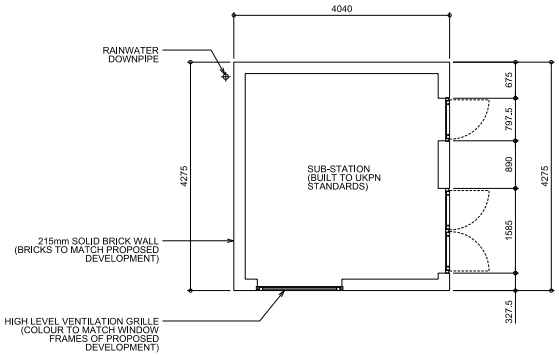


02 PROPOSED SECTION B-B

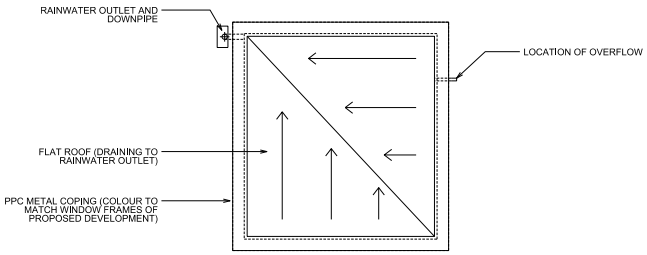
4.20 Proposed section C-C

01 PROPOSED SECTION C-C

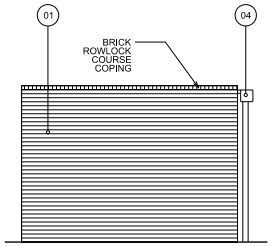
4.21 Proposed sub-station layout



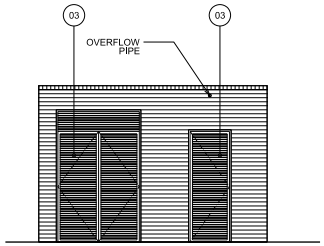
1 PLAN



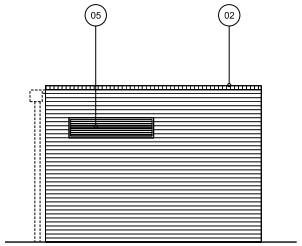
2 ROOF PLAN



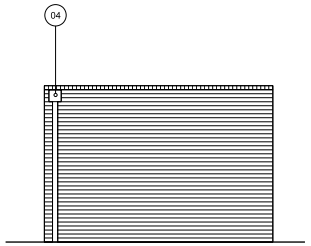
3 NORTH ELEVATION



4 EAST ELEVATION



5 SOUTH ELEVATION



6 WEST ELEVATION

4.22 Proposed street visual

4.23 Proposed rear garden visual

4.24 Accommodation schedule

Floor	No. Beds	No. Persons	No. HR	Unit type	External Amenity	Tenure	NIA (sqm)
Ground Floor							
G.01	2	3	3	Flat	25.2	TBC	63.6
G.02	2	3	3	Flat	37	TBC	67.9
Residential NIA Ground Floor Sub-total							**131.5**
GIA (not including balconies)							**223.6**
First Floor							
1.01	2	3	3	Flat	8.2	TBC	67.6
1.02	1	2	2	Flat	7.6	TBC	50.1
1.03	2	4	3	Flat	7.2	TBC	71.5
NIA First Floor Sub-total							**189.2**
GIA (not including balconies)							**229.0**
Second & Third Floors							
2.01 (duplex)	3	5	4	Flat	43	TBC	101.9
2.02 (duplex)	2	4	3	Flat	58.5	TBC	90.9
2.03 (duplex)	3	5	4	Flat	45.8	TBC	101.5
NIA Second & Third Floor Sub-total							**294.3**
GIA (not including balconies)							**334.0**
TOTAL RESIDENTIAL NIA							**615.0**
TOTAL GIA (not including balconies)							**786.6**
NIA to GIA ratio (not including balconies)							**78.2%**

Total flats	1B/2P:	1	13%
	2B/3P:	3	38%
	2B/4P:	2	25%
	3B/5P	2	25%
	Total:	8	
Total private amenity		373	
Total amenity per dwelling		46.6	
Total HRs		25	
Total persons		29	
Site Area	0.08	hectares (area of residential site only)	
Net site density	100	Dwellings per Hectare	
	313	Habitable Rooms per Hectare	
Car parking	9	Spaces for the development	
	3	Spaces reprovided (in accordance with the transport state	

4.25 Refuse

The refuse requirement for this development has been designed in accordance with the 'notes for developers and architects, October 2011; The Storage and Collection of Refuse from Residential and Commercial Buildings'. This document sets out the requirement for refuse for developments comprising of 6 or more dwellings in one block. The following refuse containers have been provided:

- 3no. 1100 litre Eurobins
- 1no. 360 litre paper bin
- 1no. 360 litre glass/ plastic/ cans bin
- 1no. 360 litre food waste bin

Where the guidance stipulates a 240 litre wheeled bin per 6 dwellings, we have calculated that for 8 dwellings, this would equate to 320 litres of storage (240/6(*8) =320) and the nearest standard bin size is 360 litres.

Bins will be collected via a dropped kerb opposite the bin store access. The bin store will have a minimum clear ceiling height of 2.5m and will be naturally ventilated by louvres in the access doors.

4.26 Post

Post will be delivered via front in-rear out letterboxes located next to the main entrance. These will be integrated into the door entry system and will comply with the Secured By Design requirements for letterboxes.

4.27 Cycle storage

There is an internal cycle store at ground floor level which is accessed from the communal corridor. There is provision for 16no. cycle spaces using a proprietary wall mounted storage system. This provides 2 cycle spaces per dwelling.

4.28 Metering

The electrical, gas and water services will enter the proposal from Riverpark Gardens into intake rooms situated at ground floor. From here the services will rise to the soffit of the communal corridor to the risers adjacent to the stair core to be distributed to the rest of the building.

There is an opportunity to allow for 'smart' meters (meters that can be read remotely) for these services in the cupboard under the communal stairs. The proximity to the front of the building would mean that meter readers would not need to access the building to read the meters. Maintenance operatives will need access to the building however this can be arranged by residents prior to their arrival.

4.29 Diversion of existing services

It has been identified that there are existing services fixed to the southern wall of the 4 storey maisonette block (6-32 Riverpark Gardens). These include:

- An electrical junction box with satellite dish attached
- External lighting
- Extract ventilation (likely to be to kitchens)
- Television aerial (at ridge level)
- A single drainage pipe (possibly from a kitchen appliance) discharging to the rainwater pipe at the front of the maisonettes.

These will need to be re-routed as part of this proposal. A zone on the roof of the proposed development has been allowed for the re-siting of these services. This work will also need to be included in any party wall agreements and programmed to cause the least disruption to neighbouring residents.

5 Assessments and Surveys

5.1 SAP/Part L1A assessment

Stroma were appointed to carry out SAP assessment for the proposed development. All dwellings 'pass' Part L1A 2010 energy modelling, and the proposed energy strategy is sufficient to achieve Code for Sustainable Homes level 4. Refer to Appendix 7.6 for the full SAP report. The following assumptions have been used in the calculations:

U-Values:

- Wall (ground) 0.15 W/m^{2}K
- Wall (upper floors) 0.16 W/m^{2}K
- Semi-exposed wall 0.18 W/m^{2}K
- Party Walls (insulation filled) 0.00 W/m^{2}K
- Windows (double glazed) 1.4 W/m^{2}K
- Roof (terraces) 0.11 W/m^{2}K
- Roof (top floor pods) 0.11 W/m^{2}K
- Ground floors 0.11 W/m^{2}K
- Doors (double glazed) 1.4 W/m^{2}K
- Doors (wood) 1.0 W/m^{2}2K

G-Values:

- Air Permeability 3 m^3/m^2/hr @ 50Pa
- Thermal bridging 0.04 W/m^{2}K
- PV panels whole development 6 kWp over

5.2 Energy strategy

Stroma were appointed to produce an energy strategy report for this planning application. The report considers planning policy and calculates the development's estimated energy consumption and CO2 emissions, as well as determining the estimated savings from low and zero carbon energy systems.

The following points summarise the report:

- *This Energy and Sustainability Strategy has outlined how this development will meet the requirements by following the energy hierarchy from the London Plan 2011. This structure suggests to initially address the fabric first approach by upgrading thermal elements and building services. Decentralised energy has been researched as part of the 'Be Clean' section and finally renewable technology has been implemented to achieve a 44% reduction in CO2 emissions.*
- *A building fabric and services specification is proposed which incorporates high efficiency heating, lighting and controls and a thermally efficient building fabric: low u-values; low air permeability and limiting thermal bridging. Using the fabric first approach a 24% reduction in CO2 has been achieved.*
- *There is no current district heating network in the locality of this site, however the development is in a proposed district heating area. Combined Heat and Power is deemed unsuitable for a development of this type due to it requiring the provision for large plant area and a community heating infrastructure.*
- *The renewable analysis has highlighted that the most appropriate technology for this development is Solar PV with a 6.0 kWp system. The PV output will need to be verified at detailed design stage to ensure compliance.*

Please refer to appendix 7.6 for the full report.

5.3 Code for Sustainable Homes

This development has been designed to Code for Sustainable Homes (CfSH) level 4, which requires a score in excess of 68% on the CfSH matrix. Currently the score is projected to be 76.50% which allows for a reasonable margin in case some of the points cannot be achieved due to unforeseen reasons post planning. The Code is broken down into several sections, and in summary the scheme will achieve Code 4 in the following way:

- Water; low volume brassware in every dwelling.
- Energy/ CO2; very well insulated and airtight building envelope to minimise heating load, efficient combination gas boilers energy will supply heating and hot water to the individual flats, energy efficient appliances (where possible), energy display meters, energy efficient light fittings and adequate cycle storage within the building.
- Materials; the majority of construction materials will be specified to have a Green Guide rating of A+ to D, and materials are responsibly sourced.
- Surface Water; the development is not in a flood risk area, and due to large areas of soft planting the surface water run-off will be less than the existing situation. Slot drains to the rear of the proposed parking bays will divert any excess surface water.
- Waste; included will be recycling bins for different streams of waste, the contractor will be required to have a Site Waste Management Plan, and there will be communal composting facilities in the gardens.
- Pollution; all insulation materials will be specified to have a Global Warming Potential of less than 5, and the CHP will have NOx emissions below the stated levels.
- Health and Wellbeing; Sound insulation will exceed building regulations Part E, there will be sufficient private external space, and all Lifetime Homes standards will be achieved.

- Management; there will be a home user guide, the contractor will be required to commit to the Considerate Constructors scheme, as well as measuring construction site impacts, and the scheme is planned to comply with Secured by Design.
- Land use and ecology; several points will be achievable, refer to the Ecological Assessment (appendix 7.4)

5.4 Access statement

The site is well positioned close to Ravensbourne railway station and only a short drive to Beckenham Junction railway station. Parking surveys have been carried out to quantify the level of parking stress in the present context and determine the number of spaces required to accompany the proposed development. These new parking spaces will comply with Bromley parking standards and are 2.4m wide by 5m long. There are planted strips between every 4 spaces which could be converted to a side space for disable parking if the need were to arise. Where new pavements are proposed they will be a minimum of 1.8m wide.

The development will be designed to comply with the London Plan, Lifetime Homes, Buidling regulations and CfSH level 4. The main entrance to the proposed development will be clearly marked with good visibility from the street. There will be a Lifetime Homes and Part M compliant level threshold to the main entrance door and to the rear access door to the communal garden.

Access to the uppers will be via a Lifetime Homes and Part M compliant communal staircase. The scheme comprises 8no. dwellings and therefore no requirement for dedicated wheelchair housing has been identified in accordance with Bromley council policy.

5.5 Flood Risk Assessment

Below is a list of conclusions summarised from the flood risk assessment carried out on this site (refer to appendix 7.7 for the full report):

- *The development should not be at a significant risk of flooding, and should not be susceptible to damage due to flooding*
- *The development should not be exposed to flood risk such that the health, safety and welfare of the users of the development or the population elsewhere is threatened*
- *Normal operation of the development should not be susceptible to disruption as a result of flooding and safe access to and from the development should be possible during flood events*
- *The development should not increase flood risk elsewhere*
- *The development should not prevent safe maintenance of watercourses or maintenance and operation of flood defenses by the Environment Agency*
- *The development should not be associated with an onerous or difficult operation and maintenance regime to manage flood risk*
- *The development should not lead to degradation of the environment*
- *The development should meet all of the above criteria for it's entire lifetime, including consideration of the potential effects of climate change*

Further to these conclusions the report highlighted the following recommendations for the development:

- *The surface water management strategy for the development will need to be developed to a detailed design stage*
- *The use of appropriate SUDS techniques should be considered for incorporation into the scheme design*
- *If additional surface water is to be discharged into the Ravensbourne River then consent may be required from the Environment Agency*
- *With the above mitigation measures incorporated into the design of the development the proposals will meet the requirements of the NPPF and its Planning Practice Guidance and will therefore be acceptable and sustainable in terms of flood risk.*

5.6 Ecological assessment

TEP were appointed to produce the ecological assessment for this site. The findings of this report are summarised below:

- *There will be no impact on the Beckenham Place Park Local Nature Reserve (LNR) as a result of this development. The LNR is however linked to the development site by the Ravensbourne River, and is located downstream of the site. There is therefore potential for impacts to the LNR though pollution and sediments entering the river during construction and being carried to the LNR*
- *There are three SINCs located within 1km of the site. The site is not located within or adjacent to any of the SINCs and no direct impacts are therefore anticipated as a result of the proposed development.*
- *The majority of the site is of low ecological value due to the dominance of hardstanding and buildings. The amenity grassland and introduced shrubs are of low value due to the lack of species diversity and habitat structure that they provide.*
- *The Ravensbourne River is of ecological value due to the wildlife corridor that it provides linking areas of greenspace in the wider area. However the riverbank adjacent to the site is formed from hard materials to prevent erosion affecting the adjacent development.*
- *The proposed development will not result in the loss of any habitats of value. There is potential through the proposed development to enhance the site's ecological value through inclusion of native species and habitats and providing opportunity for use by protected species.*
- *Records indicate the presence of bats within 1km of the site.*
- *The trees and mature hawthorn located south of the site were found to be Category 3 trees, providing no potential to support roosting bats.*
- *The buildings within the site were found to provide 'Low' potential to support roosting bats, with few suitable access points and roosting features.*
- *No bats were recorded emerging from any buildings within the site and no bats were recorded within the site or surrounding area. There are therefore no constraints with regards demolition of the buildings on site, which can be undertaken without the need for a bat licence. Precautionary measures have been recommended for demolition of the buildings in the unlikely event that bats utilise the features of low roosting potential prior to demolition.*
- *The habitats within the site provide little suitable foraging habitat for bats, due to a lack of suitable habitats. However, the habitats along the Ravensbourne River and in the wider area provide suitable foraging habitats for use by bats. The development has potential to impact adjacent habitats through lighting of the adjacent river and trees. No other impacts to bats are predicted as a result of the proposed development.*
- *There are records of a number of different bird species within 1km of the site. Whilst the site itself provides no potential to support nesting and foraging birds, the ornamental planting and trees south of the site have potential to support nesting birds. It is not anticipated that these habitats will be affected by works. However, should removal of offsite shrubs and trees be required to enable the development there is potential for impacts*

to nesting birds. Virtually all species of bird are protected while engaged in nesting activities under the Wildlife and Countryside Act 1981 (as amended).

- *A record of kingfisher, strictly protected while nesting under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), of the site was identified as part of the desktop study. The river banks are hard and low and are therefore unsuitable to support nesting kingfisher. There are no implications regarding kingfishers.*

The following recommendations were made following this report:

- *Follow best practice measures during demolition to prevent disturbance of any undetected wildlife.*
- *Protection of existing trees on the site in accordance with the arboricultural impact assessment.*
- *Removal of shrubs should be conducted outside the core bird breeding season (March – August).*
- *Prevent pollution into Ravensbourne River during construction.*
- *Wildlife friendly planting using a mixture of native species of flora, native shrubs and trees. The planting should encourage biodiversity on the site.*
- *The proposed external lighting on the development should not disturb wildlife along the river.*
- *Bird and Bat boxes should be incorporated into the design to provide roosting opportunities.*

A copy of the full report can be found in appendix 7.4.

5.7 Geo-technical site investigation

Abstruct LLP were instructed to carry out a high level review of the GENVS report and they have made the following observations and recommendations:

- *A Phase 2 Geotechnical Investigation is required to confirm the underlying ground conditions for the design of new footings, etc.*
- *Confirmatory sampling should also be carried out to confirm the absence of significant contamination and we recommend this is carried out prior to demolition to avoid any delays when the new construction starts.*
- *The underlying ground conditions are expected to be Thanet Sands with some possible alluvium bands/pockets.*
- *For a new 2-3 storey residential building we anticipate the use of traditional mass concrete strip / pad footings bearing into the Thanet Sand. This is however subject to confirmation by the Phase 2 Geotechnical Investigation.*
- *A trial pit is needed against the external wall of the existing block of flats immediately to the north of the site to establish the depth and projection of the footing to assist with party wall matters.*
- *No special measures are required for RADON.*
- *Although not observed during the Phase 1 walk over by GENVS, we recommend contamination testing to check for the presence of any historical total petroleum hydrocarbons (TPH) in the ground in front of the garage area where there may have been oil spills (from car maintenance for example) which may have entered the ground below the external slab.*
- *We recommend as part of the Phase 2 geotechnical investigations to carry out 5 No. window sample (WS) boreholes to approximately 5.0m depth. Locations as shown on the ABSRUCT sketch SK01.*
- *Ground gas and water monitoring to be carried out in one of the WS.*
- *Contamination testing is to be carried out on 5 soil samples from the WS holes for a screening suite of contaminants. The analytical suite would include total petroleum hydrocarbons (TPH), mineral oils, metals, polyaromatic hydrocarbons (PAH), soil organic matter, water soluble sulphate and pH, asbestos and arsenic.*
- *There is an existing sub-station enclosure at the eastern end of the garages. We understand this is to be removed and a new sub-station is to be provided on the opposite side of the road. The current location of the sub-station would then be turned into communal gardens.*
- *We understand that it was not possible for GENVS to access to the sub-station (restricted to the Electricity Board) but we assume there is an existing concrete floor slab on to which the equipment sits.*
- *Historically transformers used Polychlorinated Biphenyl (PCB's) as insulators but these were phased out in the 1960's due to environmental concerns. Although not highlighted in the GENVS report, it may be possible that there could be some localised contamination of PCB's on the sub-station slab, from possible spillages when PCB's were previously drained/removed from the equipment.*
- *We recommend that a two-step approach is taken to check for the presence of PCB's within the sub-station slab.*

  a. Obtain access to the sub-station to carry out a visual check for staining on the sub-station slab.

  b. Depending on the outcome of the above, if there is evidence of staining then carry out contamination sampling of a surface section of the slab. However, this can only practically be done once the sub-station has been de-commissioned.

A copy of the full report can be found in appendix 7.8

5.8 Drainage design

The flood risk assessment identified the increased risk of surface water flooding on the site. This is likely to be the result of the stretch of Ravensmead Road which comes down a slight slope from the west (towards the site). This water, and any surface water on the site, will be mitigated by drainage to the rear of the proposed parking spaces. There will also be slot drains at the main entrance to the development to divert any surface water and wind driven rain.

These will be designed to cope with the calculated run-off on the site and will drain to existing mains drainage. Details of this drainage will be developed at the next design stage to ensure compliance with highways adoptable standards and the local water authority's requirements.

5.9 Daylight and sunlight

Gordan Ingram Associates were appointed by Phoenix Community Housing to carry out detailed daylight and sunlight analysis for the proposed development in accordance with current BRE guidelines. Below is a summary of their findings:

- *In total, six properties neighbouring the proposed Riverpark Gardens development were assessed in accordance with the BRE 2011 Daylight and Sunlight criteria for daylight (VSC and NSL) and sunlight (APSH).*
- *In total, four of the six properties achieve full BRE compliance in respect of both daylight and sunlight.*
- *There is only one reduction in NSL to one room in 1- 5 Riverpark Gardens. However, this room experiences just a 22% NSL reduction which is considered minor and therefore acceptable in terms of BRE guidelines.*
- *There is only one reduction in VSC to one window in 36 Ravensbourne Road. However, this window experiences just a 21% VSC reduction which is considered minor and therefore acceptable in terms of BRE guidelines.*
- *All of the properties assessed for sunlight (APSH) shall retain good levels of sunlight and therefore all the properties are fully compliant.*
- *Accordingly, the proposals will not result in a noticeable change in daylight and sunlight levels to any surrounding property and are therefore considered fully acceptable.*

Please refer to appendix 7.5 for a copy of the full report.

5.10 Transport statement

Cundall were appointed to produce the Transport Statement for this site. The findings of this report are summarised below:

- *This Transport Statement (TS) sets out the assessment of the likely impact of the proposed development which comprises the redevelopment of land at Riverpark Gardens within the London Borough of Bromley (LBB).*
- *The site currently comprises commercial property with a residential unit above (both currently unoccupied), three garages, an electricity substation, storage facility and parking. Access to the site is via Riverpark Gardens.The proposed development comprises eight residential units with associated landscaping and car parking.*
- *There is good access to public transport with frequent bus services on Farnaby Road and rail services at Ravensbourne Railway Station within recommended walking distances, providing good sustainable transport options to areas within the borough.*
- *Pedestrians and cyclists have been considered and catered for in the design of the scheme which includes on-site cycle parking facilities, in line with LBB's Unitary Development Plan (UDP).*
- *Car parking in the area has been considered and it is proposed to modify the existing highway within the proposals to provide for the current demand on site and the proposed residential units.*
- *All travel to and from the development can be accommodated within the existing facilities which surround the site.*
- *Cundall Transportation conclude that there are no traffic or transportation reasons that should prevent the granting of planning permission for the proposed development.*

Please refer to appendix 7.2 for a copy of the full report.

5.11 Highways design

Although the site is in private ownership, the works undertaken to the highways will be carried out to Bromley's Highway Adoptable Standards.

5.12 Parking

12 car parking spaces will be provided in accordance with the Transport Statement (highlighted in the adjacent plan).

Site plan showing proposed parking layout

6 Consultation

6.1 Development control (Pre-application)

Bell Phillips architects met on site with Mark Heaney (Bromley Planning department) on 2/10/2014. Following his departure from the council the following day, we met with Andrew Lambert (Bromley Planning department) on 14/11/2014. We received the pre-application response on 17/11/2014 and below are the key items from this response:

- Justification for the loss of the shop on the site.
- Demonstrate the level of parking is acceptable for existing properties and the proposed new development.
- Ensure the site is not at risk of flooding (due to proximity of Ravensbourne River)
- Show wider street scene to explain building heights of the proposed.
- Ensure compliance with the Bromley side space policy
- Impact of balconies (in relation to screening and overlooking)
- Link between existing and proposed properties to be considered
- Provide a tree survey with the application
- The proposed development must be Secured By Design compliant

The following items were identified as validation requirements:

- Flood risk assessment
- Car parking survey
- Details of refuse/waste collection facilities
- Tree survey

All of the items mentioned above have been addressed within the current proposals and design and access statement.

6.2 Highways

As part of the planning pre-application response, the following comments were made by the Bromley highways department:

The Highways Officer has recommended that 9 parking spaces be provided. However this must not compromise the provision of soft landscaping within the front boundary. The Cycle storage space looks tight and must be usable space i.e. easy access/exit and provision must comply with table 6.3 of the London Plan. It must also be demonstrated that refuse and recycling storage has sufficient capacity for eight flats. The Transport Officer has requested a parking survey.

All of the comments noted in this statement have been dealt with in the proposed drawings and within the design and access statement.

6.3 Resident consultation

Local residents on the Riverpark Gardens estate, Ravensmead Road and Ravensbourne Avenue were notified by letter of the public consultation. A total of 70 letters were sent out by Phoenix Community Housing. The public consultation took place on 19/11/2014 between 16.00 and 19.00 hours. This was to ensure that residents returning from work would have the opportunity to attend.

The following items were raised by residents and addressed by the client and Bell Phillips architects:

- There was a generally positive response to the proposal for a 'contemporary' and 'modern' building on the site and that this would help to make more of the entrance to the site.
- Concern was raised about the impact the additional dwellings would have on local services (schools etc.). It was explained that this would likely be aided by a section 106 or CIL contribution as part of the development.
- Residents expressed concern over the tenure of the proposed. There was a general feeling away from rented affordable towards shared ownership, key workers or private for sale.
- Petty crime and anti-social behaviour was raised as a concern in the area in reference to the proposal being rented affordable.
- Flooding was raised as a concern. It was explained that a flood risk assessment has been carried out and identified a low risk of flooding on the site.
- Loss of public amenity space where the parking is proposed. There are large areas of lawned and planted public amenity on the estate and on the adjacent playing fields. Whilst there will be a reduction in the depth of the hardstanding to the front of 6-32 Riverpark Gardens, the pavement will still be 4m wide at the thinnest point which would still be considered generous.

- Line painting to demark parking spaces on the rest of the estate was suggested to help with parking.
- General concerns regarding the impact of construction on neighbours (dust, noise and hours of operation etc.). It was explained that a construction environment management plan (CEMP) could be made a pre-commencement condition by the planning department to ensure the contractors compliance with relevant regulations prior to any construction taking place.
- Concerns regarding overlooking from the top floor terraces to no. 36 Ravensmead Road to the south. It was explained that 1.8m high screening would be used to prevent overlooking to the rear garden of the neighbouring property.
- Concerns over the build quality as a few local examples of new buildings have started to look tired after a few years. Whilst Bell Phillips architects cannot comment on other developments in the area, the choice of materials was explained to the residents and that these can be specified in the planning documentation. It was also explained that the planning department can condition the choice of materials to ensure they are in agreement prior to construction.
- The scale of the development was commented on. It was explained that the building is stepping down and cutting back on elevation to the south to transition across the site.
- The impact of the new dwellings on parking on the estate was raised as a concern. It was explained that a parking survey would be undertaken to identify any required re-provision of parking on the site. It was also explained that the planning department has stipulated 9 parking spaces for this development (8 spaces for dwellings and 1 visitors' space).

6.4 Secured by Design

Bell Phillips architects met with the Bromley secured By Design officer Patrick Kelly on 16/09/2014. The design was positively received regarding the principles of Secured By Design and no changes to the size and scope of the proposal was required. The following points were raised and these have consequently been incorporated into the current proposal:

- At boundary conditions: 1800mm high wall or 1800mm fence with 300mm trellis on top as a fence treatment.
- All internal flat entrance doors to be PAS 24 certified.
- Windows to the communal areas at first floor (over the entrance canopy) to be on restrictors to prevent access.
- The main communal entrance door needs to have a security rating of LPS 1175: level 2.
- Audio visual control access at the main entrance (in colour)
- PAS 24 door to cycle store with fob access. Lighting in cycle store to be immediate (no delay). Possibility of putting sensor in lobby.
- Bin stores to be fob accessed (same fob as main entrance) with an LPS security rated louvred door and immediate lighting.
- Letterboxes to comply with SBD (safety letterbox company).
- A BS5489 compliant lux plan to be provided. 'Dusk til dawn' lighting. Ensuring no pools of light and dark. Would prefer stanchion or wall mounted (bollard lighting tends to not offer enough light or pools light).
- Planting to borders in front of street facing ground floor windows to be 'defensible' or include a low fence.
- Ground floor windows to be min. 6.8mm laminated glass and PAS 24 certified.

7 Appendices

7.1 Planning Statement (Anthony Keen)

7.2 Transport Statement (Cundall)

7.3 Arboricultural Impact Assessment (DF Clark)

7.4 Ecology Assessment (TEP)

7.5 Daylight and Sunlight Report (Gordon Ingram Associates)

7.6 Energy, SAP/Part L1A Assessment, Daylight Calculations (Stroma)

7.7 Flood Risk Assessment (Herrington consulting)

7.8 Geotechnical Survey (Abstruct)

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