Architecture / Interiors

Pentavia, Mill Hill

London NW7 2ET

Design & Access Statement

March 2019

MEADOW residential

Arney Fender Katsalidis

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1.0 EXECUTIVE SUMMARY + INTRODUCTION

1.1 Form of the Application (Executive Summary)

This Design and Access Statement (DAS) has been prepared by Arney Fender Katsalidis on behalf of the developer Meadow Residential. This document is submitted in support of a full detailed planning application for the redevelopment of the site including the demolition of all existing buildings and construction of:

- 844 new Build to Rent, Private Sale and Affordable offset at various rent levels, C3 residential units
- 885 sqm GIA ancillary Class C3 Build to Residential facilities
- 405 sqm GIA Class A1 Retail, 326 sqm GIA Class A3 and A4 food and 297 sqm GIA Class D1 Community facilities
- New pedestrian access off Bunns Lane;
- New cycle link to Bunns Lane;
- Open space, landscaping; car parking; and highway/pedestrian improvements.

1.2 Purpose of the Document

This document has been prepared on behalf of the Applicant, Meadow Residential. This Design and Access Statement explains the proposals and the underlying design principles that have informed the design.

The design has been developed with a full consultant team:

Development Management Team - **Meadow Residential**
Architect and Interior Designer - **Arney Fender Katsalidis**
Planning Consultant - **Quod**
EIA Consultant - **Quod**
Daylight & Sunlight Consultant - **Delva Patman Redler**
Wind Consultants - **BMTFM**
Landscape Consultant - **Outerspace**
Affordable Housing Consultant - **Quod**
Refuse Consultant - **Mayer Brown**
Transport/Traffic Consultant - **Velocity**
Building Control - **Clarke Banks**
Structural Engineer - **Heyne Tillett Steel**
M&E Engineers - **Chapman BDSP**
Quantity Surveyor - **Turner & Townsend**
Fire Consultant - **Chapman BDSP**
Acoustic Consultant - **Mayer Brown**
Inclusive Design - **Peter Connell Associates**
CDM - **Tetra Consulting**
Pedestrian Modelling Anaylsis **- Space Syntax**
Built Heritage **- CgMs Heritage**



1.3 Objectives of the Development

The proposed development provides 844 Build to Rent, Private Sale and Affordable residential units, which will be offset at various rent levels, as well as a mixture of commercial use. The aim is to make better use of the existing site known as Pentavia Retail Park.

The proposal is based on our aspiration to achieve the following key objectives for the development, many of which we hope align with the Council's own vision for the site and its broader surrounds:

- Redevelop the site to provide much needed housing
- Create new buildings of high architectural quality
- Provide a new public realm that promotes community cohesion
- Improve public connections to the site by providing desired routes
- Provide apartments of good quality and size, which meet contemporary residential standards
- Activate and enliven the southern and northern entrances of the site to provide better connectivity to Mill Hill and surrounding area
- Positively address the challenges presented by the site's proximity to busy motorways.
- Provide a green landscape buffer to Bunns Lane
- Create a greater variety of landscape and a new sequence of spaces and courtyards throughout the scheme for residents to enjoy
- Provide a 'traditional' building configuration, which fits in with Mill Hill's local vernacular and character.



1.4 Vision : A Vibrant New Neighbourhood

The overarching vision of the proposed development is to transform the disconnected site and existing unappealing group of retail buildings, into a thriving, cohesive and connected new residential neighbourhood. The proposals will also address Barnet's housing need by delivering high quality Build to Rent, Private Sale and Affordable residential units, which will be offset at various rent levels.

This vision is underpinned by three elegant and simple principles:

1. Create an enjoyable place to live

This site has significant urban challenges. One of the most pressing is that the perimeter of the site is visually and environmentally degraded by the proximity and bounding of the site by the M1 and A1 motorways. Accordingly, a key ingredient in the strategy adopted for the site is to turn the development 'inwards' to create a protected community, shielded from the busy motorways, which is both a highly attractive place to live and recreate. A new 'village heart' and a sequence of green amenity spaces will run through the centre of the scheme - a feature in common with some of the most vibrant and connected residential neighbourhoods across the globe.

Significant amenities will be introduced to the scheme which include new public parks, play spaces and community facilities – which will also greatly enhance the site's ecological value. This ecological enhancement is complimented and matched by the significant civic contribution which will result from the creation of new jobs and elevated levels of domestic spending within the local economy.

2. Re-establish connections

The development will create new pedestrian and cycle links that will aid the reconnection of this previously isolated site with Mill Hill.

Clear and legible vehicular links are also established from the key arrival points. Specifically, these connections are:

– **A1 to the South.** On arrival from the South, visitors and residents will be greeted by a clear, attractive visual connection to a new public green central space at the heart of the community.

– **From Bunns Lane to the North**. Pedestrian and cycle links are similarly celebrated from the North, to enhance the legibility and way-finding for residents, visitors and the local community.

The proximity of rail and bus services results in the site enjoying existing good connections to Central London and other parts of Barnet. This accessibility, when considered in combination with the potential to improve the route to and from Mill Hill Broadway Station, means the site ideal for a new high density residential community.

3. Create a distinct part of London

The site planning strategy was driven by the desire to create an environment that is both unique and specific to Mill Hill. This significant urban regeneration is intended to transform Pentavia Retail Park – a significant area of 'Brownfield' land – into a thriving, sustainable and connected new neighbourhood, shielded and protected from the adjacent M1 and A1 motorways.

This approach will also make a significant contribution towards the provision of much-needed new homes for the London Borough of Barnet, and will also provide generous public parks and green social spaces, new community uses, and a new pedestrian link to Mill Hill.

High quality architecture is integral to the approach to this regeneration. The development will embody it's own distinct character but will similarly directly and contextually relate to its urban and natural setting - and the reference the unique character of Mill Hill.



2.0 SITE CONTEXT

2.1 Strategic Context

Pentavia Retail Park is located on the Western edge of the London Borough of Barnet (LBB) in North West London. Other clusters of higher density developments are found along the M1 at Colindale and Brent Cross/Cricklewood.

The strategic and historical development of Barnet has been shaped by its topography, geology and transport routes. Historically, settlements were located in the higher parts of the borough, and this includes Mill Hill, to the North and East of the site, the historic core of which is located on a hill.

This pattern of development was also driven by the local geology which is characterised predominantly by a heavy clay soil, that is difficult to cultivate and drain in the lower-lying areas. The areas of high land in the borough on the other hand, expose a gravel or sandy silty material, which is easier to build on.

The earliest roads connected key settlements between the high points of the borough. The subsequent construction of the railways along with advances in building technology, led to the development of the areas around the historic settlements and new railway stations within the borough, which is where both Mill Hill Broadway and the site are located.



Additional land in ownerwhip by Meadows
Application Boundary

2.1 Strategic Context

Pentavia is, in effect an island site sandwiched between the M1 and A1, which bounds the site on two sides. These major roadways in effect, also sever the site from Mill Hill. Historically it is an area of large infrastructural change, where, in the 19th century, the construction, cut and fill for the nearby train line which runs parallel to the M1, resulted in landfill covering the site - which was once a green field.

In recent years, the site was converted to a retail park, comprising unrestricted Class A1 retail warehouses and A3 restaurant use, housing several major retailers.

The London Borough of Barnet is well connected with an extensive road and rail network. The M1 motorway provides access to the North, while the M25 and A1000 provide access to Central London.

The Overground and Northern Line also serve the borough, linking to central London. The site is located near Mill Hill Broadway train station which runs a frequent service to King's Cross (15 minutes journey time).



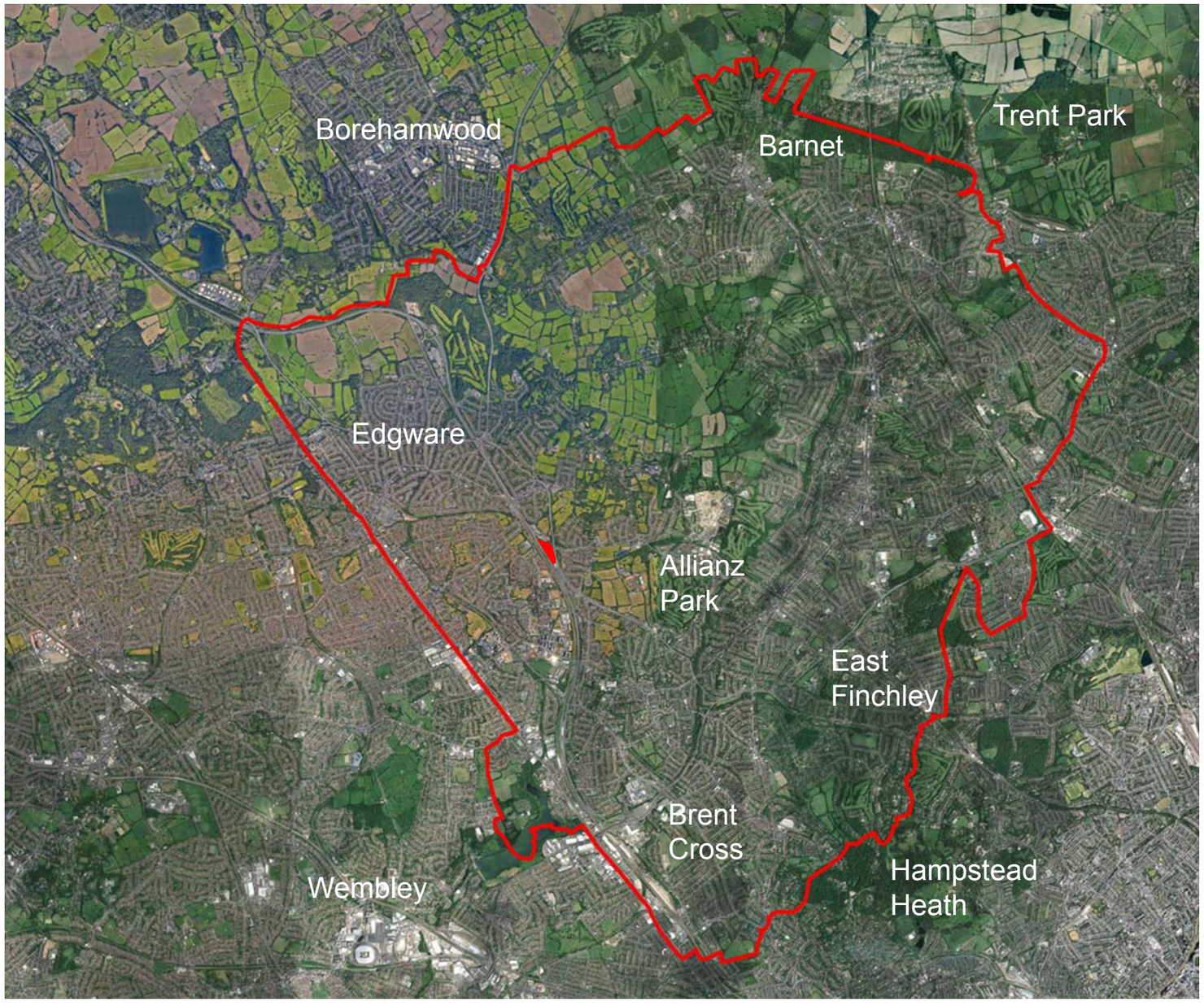
Additional land in ownerwhip by Meadows
Application Boundary

2.0 SITE CONTEXT

2.1 Strategic Context

Arney Fender Katsalidis and Quod conducted a study of the London Borough of Barnet, to identify the areas of protected land that could not be developed, green spaces and the redevelopment zones (including West Hendon, Colindale and Grahame Park) within the wider borough.

With these areas of land removed, it reveals that there is surprisingly little developable land in Barnet. As a consequence, the Pentavia site was identified as one of the last remaining plots of brownfield land capable of supporting a high density housing development of the proposed size and scale in the borough.



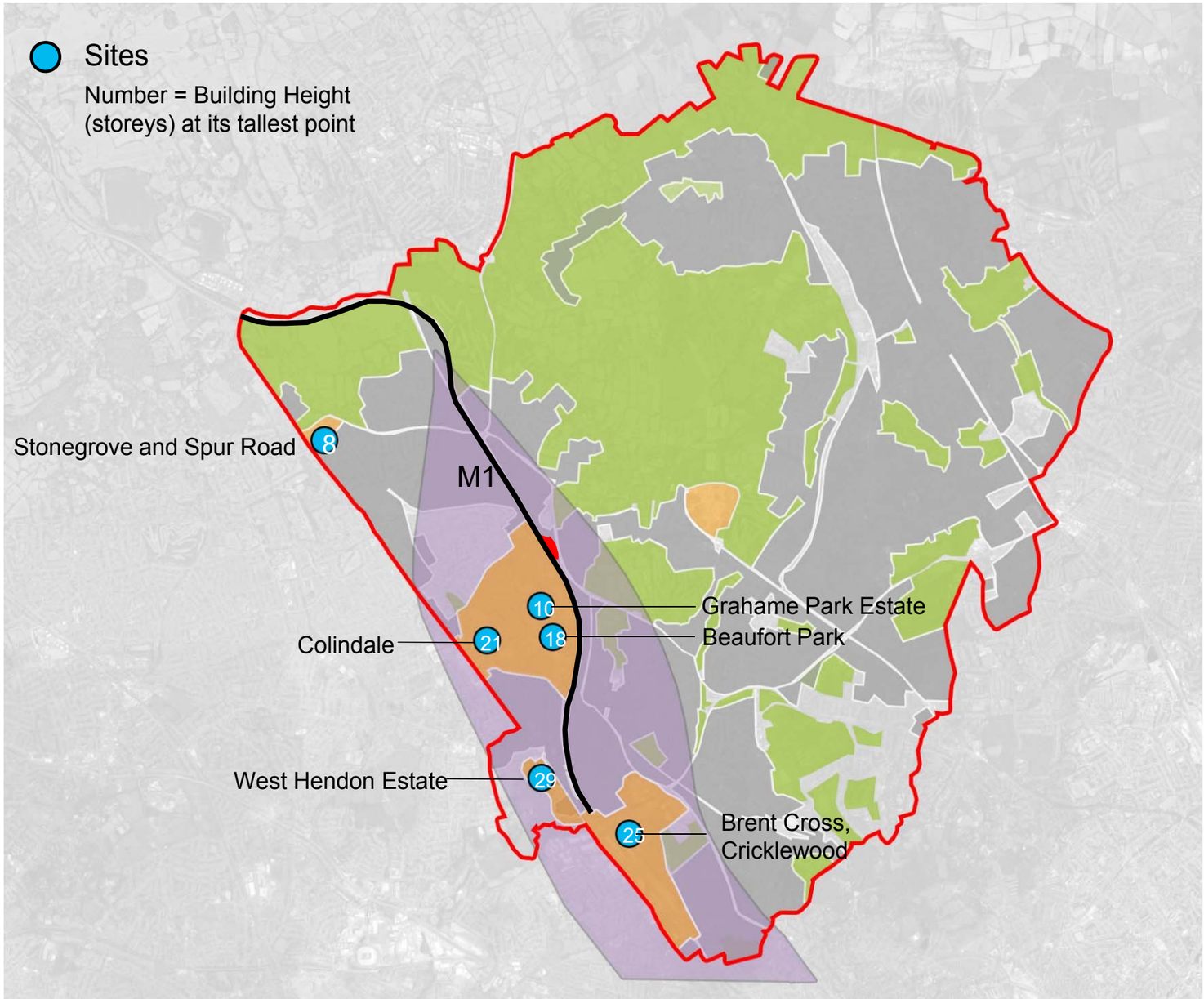
LONDON BOROUGH OF BARNET BOUNDARY

2.1 Strategic Context

The site's proximity to the larger developments of Colindale, the Grahame Park Estate, Beaufort Park Estate, the West Hendon Estate, Brent Cross and Cricklewood, can be seen as a suitable precedent for the proposed scale, massing and density of the new scheme.

The Pentavia site also enjoys excellent existing transport connections to existing infrastructure and Mill Hill, that can be further reinforced by new pedestrian and cycle links through new green landscaped spaces.

The site's inherent attributes are the essential ingredients in attracting a new demographic to Mill Hill, as well as in support of a thriving new community and a vibrant new residential-led quarter on the site.



SUBURBAN INTENSIFICATION ALONG M1 CORRIDOR

2.0 SITE CONTEXT

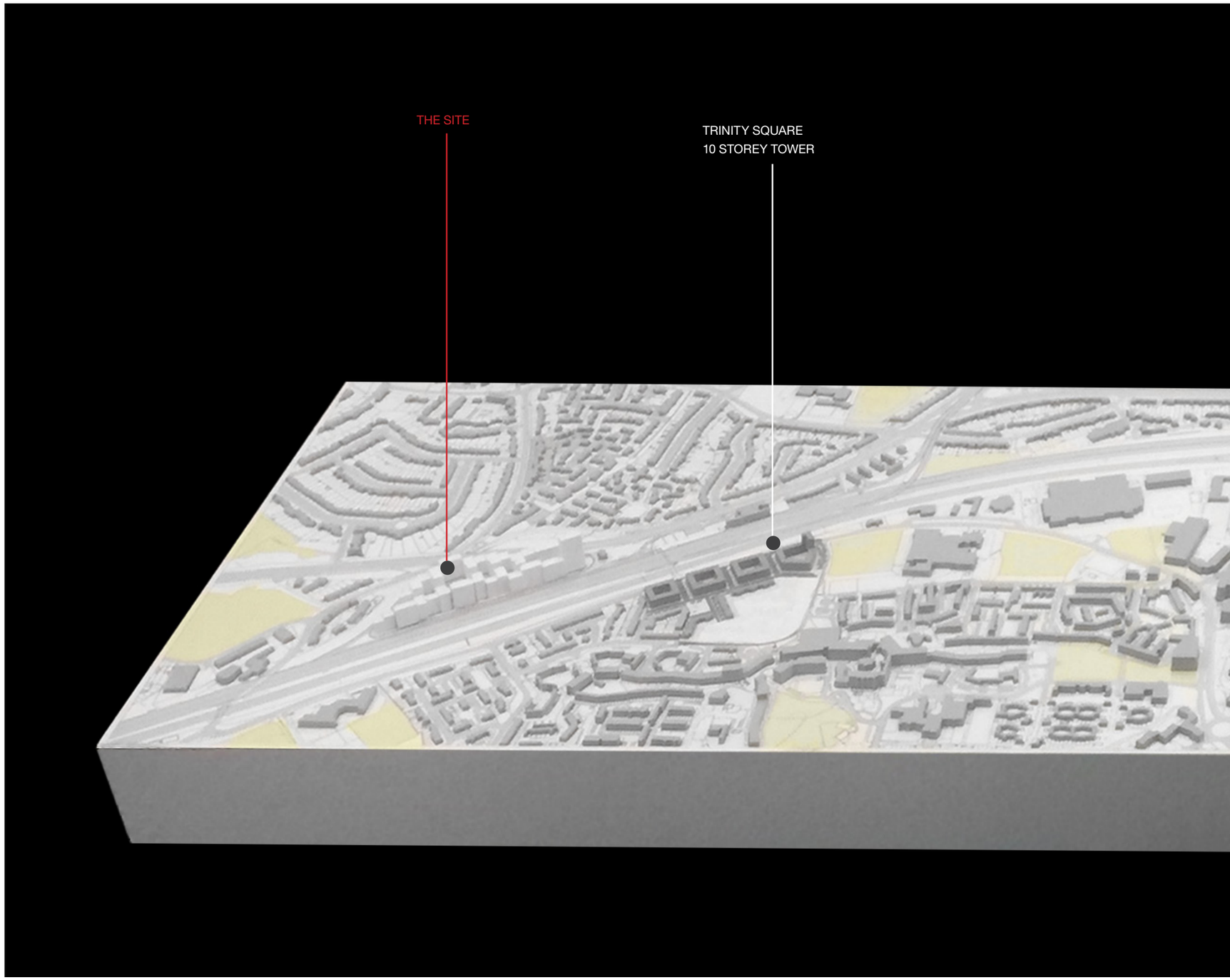
2.1 Strategic Context - Surrounding Heights

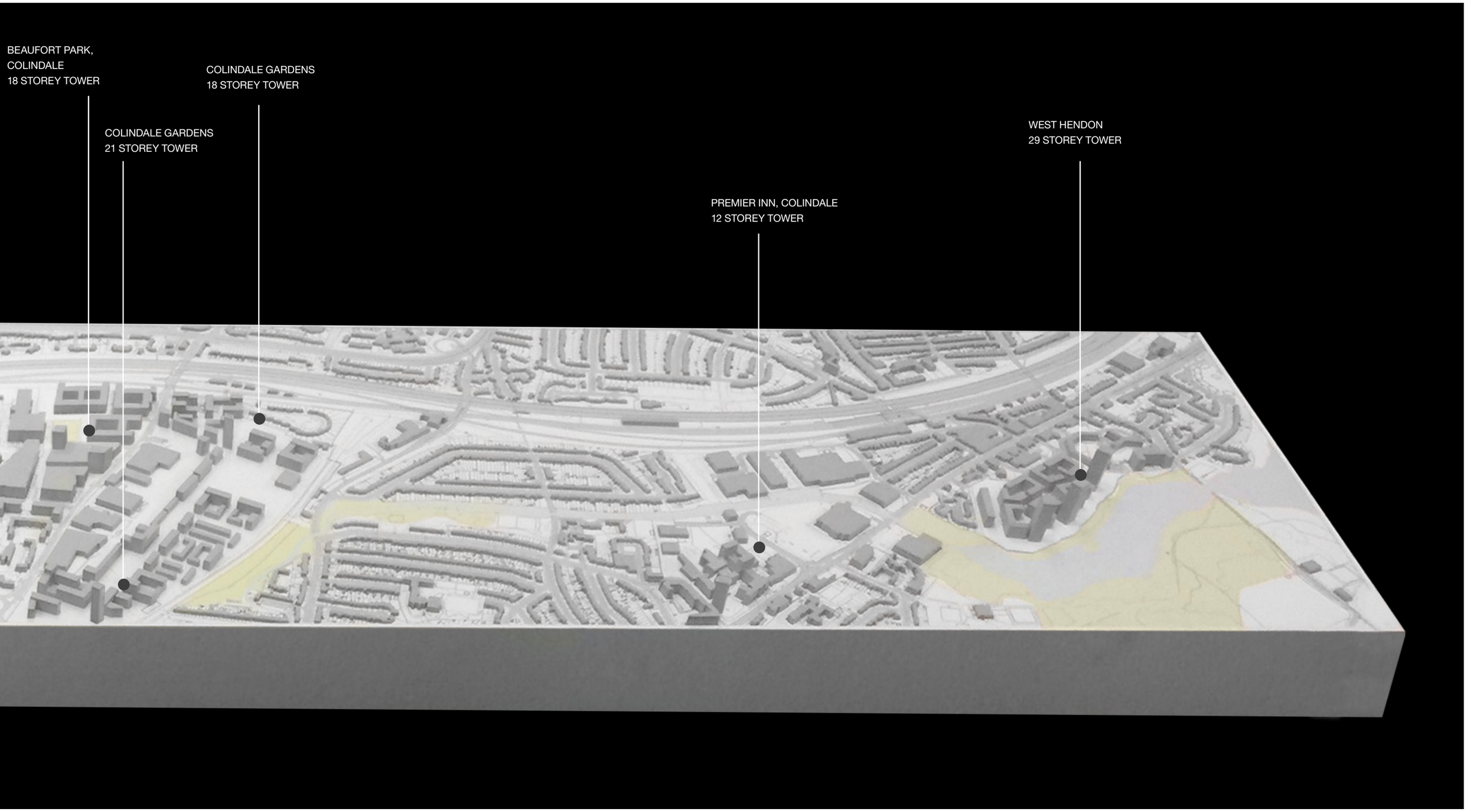
The site sits along the M1 corridor where a number of tall buildings occur principally along the Colindale and West Hendon side, towards Brent Cross.

Key tall developments along the M1 are:

Trinity Square - 10 storeys
Beaufort Park, Colindale - 18 storeys
Colindale Gardens - 21 and 18 storeys
Premier Inn, Colindale - 12 storeys
West Hendon - 29 storeys

Pentavia will be similar in scale to these tall developments. The tallest building will be LG+G+14 (15 stories).




BEAUFORT PARK,
COLINDALE
18 STOREY TOWER
COLINDALE GARDENS
21 STOREY TOWER
COLINDALE GARDENS
18 STOREY TOWER
PREMIER INN, COLINDALE
12 STOREY TOWER
WEST HENDON
29 STOREY TOWER

2.0 SITE CONTEXT

2.2 The Site

The current site houses a redundant Homebase warehouse building and the charity Kosher Outlet. These buildings are surrounded by large expanses of car parking and hard standing service areas.

The site is currently accessed from the A1 slip road and has a service access road along the M1 to service the retail units. The site has a general fall of 3.5m across the site.

Along the North, facing Bunns Lane, there is a retaining wall between the existing site and down to a disused service road owned by Meadow Residential. This disused space is unmanaged and littered with refuse, and blighted by fly tipping and areas of graffiti. There are also areas of scrub land to the North West, where fill from construction works has raised this area of land and created the general site falls.

Pedestrian access is restricted by a fence along the Northern edge, facing Bunns Lane.

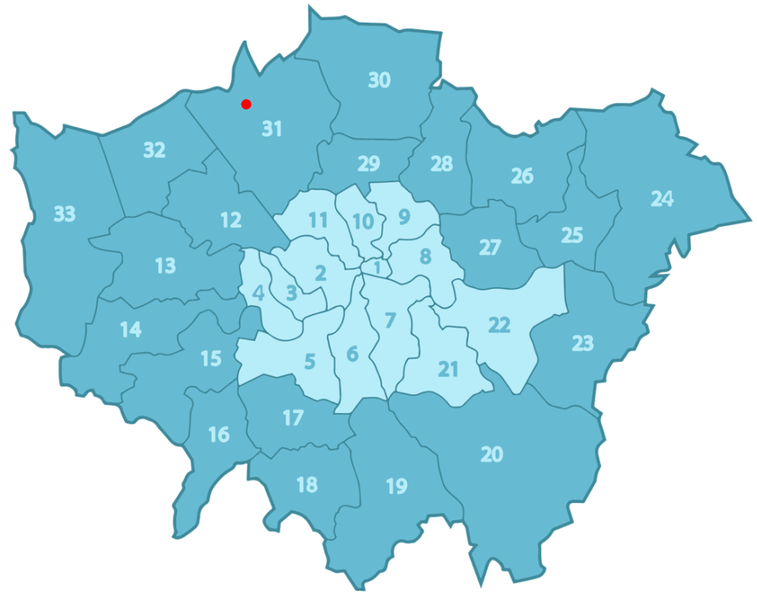
The predominance of major road routes limits access to the site for vehicular travel, although there are several existing pedestrian access routes. From the North, pedestrians on Bunns Lane can use the steps adjacent to the A1 Watford Way road bridge, over Bunns Lane, which leads to a footway on the Western side of the A1 Watford Way.



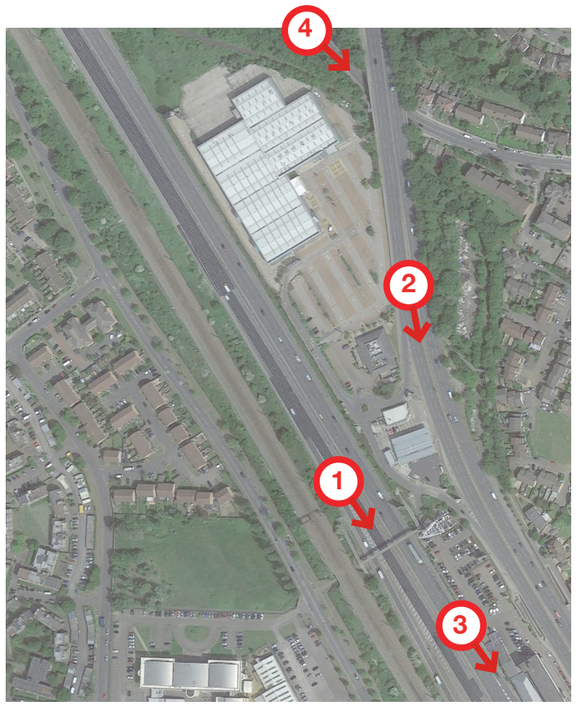
1 VIEW OF THE M1 TRAVELLING SOUTH



2 VIEW OF THE A1 TRAVELLING SOUTH

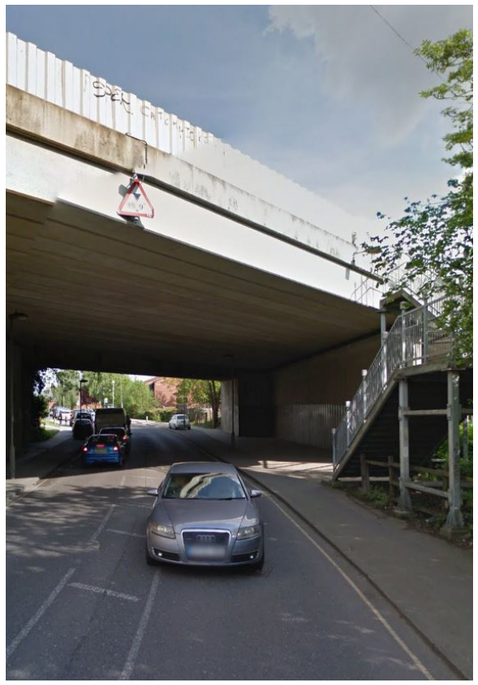


SITE'S STRATEGIC LOCATION WITHIN THE LONDON BOROUGH OF BARNET





3 VIEW FROM THE M1 OF NISSAN GARAGE



4 VIEW FROM BUNNS LANE TRAVELLING EAST







VIEW FROM THE RIDGEWAY

2.2 The Site

There are steps on Bunns Lane leading to the eastern side of the A1 Watford Way. There is another pedestrian link between the A1 and Bunns Lane, via a ramped footpath connecting Bunns Lane with the western side of the A1 Watford Way, by the northbound bus stop.

Signs on the A1 indicate that the footway on both sides is a shared pedestrian and cycleway.

Connections to the site can also be made from the west via a pedestrian footbridge over the M1 and subway under the adjacent railway lines. The footbridge joins the access road leading to the retail park at the BP Petrol station. The footbridge and subway are ramped, allowing easy access for pushchairs, cyclists and wheelchairs.

The existing buildings on the site are of poor quality and the result is little to no architectural features of interest on the site. Surface car parking treatment and boundary edges are also poorly landscaped and defined.

The site also has three recently approved applications for various retail improvement proposals.





1 VIEW TOWARDS PENTAVIA RETAIL PARK FROM THE PEDESTRIAN FOOT BRIDGE.



2 VIEW FROM BEHIND THE ROUNDABOUT.



3 VIEW ACROSS PENTAVIA RETAIL PARK CAR PARK.



4 VIEW OF THE SOUTHERN FACADE OF PENTAVIA RETAIL PARK, FACING THE M1.



5 VIEW FROM THE EXISTING SERVICE ROAD (SOUTHERN FACADE) OF PENTAVIA RETAIL PARK FACING THE M1.



6 VIEW LOOKING EASTWARDS TOWARDS THE BRIDGE ON BUNNS LANE.

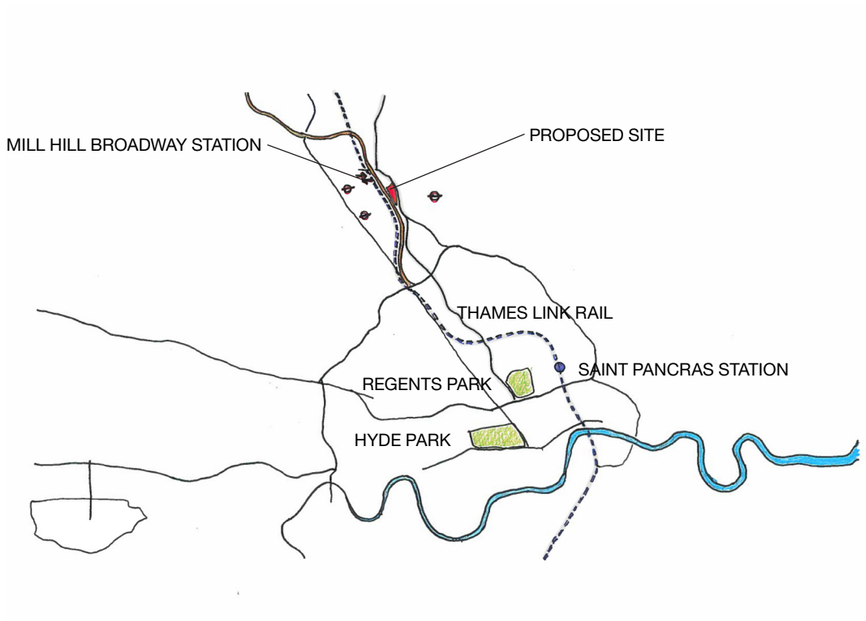
2.3 Site Location and Context

The site has good connections to the M1 and A1, due to its close proximity to both major roadways.

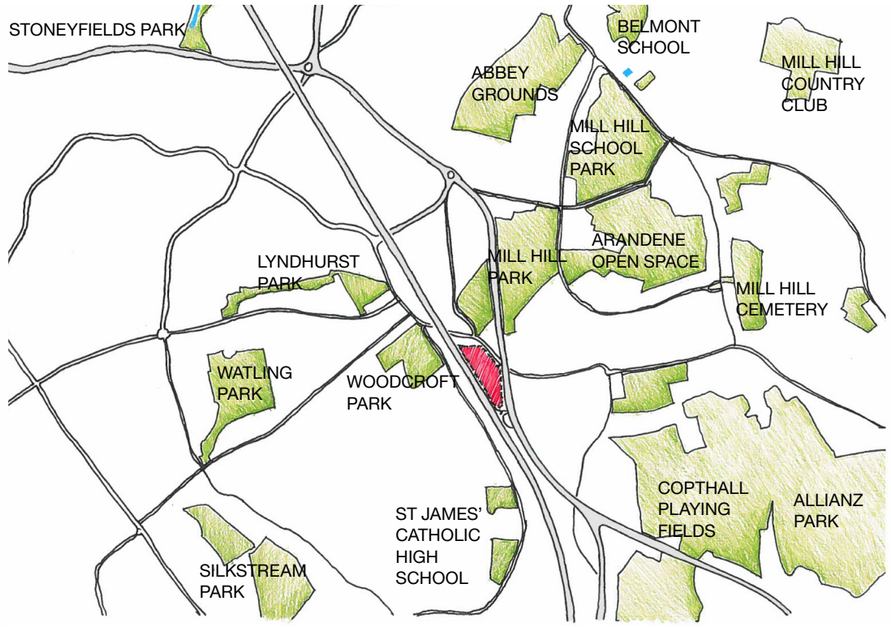
The area is also well served by the London transport system, with easy access to nearby Mill Hill Broadway train services. The journey to Central London is around 18 minutes.

Although the site is, for the most part, land-locked ‘Brownfield’ land, it is close to many green spaces - with Mill Hill Park, to the North, the closest of these.

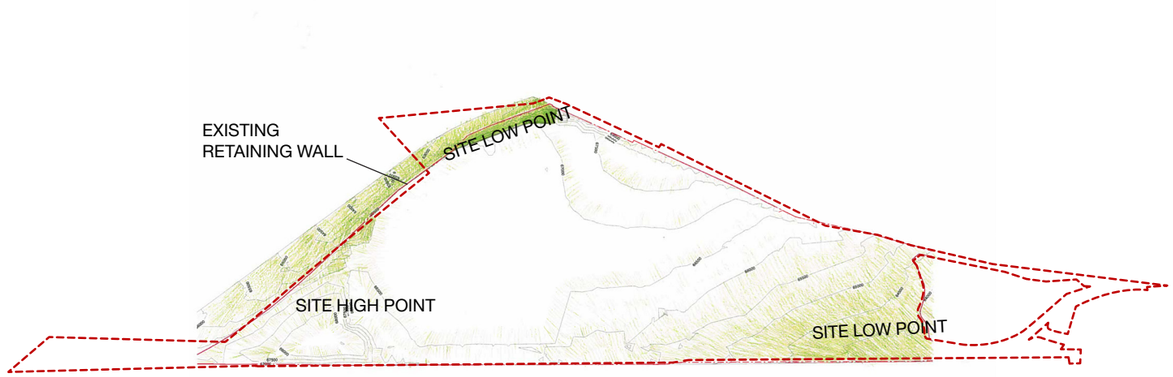
The general site levels are lower to the South but rise approximately 3m to the North, with a steep drop towards Bunns Lane.



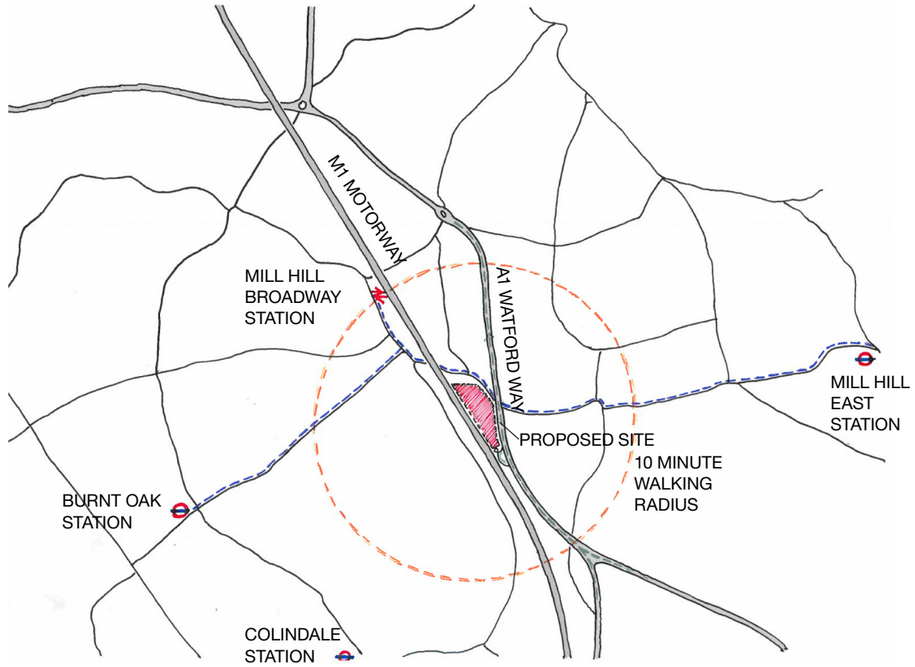
STRATEGIC LOCATION



SURROUNDING GREEN SPACES



TOPOGRAPHY ACROSS THE SITE



EXISTING TRANSPORT LINKS

2.3 Site Location and Context

Pentavia Retail Park application site is a 3.87 Ha site in the Mill Hill Ward, which is characterised by diverse and challenging interfaces on the each of the site's boundaries, in terms of scale, use and character. With the Woodland along Bunss Lane, the total land in ownership by Meadow Residential is 4.37 Ha.

Western Boundary

The Western edge of the site is bounded by the heavily-trafficked M1 motorway. This road comprises six lanes, with a mixture of large industrial retail/warehouse units lining its edges, and a major railway thoroughfare to one side. Further to the West, beyond the train track, lies Barnet College and various residential properties, ranging from low to medium rise along Grahame Park Way.

Eastern Boundary

The Eastern edge of the site is bounded by the heavily trafficked A1 (Watford Way) motorway. The road comprises six lanes, with suburban 1930's semi-detached / detached housing lining its edge and rising up towards Mill Hill.

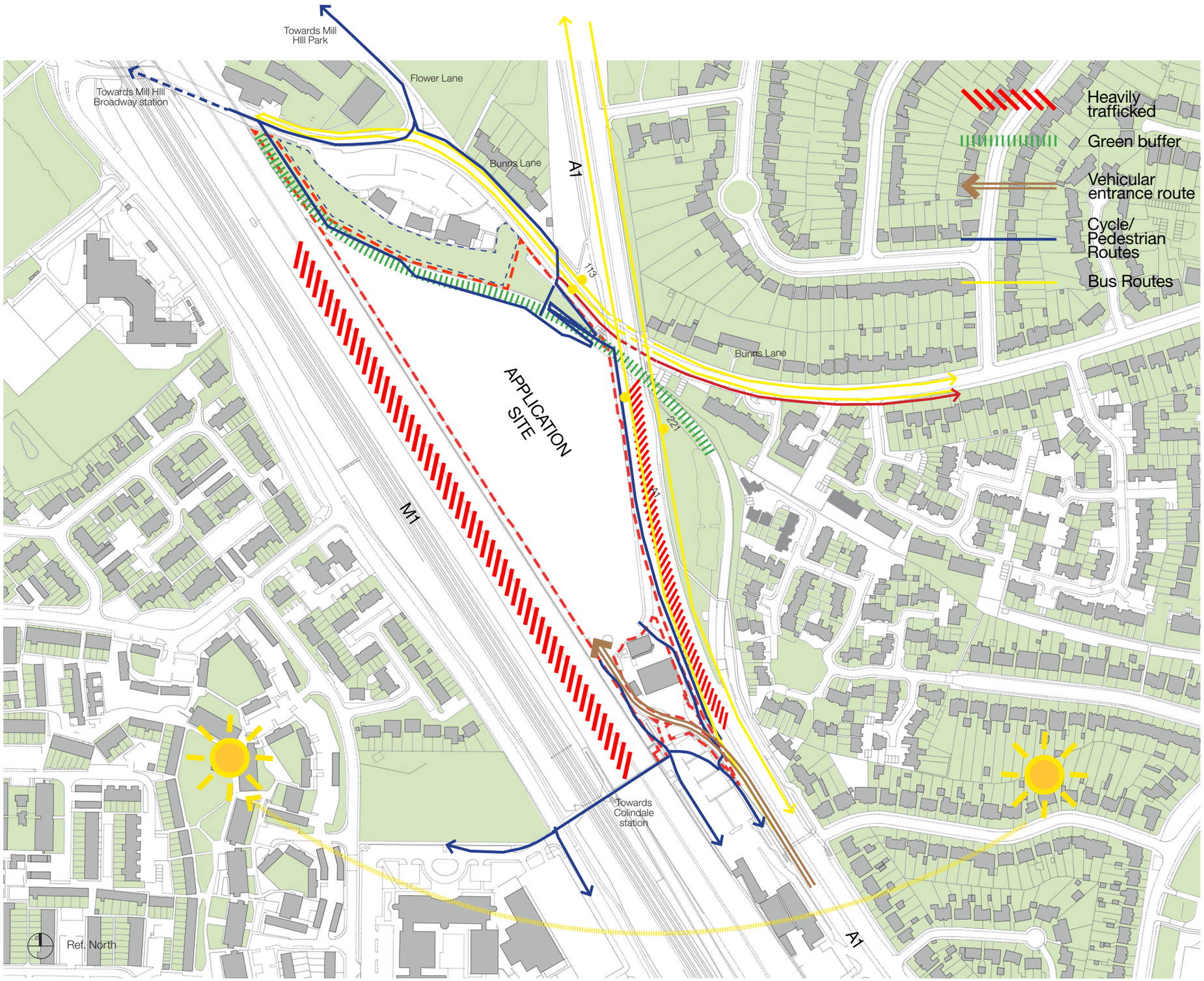
Southern Boundary

To the South, lies the major connection to the site via the A1 junction. A petrol station and roundabout are situated directly South of the site, with a Nissan showroom and offices further along. The site is connected to Colindale to the South through a high level bridge over the M1.

Northern Boundary

The Northern part of the site bounds Bunns Lane, an existing green landscape buffer, and a nursery. This also abuts the existing low rise Taylor Wimpey development.

Bunns Lane is potentially a major connector to the site, as it opens up East and West links below the motorway, towards Mill Hill and Colindale, as well as the nearby Mill Hill Broadway train station.



2.4 Mill Hill History

Over the course of two centuries, Pentavia and the vicinity around it has evolved from a rural area with just a few settlements, to the rich tapestry of urban and suburban development and major infrastructure, that exists today.

The significant pieces of infrastructure introduced to include new major roads (M1 and A1) and railways, both of which have served the wider growth of London.

Mill Hill

The name ‘Mill Hill’ was first recorded as ‘Myllehill’ in 1547 and is said to mean “Hill with a Windmill”. Mill Hill Village is the oldest known inhabited part of the district – a ribbon of development along a medieval route called ‘the Ridgeway’. It is thought that the name ‘Mill Hill’ derives from a mill that was once sited on an area of open ground (now a park) known as The Mill Field, which is on the Ridgeway. The Mill Hill Village is bounded on the North and South by designated Green Belt land and it’s High Street, at 100 yards, is the shortest in London. The area’s proximity to London made it popular as a country retreat from the 17th century onwards, and some large houses and quaint cottages survive from this period. As late as 1960, five shops existed in the Village – Griffin’s sub-Post Office, The Blenheim Steps, Cook & Son (sweets and groceries), Hawes Brothers (grocers) and Vincett’s (butchers). Although the buildings survive, they have all since been converted into private houses as the area’s retail focus shifted to Mill Hill Broadway.

M1 and A1

The A1 is the latest in a series of routes North, from London to York and beyond. It was built in 1921 by the Ministry of Transport as part of the Great Britain road numbering scheme. The earliest documented Northern routes out of London ran along roads created by the Romans, during the period 43 to 410 AD. These consisted of a variety of “Iters” on the Antonine Itinerary, a combination of which were used by the Anglo-Saxons as the route from London to York, called Ermine Street. Ermine Street later became known as the Old North Road, and is utilised within London by the current A10.

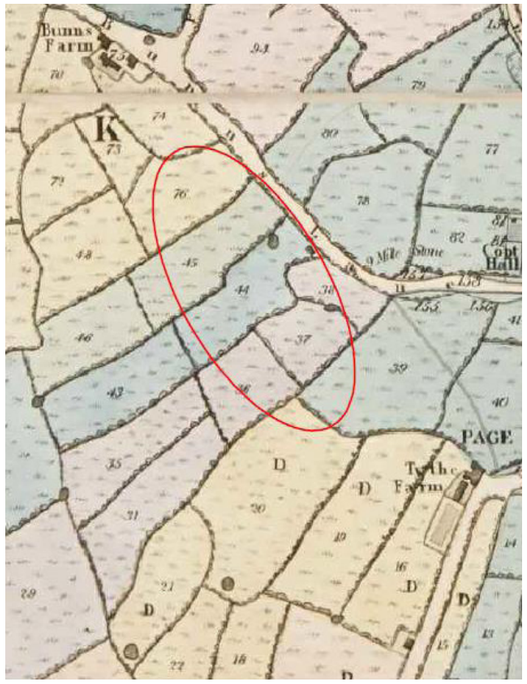
The A1 originally began in London at Aldersgate Bars, which marked the boundary of the City of London. It then followed the Great North Road mail coach route through Barnet, but was re-designated in 1954 to follow the East Finchley and Barnet bypasses, built in the 1920s and 1930s.

The M1 is a South-North motorway in England, connecting London to Leeds and joining the A1(M) near Aberford. It was the first inter-urban motorway completed in the UK and the majority opened between 1959 and 1968, although the Southern end of the A1 was extended in 1977.

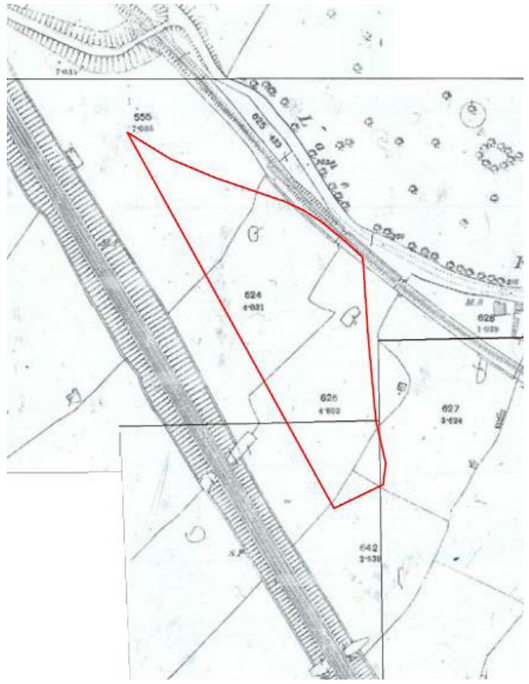
This site’s location, at a major confluence of motorway infrastructure and the combination of major improvements in car transport connectivity at that time, was something the ‘big box’ retail buildings that currently occupy the site, were intended to capitalise on.



1796



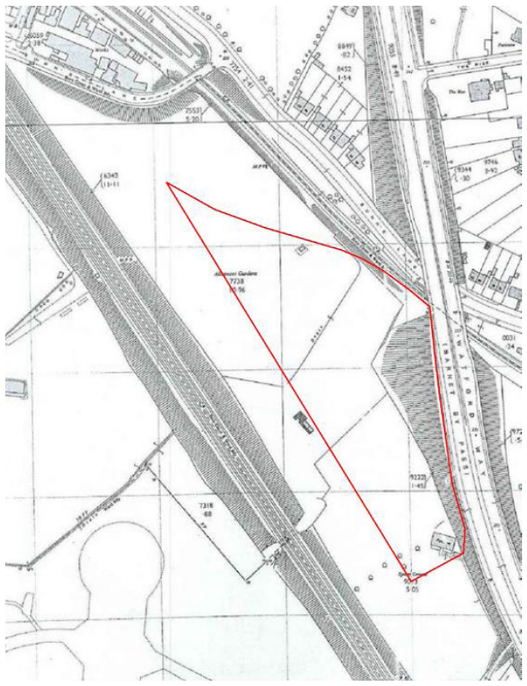
1828



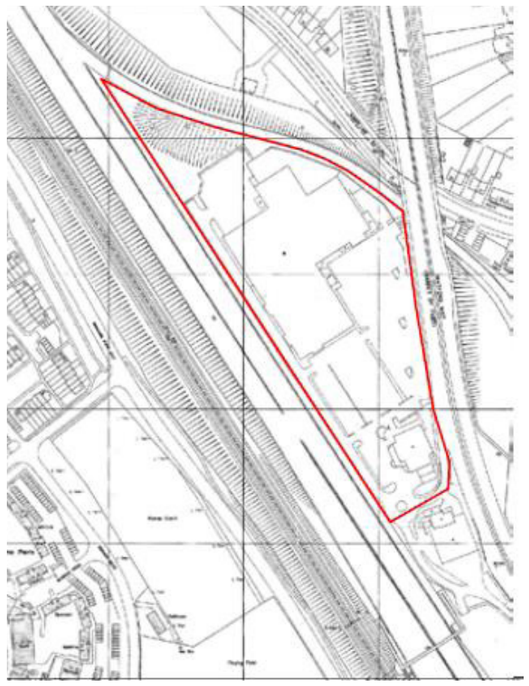
1896



1932-35



1964



1979-90

2.4 Mill Hill History

Railway

The construction of the Midland Railway in the 1860s, brought additional development around Mill Hill Broadway, and consisted mainly of terraced houses. People traditionally took day trips out of Central London to open space surrounding the capital, and would often stop for refreshment in Mill Hill.

The properties on the Pentavia site bear little relation to Mill's Hill's historical relation to railway travel but are instead have more in common with today's 'big box retail' outlets served by the A1.



1905 - THE RIDGEWAY



1926 - MILL HILL GASWORKS



1930 - THE BROADWAY



1965 - THE BROADWAY



1955 - WATFORD WAY



1965 - NORTHWAY CIRCUS

3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.1 MDA Panel Comments

The scheme has been reviewed by the Mayor's Design Advocates at the GLA on the 6th February 2019 and it drew the following comments which the design team has responded as follows:

Form and massing

PANEL COMMENT

- The panel commented that the design team has explored alternative approaches, and note their assertion that air quality and noise issues mean that a defensive plan is required to create acceptable living conditions. The authority should insist on incontrovertible evidence on this point.
- The panel do not see a height to be problem but thinks that more sophisticated thinking is needed about the way the form and massing create townscape quality.

OUR RESPONSE

The form and massing evolution is further explained in Section 3.2.1, which demonstrates that many design options were explored throughout the design process. The design team has also located existing good examples of long linear developments similar to the massing proposal in Section 3.4

Further work on height has been explored and adopted as described in Section 3.2.2 after the MDA meeting.

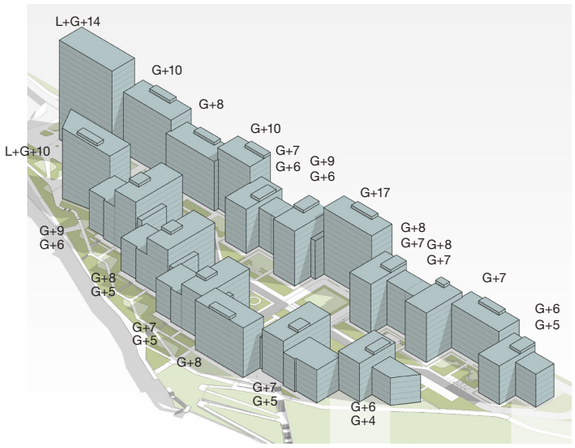
Facades

PANEL COMMENT

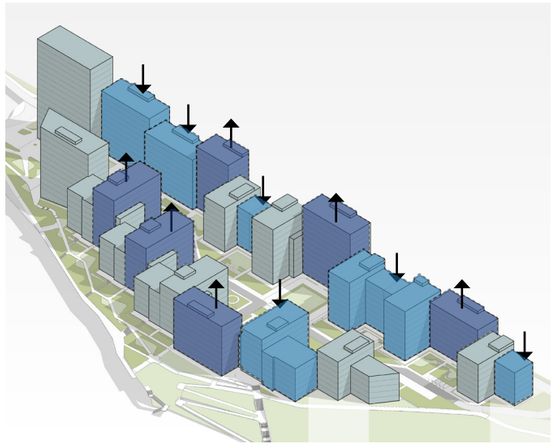
- Scheme has three basic façade types and a more creative and nuanced approach to architectural expression is essential humanise a development on this challenging site.
- Design rationale for the new 'courtyard buildings'.

OUR RESPONSE

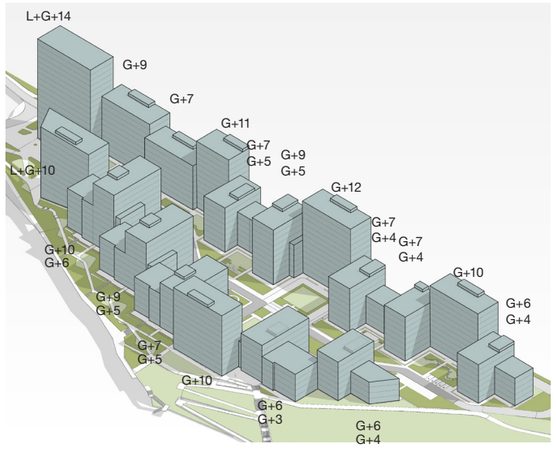
Facades have been further explored in Section 3.3.1. by simplification and also Section 3.7 by showing a representation of the human experience with the subtle changes in facades.
The courtyard buildings have been explored and a new building expression has been adopted, as described in Section 3.3.2.



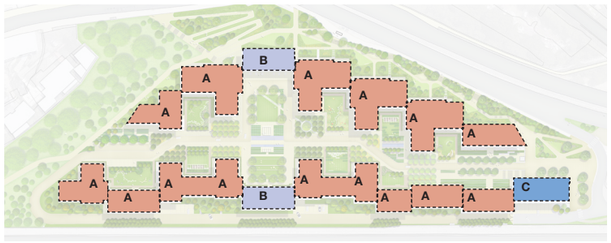
844 units. Previous MDA Panel



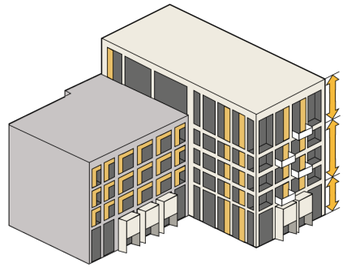
Added heights
Reduced heights



844 units. Current submission

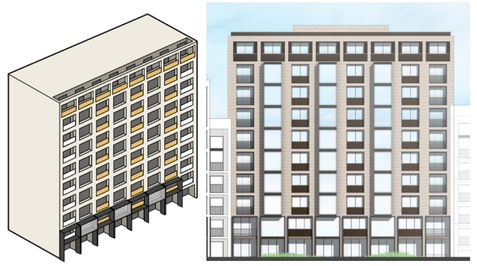


844 units. Previous MDA Panel. Facade Types and colours

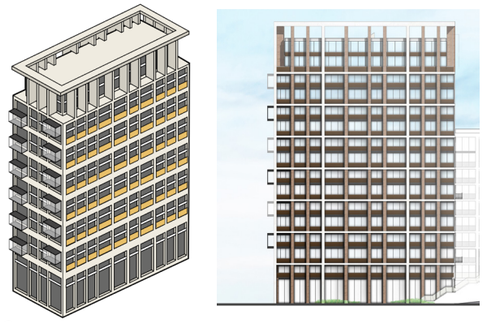


Type A





Type B



Type C

Accessibility and connectivity

PANEL COMMENT

- Analysis tools to consider how the layout would function as part of the wider street network.
- Connections should be considered from the southern end of the development where there is an opportunity to create an entrance into the development.
- More work to be done to create a stronger relationship with the residential area north of the site.
- Particular attention should be paid to ensuring public realm improvements are made to this route beyond the site boundary.

OUR RESPONSE

The above comments have been addressed through pedestrain analysis in Section 3.4 and a description as to how we are improving connectivity to the surrounding area in Section 3.5.

Non - Residential uses and Public realm

PANEL COMMENT

- Non- residential uses in the development are currently spread along the central spine, but the panel suggests they should be clustered at either end of the central space.
- Design of central public space for the development will not meet the needs of the residents or shared private amenity space. Consideration should be given to how spaces can be designed to provide residents with location dedicated to their use.

OUR RESPONSE

Further studies have been undertaken in Section 3.4 providing pedestrian modelling evidence showing how the non residential uses will be used and plans showing there is higher concentration of these uses around the central space. Further detail on location of non-residential uses are described in Section 3.6. The pedestrian analysis in Section 3.4 also supports the footfall required to sustain these uses.
Further landscape explaination to the shared private amentity space is covered in Section 6.3 Landscape.

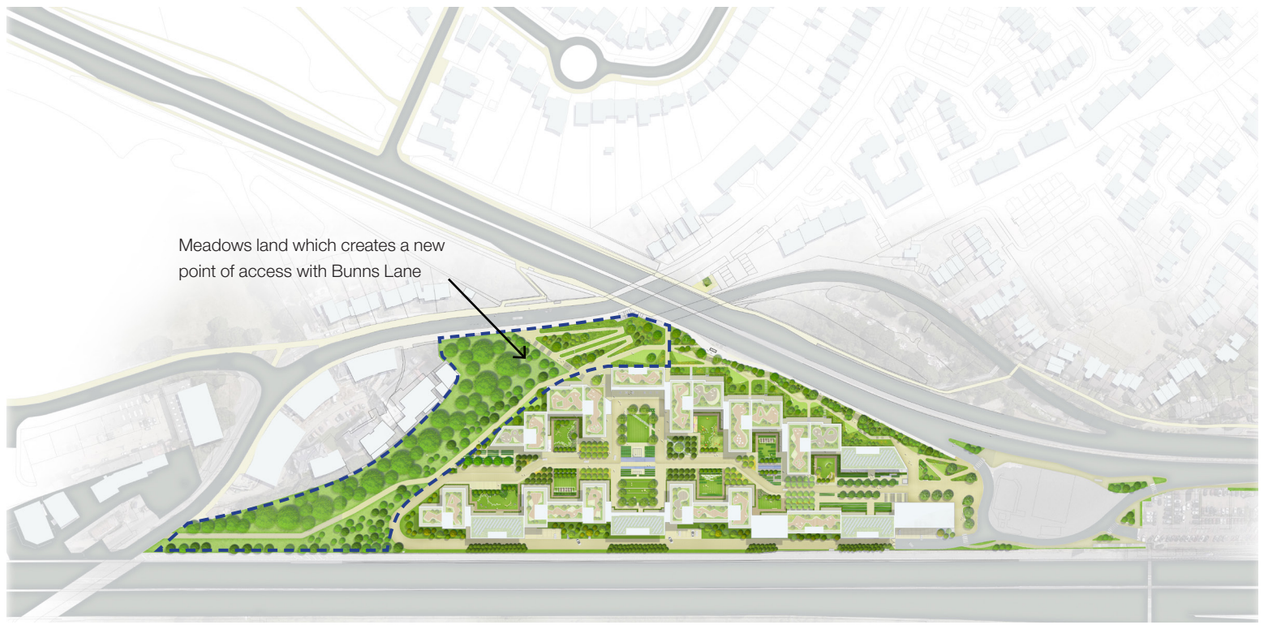
Residential units

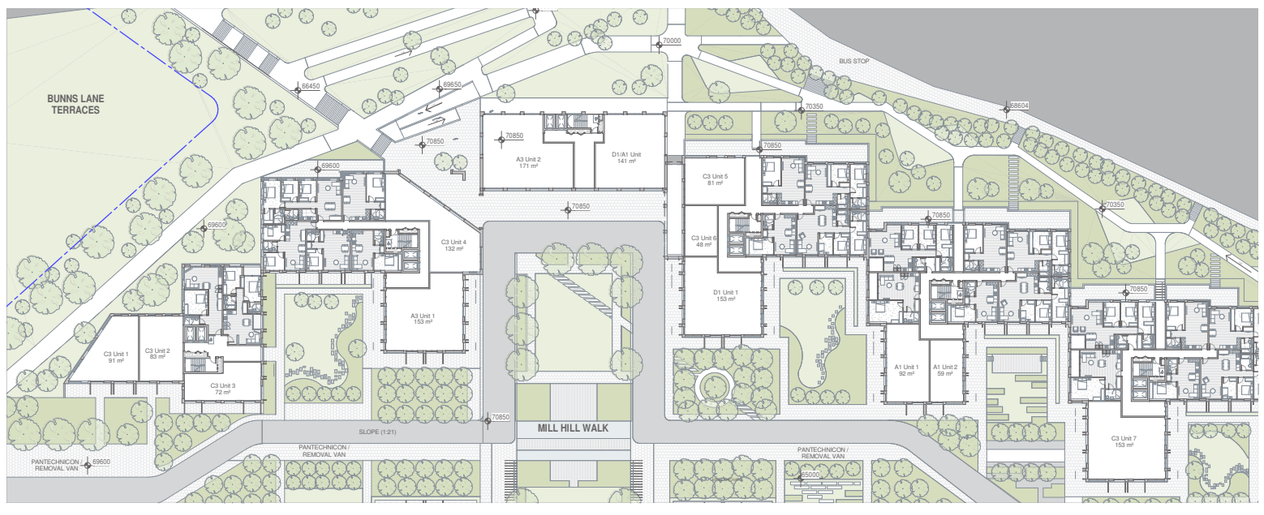
PANEL COMMENT

- Concerns with west facing bedrooms overlooking the M1 with no opening windows.
- Questions if the scheme results in flats of acceptable quality and it is important that the development is a place that residents can enjoy and provide a good quality of life.
- Corner to corner overlooking between buildings impact to privacy in flats.

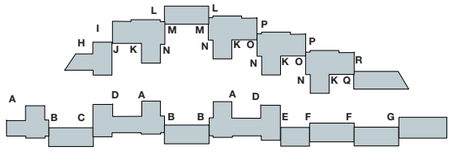
OUR RESPONSE

Further work has been undertaken to describe the residential quality and the especially of the quality of the view out towards M1 from lower levels under Section 3.9 and Section 3.7
Further work has also been undertaken under Section 3.10 where it looks at all corner conditions and migitation of overlooking issues thorough obscured glazing.

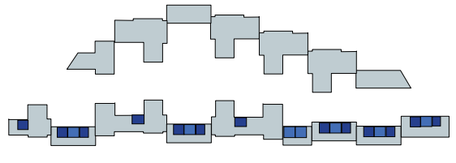




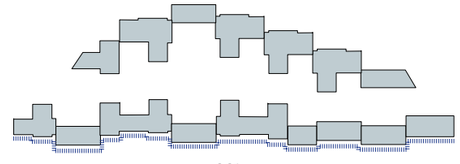
Ground floor. Commercial uses.



Corner apartments key plan



Single aspect units facing NE- East key plan



M1

M1 facing units key plan

3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.2 Form and massing

3.2.1 The Design Evolution

The design of the scheme has been carefully refined and evolved over a series of design iterations and critical thinking to overcome the significant challenges of the site. The final scheme represents an evolution of the key principles of good placemaking, a high quality residential community and innovation.

The timeline on the right is a brief history of the long iterative design discussions and development the scheme has been through to reach this point.

AFK took over the scheme in December 2015 and were tasked with redesigning an original proposal for the site in response to comments from Barnet and GLA. The design changes which needed to be made were principally to address.

- Concerns with solar amenity in tight courtyard blocks
- Narrow streets and overlooking issues
- The large wall along the M1 which have relatively little articulation

AFK then put forward a new scheme, which was developed for a 30th September 2016 planning submission. Our proposal comprised:

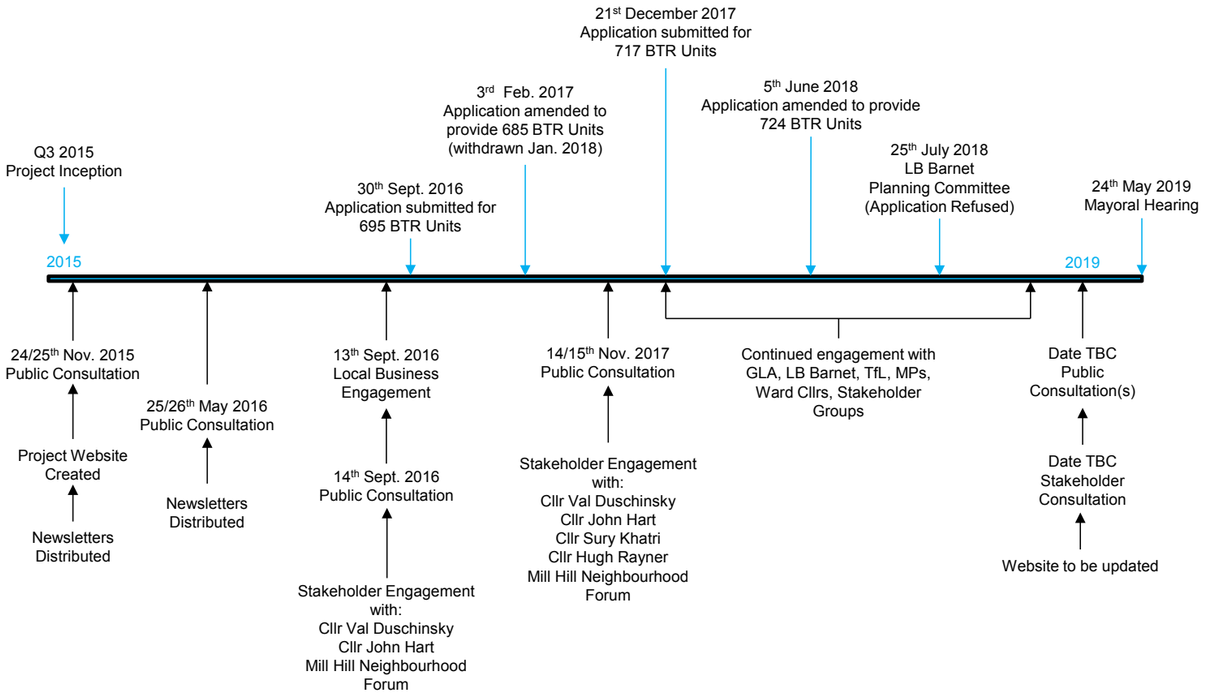
- A curvilinear scheme with a central circular block
- An undulating arrangement of blocks to break up reading of a long wall with little articulation addressing GLA comments of breaking down the long block
- A generous central space was created at the centre of the site for the community to enjoy with increase solar amentity between blocks
- Increased spacing between buildings
- Creating a new architectural landmark to Mill Hill

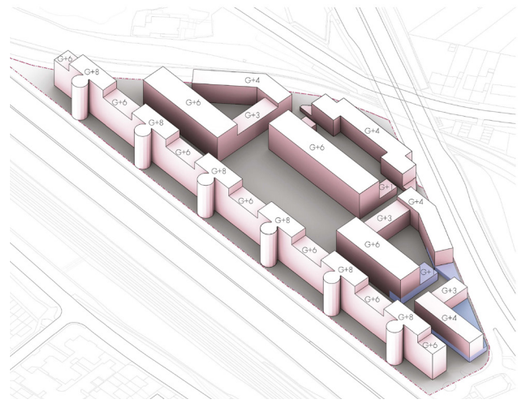
The scheme was later developed and adjusted through continual design reviews with the GLA. Key points from these reviews resulted in a design where:

- The roof line was adjusted and articulated using the existing curvilinear scheme
- Brick colours where tested to link the scheme more into the brick and colour of the area

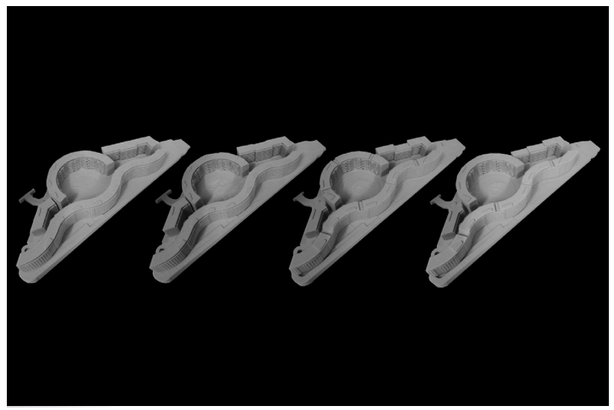
Despite adjustments to the curvilinear scheme, it became evident that we were to return to first principles and a fresh and more contextual approach was needed, to ensure the scheme was much more reflective of Mill Hill. What followed was a design competition, where AFK competed against other architects who each gave an alternative proposal and new thinking to address both Barnet and GLA concerns.

As part of the competition process, AFK looked at various massing

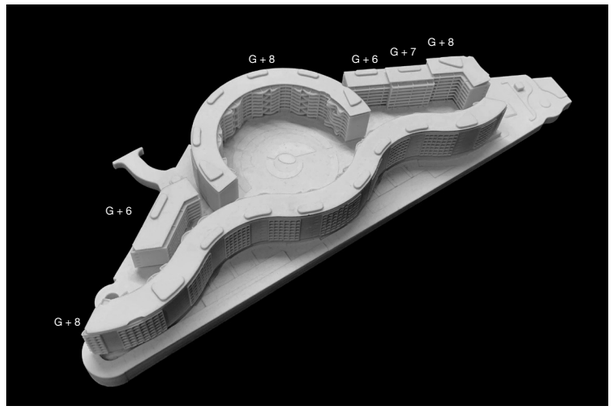




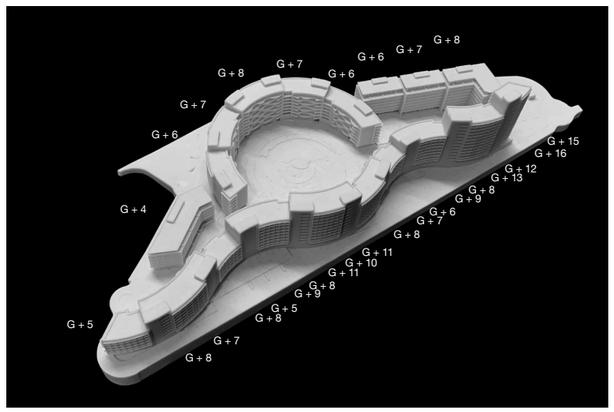
Previous scheme - Dec 2015
Critised over access to daylight sunlight in tight courtyard areas and narrow streets



Studies curved scheme



695 Units. Planning application September 2016



685 Units. Application amended February 2017 in reaction to the GLA comments for an articulated skyline

options to give a smaller grain and human scale to the scheme. This involved breaking the large walls down to create interconnected courtyard mansion style blocks. This new broken down but interconnected arrangement was assessed for acoustics and pollution protection and was deemed an effective barrier, where a series of buildings over 4 storeys performed best. However, a very tight grain was not possible due to overlooking distances and solar access.

AFK would go on to win the design competition with the interlocked courtyard blocks proposal and for their understanding of the fundamental issues put forward by Barnet and GLA and the site. Our competition winning proposal comprised:

- A much more articulated set of buildings which breaks the singular expression of one consistent building mass or wall
- Lowered heights towards Bunn's Lane, while placing more height towards the South where it is less sensitive, also create a variegated and interesting skyline
- Evoking traditional London building typologies of mansion style buildings surrounding a set of urban squares and courtyards
- More efficient rectilinear L-shaped building blocks
- A 'closed community' arrangement of buildings which protects the public amenity space in the centre of the scheme.

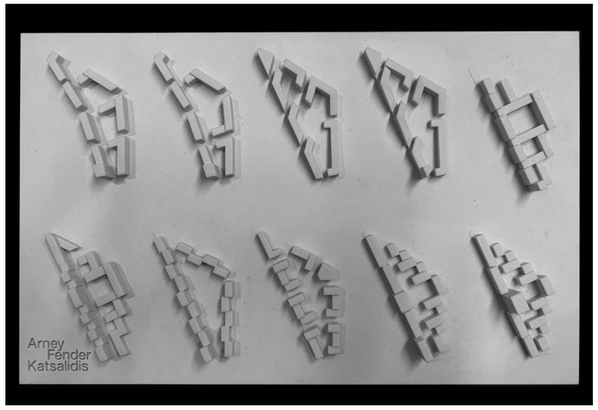
Further improvements were also incorporated into the competition-winning scheme after meeting with GLA which led to:

- Building separation distances designed to 21m
- Optimised and increased number of blocks and moved the tower over the car park space
- Move the buildings along the A1 further into the site but maintain 21m building distances.

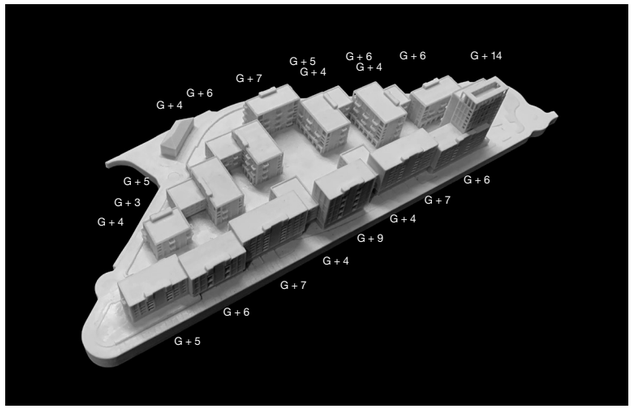
Further meetings with GLA and Barnet were held and more comments were incorporated into the scheme, namely:

- Move the tower to the south more into the car park / piazza area
- More landscape areas around the A1 to provide more connectivity
- A design which creates more of a welcoming entrance along Bunn's Lane and accessible gradient access for wheelchair users
- Improved connections to public transport infrastructure
- Reduction of car parking spaces and introduction of arrival square to the South
- Demonstrate better connectivity to cycle infrastructure
- Greater connectivity to the south over the M1 pedestrian bridge to Grahame Park Way, to access local public transport

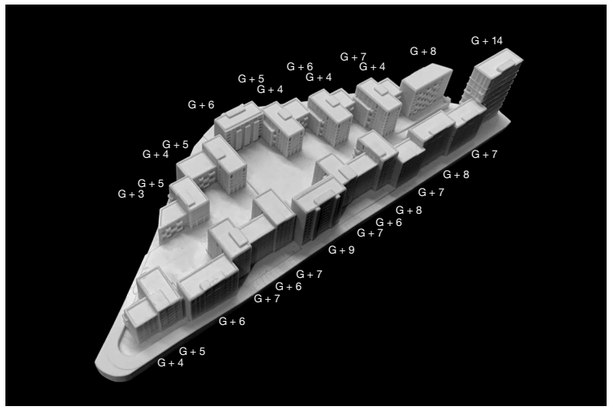
The final scheme incorporates these successive changes and comments and led to a scheme which is much better connected into the local area's public transport systems and has increased access to neighbouring main Thameslink Station. The significant improvements made and willingness of the team to take on comments and concerns gave confidence to Barnet Planning Officers and GLA and led to the new Barnet Application.



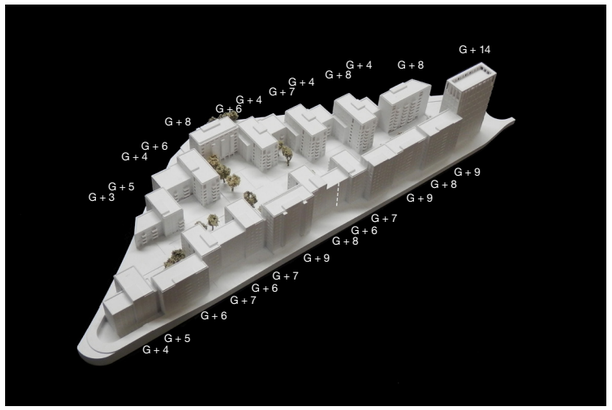
Studies during July 2017 competition exploring different urban massing moves



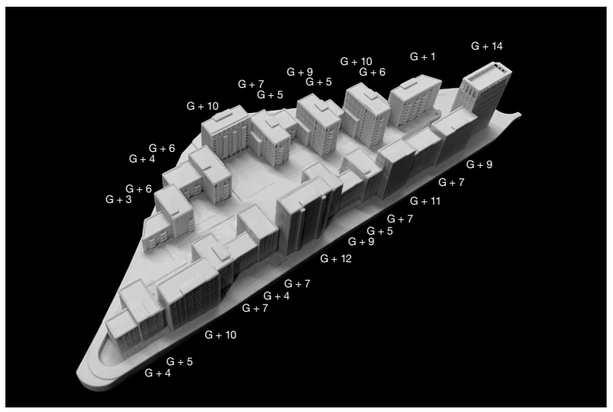
Final Competition winning design July 2017 and presented back to the GLA and Barnet with greater acceptance of the new scheme



717 Units. Planning application November 2017
Optmised distances, additional blocks and moving the tower element more south



724 Units. Application ammended June 2018
Optimisation of units by adding more unit mixes and holistic improvements to the landscape and site connectivity



844 Units. Planning application March 2019
Massing adapted to GLA MDA comments

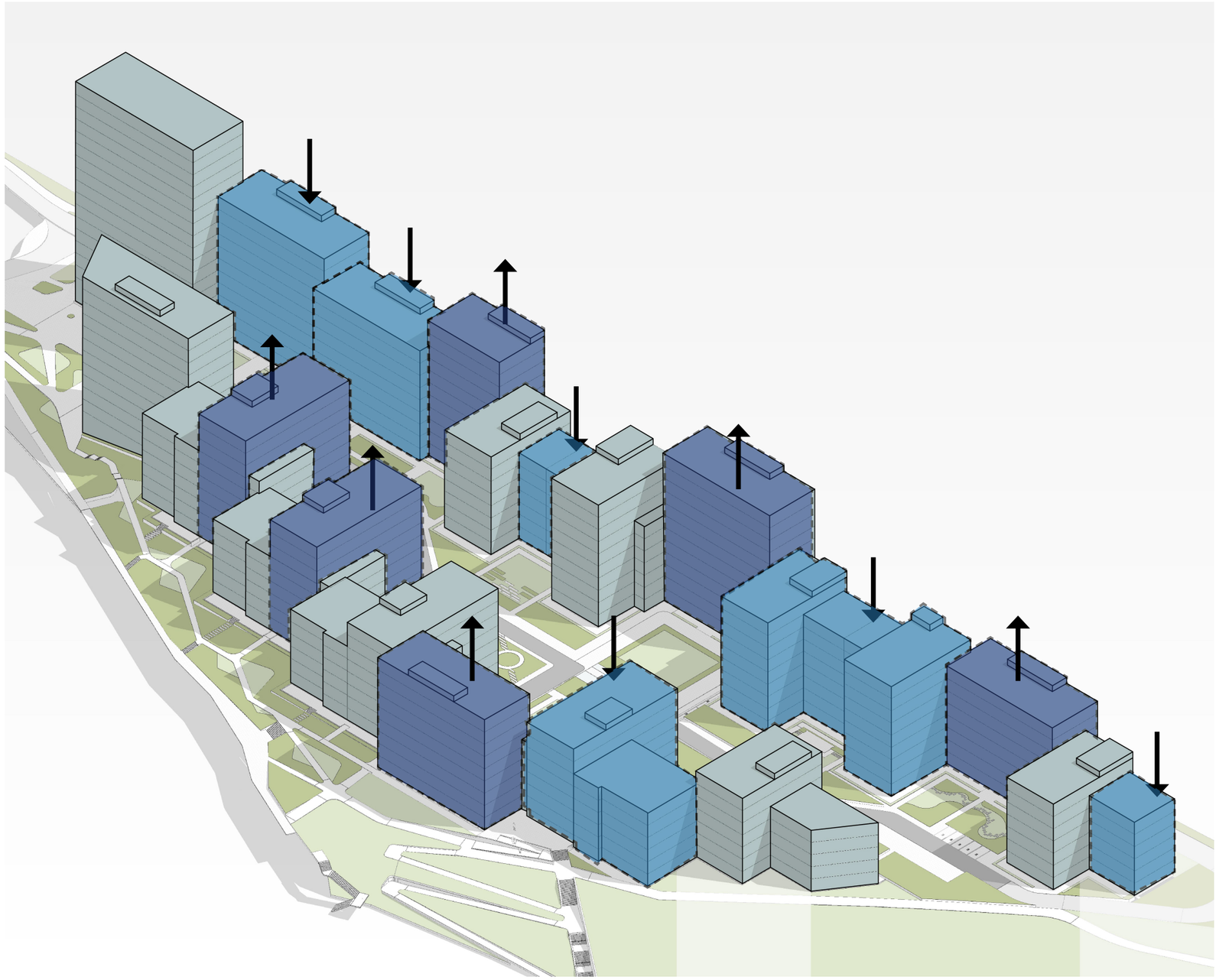
3.2 Form and massing

3.2.2 New form and massing

The design has taken on board the MDA comments on giving more articulation break away from the reading of long “mega building structure”. Taller elements were added to provide more variety and articulation of height. Similarly, the introduction of three major façade articulations provides more of a mix and variety of façade expressions by changing the courtyard buildings and other buildings in the North to exhibit a more vertical brick pier expression. This greatly helps create a much needed break in the repetitive nature necessitated by the protective ‘wall’ building structure.

Furthermore, the building facades have been simplified by the removal of the green brick areas, to give an easily leasable reading of the building massing. A similar tone of brick colour is introduced to replace the green brick, while the beige brick tones have been replaced with a slight red brick, to link the colour palette to the characteristics seen in Mill Hill’s housing typology.

The new massing creates a new family of complementary forms when read from afar, and a pleasing composition of form when approaching from Bunn’s Lane from the West and East, and from the A1.



3.4 Form and massing - Strong precedent for developments of this nature with large blocks surrounding a long, publicly accessible central space with a road.

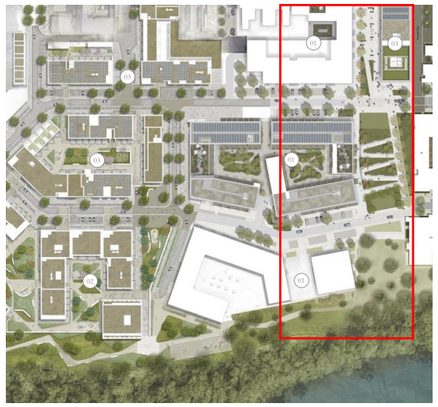
There are various successful examples of longer building blocks which protect public central amenity spaces. A good example is the new developments at Battersea Power Station, where the building arrangements is effectively designed to shield the residential units from the noise from the neighbouring railway line. The line of buildings is over 100m for Faraday House and and over 300m long for Circus West Village.

Another good example is White City, where there are over 150m long building fronts public space. Beam Park and Hendon Waterside are also good examples of a long high quality building fronting a long linear park.

As demonstrated, these are all built examples in London, and that long linear building arrangements is an accepted building and urban design response give typology and site constraints.

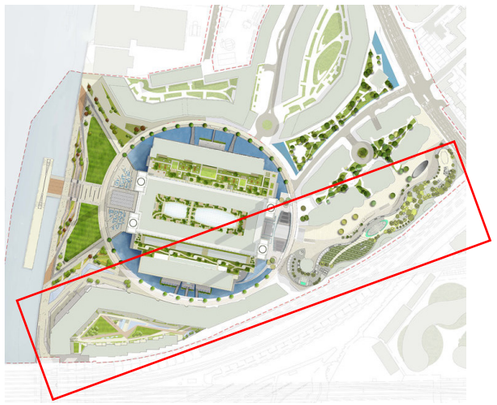


White City Masterplan


Hendon Waterside



Beam Park Masterplan


Battersea Masterplan


White City - Long linear Park


Hendon Waterside - Tower


Beam Park - Long linear park


Battersea - protective residential fronting the railway


White City - Long linear Park


Hendon Waterside - Linear Park


Beam Park - Long linear park


Battersea - Long linear courtyard on the inside

3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.3 Facades

3.3.1 Simplified architecture

On reflection to the MDA comments on whether the façade design can be simplified and be nuanced to create something humane and easier to read. The team looked at many design options and the resultant design incorporates a slighter darker brown brick tone in exchange for the glazed green brick and also the changing slightly the tone of the beige brick to link to the general colours of surrounding Mill Hill housing. The simplification and subtle changes in colour avoids visual confusion and creates an simple elevation showing a stronger reading of recessive and advancing building elements in the overall design.



Scheme previous MDA review. A1 facade



Scheme after MDA review, A1 Facade - Simplication



Scheme previous MDA review. M1 facade



Scheme after MDA review, M1 Facade - Simplication

3.3 Facades

3.3.2 Design rationale for the new 'courtyard buildings'

The courtyard buildings fronting the main central courtyard have been simplified by adopting the facade typology of the main tower. This has been to done to create a family of buildings which work together as visual elements breaking up the large lower building massing with legible points of reference when viewed from a far.

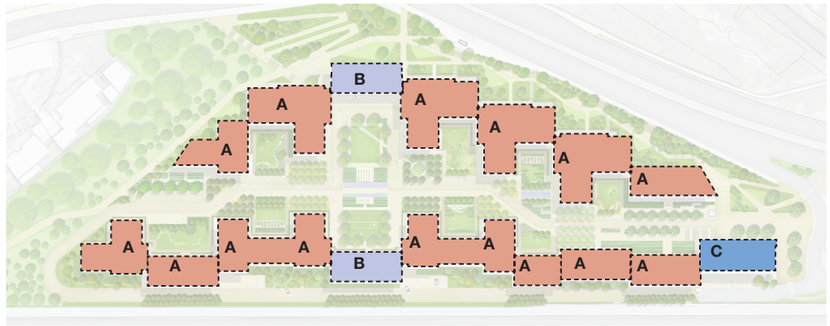
The courtyard buildings have increased in height and takes on 2 storey recess area at the top similar to the tower expression. The material articulation with a GRC frame and vertical brick piers and infills which is similar to the tower expression.



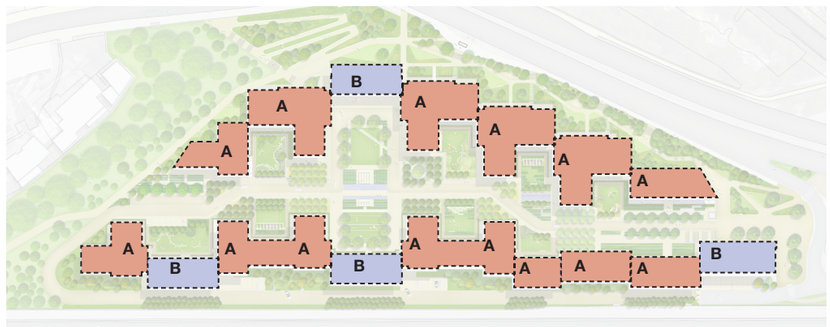
844 Units. Scheme previous MDA review



844 Units. Scheme after MDA review



844 Units. Scheme previous MDA review



844 Units. Scheme after MDA review



844 Units. Scheme previous MDA review



844 Units. Scheme after MDA review

3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.4 Accessibility and Connectivity

This chapter was prepared by Space Syntax to provide a high level impact assessment of the Pentavia Mill Hill residential development in London Borough of Barnet.

Space Syntax has pioneered a unique, space-based approach to the modelling of human activity patterns in buildings and urban systems. Their models integrate multiple influences on behaviour including:

a) spatial layout hierarchy, from more accessible to less accessible places
b) the distribution of object attractors and land uses
c) the location of transport nodes.

Space Syntax models simultaneously analyse pedestrian, cycle and vehicle movement networks.

Space Syntax key findings show that the masterplan creates the accessibility conditions for it to develop into a successful place for both local residents and the wider community.

Within the heavy constraints imposed by the M1 and Watford Way, the development provides links into the surrounding areas extending its walking and cycling catchment to the residential communities surrounding the site.

The scheme creates a new linking North / South pedestrian link throughout the site connecting this inaccessible piece of land into Mill Hill in the North and connecting over to Colindale to the South. This will create a new route which will be used by residents and connects to existing movement patterns across the neighbourhood.

The pedestrian movement analysis reinforces the positive creation of the new linking street which will help better connect Mill Hill to journeys to the south over the M1 towards residential development along Grahame Park Way.

The improved connectivity is the basis from which the development can turn into a local destination providing the surrounding residential community to access to a variety of uses which do not seem present in the mono-functional residential neighbourhoods surrounding the site.

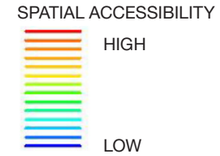
For those walking or cycling between the south of the site and Mill Hill station and the local centre at the Broadway to the north, the development offers an improved walking and cycling experience.

In summary, the development has transformed a heavily constrained site into a new local centre that as well as serving new residential community has the potential to turn into a local destination for the surrounding neighbourhoods.

SPATIAL ACCESSIBILITY

The approach works by transforming the street pattern of an area into a network “graph”, where the network is divided into individual “segments” of space, each segment being the street or path between two intersections.

Each segment or tile is then evaluated using a mathematical algorithm to calculate its interaccessibility within the network, ie how relatively easy or difficult it is to reach that segment from all other segments, or how likely it is that movement between different parts of the network is likely to pass along that segment.





BASELINE
The illustrates the constraints of the site as it is sandwiched between the 1 motorway and Watford Way with no opportunities for east west permeability between Bunns Lane and the pedestrian bridge and underpass, north and south of the site respectively.

Bunns Lane acts as an important local link leading to Mill Hill Broadway station and the Broadway.

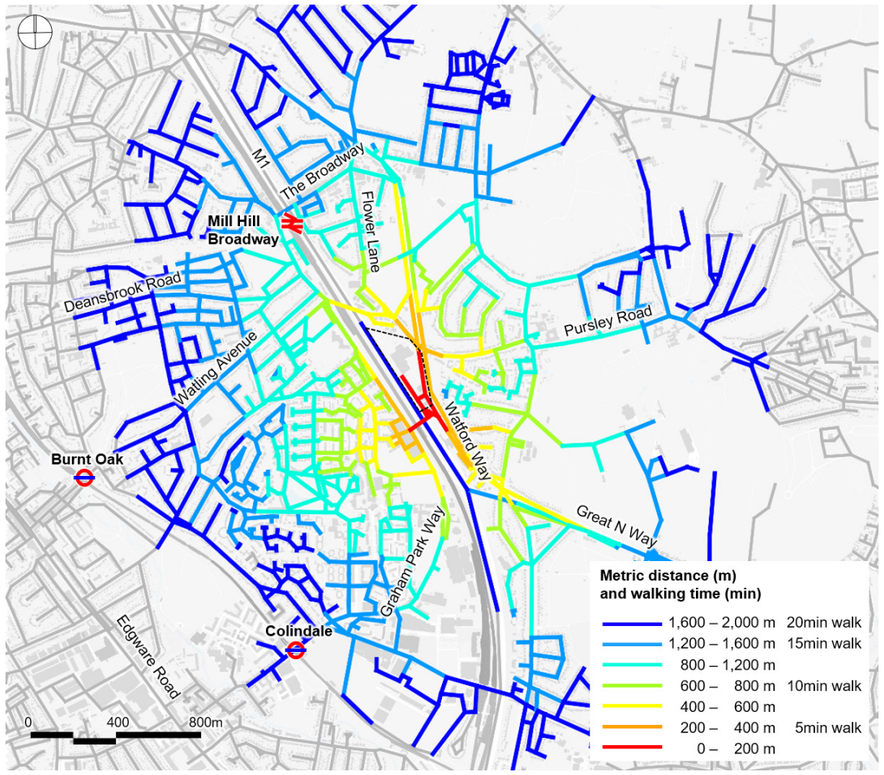


PROPOSED
The spatial accessibility analysis shows that the development will have a positive impact on the overall accessibility patterns of the area. The proposal creates a new route with good levels of accessibility which will provide an alternative north south route for those currently using Watford Way.

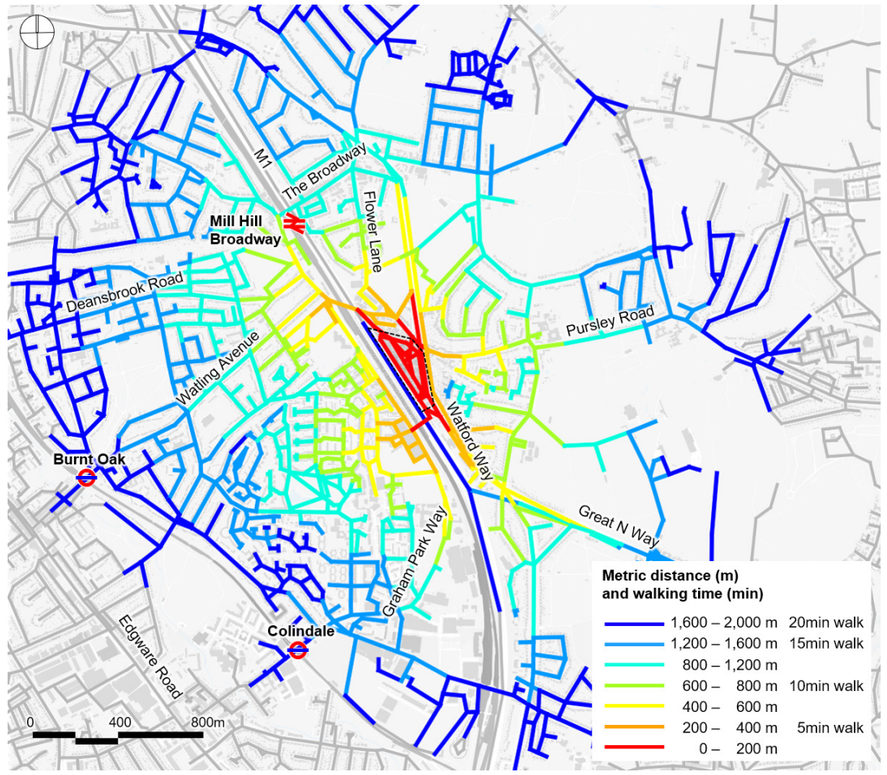
WALKING DISTANCE FROM SITE

Space Syntax also has analysed the walking distance from the site.

The street structure and linkages proposed in the masterplan improve the catchment or walking distance from the site. This means that there is an increase in people who can use the amenities provided within the masterplan.

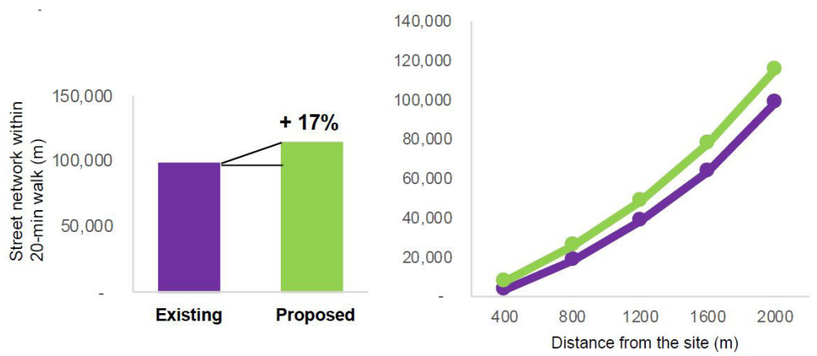


BASELINE



PROPOSED

This diagram shows how the proposed scheme will improve the access to the network street within 20min walking.



3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.5 Improved cycle connection

A combination of all the proposed accessibility improvements assists in making the site highly permeable for both pedestrians and cyclists.

New connections are made to Bunns Lane (which currently do not exist other than via a very steep & narrow connection on the north side of Bunns Lane), which facilitates the opening up of access to Mill Hill Town Centre via either Flower Lane or Bunns Lane. (1)

As with Mill Hill Town Centre, the new cycle connections facilitate access to Flower Lane & Mill Hill Park by creation of a new cycle link between the Site / A1 and Bunns Lane.(2)

The surface treatment to the shared, trafficable surfaces within the inner circus are less intrusive than the peripheral road and highlight that the space is for shared use by pedestrian and cyclists also. The route connects to both the north and the south and facilitates permeability across the site for both pedestrians and cyclists. (3)

The proposed new 3.0m wide cycle connection to Bunns Lane adjacent the M1 / Rail Bridge facilitates access to the northern end of Grahame Park Way and its associate cycle lane. This is a new and direct access towards Collindale. This connects to Grahame Park Way via the rail underpass which is subject to improvements. (4)

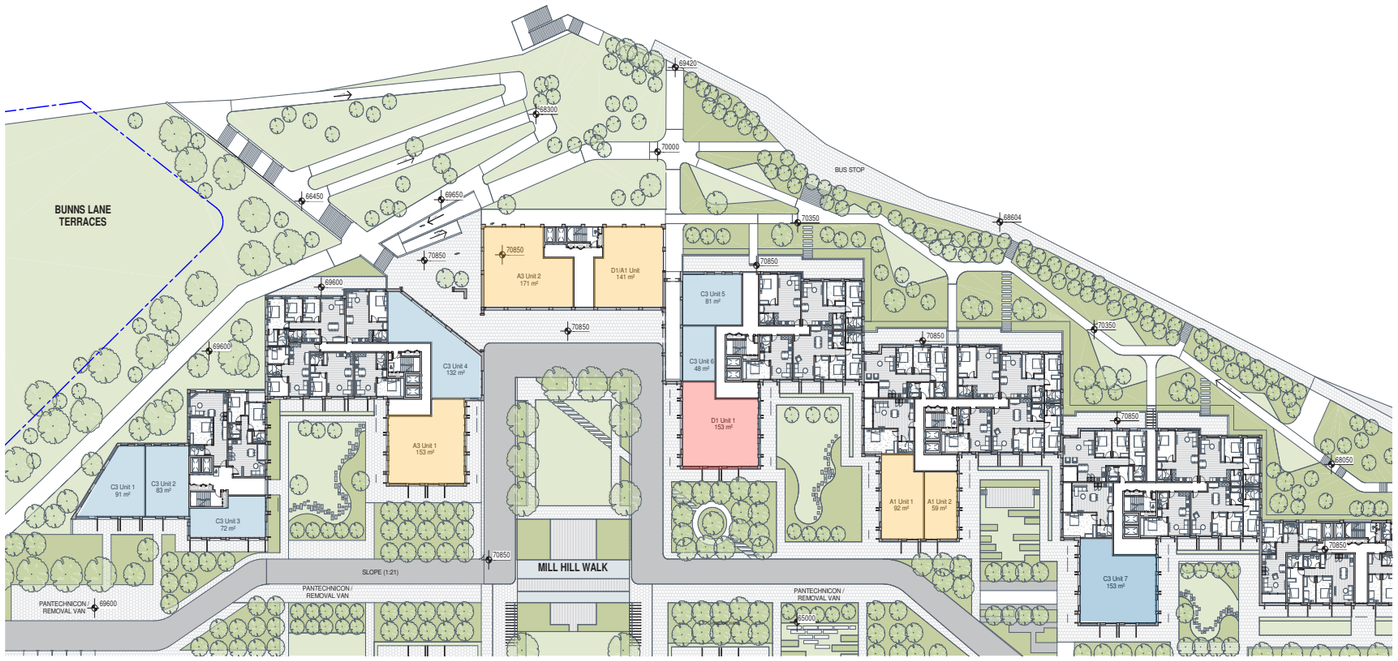
There is also connection atthe South entrance towards Collindale Station. (5)



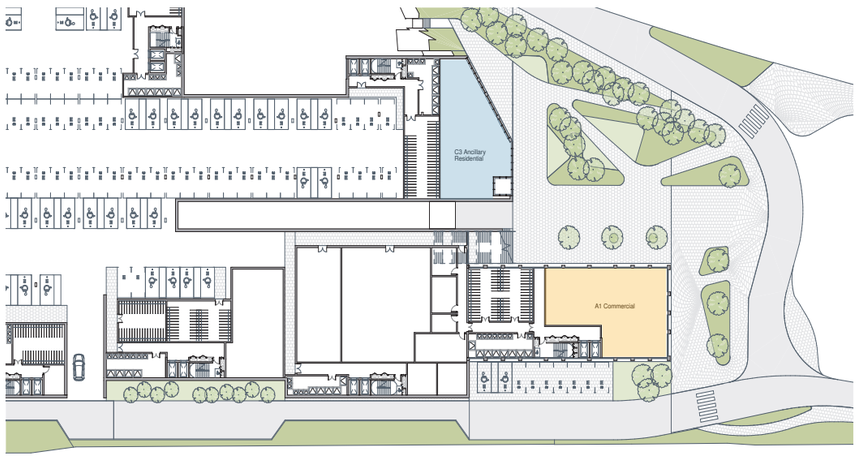
3.6 Non-Residential uses and Public Realm

The proposed routes through the central street and the paths to the east of the development offer active frontages and windows ensuring natural surveillance and activation of the public space.

The more usable and active uses like the cafes and gym are clustered around the main arrival route to create an active hub.



Ground Floor Plan



Lower Ground Floor Plan

COMMERCIAL USES

Type	Block	NIA (sqm)	GIA (sqm)
A Class Comercial	A	248	251
	F	151	154
	K	169	171
	M	153	154
		721	**731**
Build to Rent Ancillary Uses	B	209	212
	D	153	154
	H	129	132
	M	132	136
	P	245	251
		868	**885**
D1 Community Space	H	153	154
	K	141	143
		294	**297**
TOTAL		**1,883**	**1,913**







3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.7 High quality and liveable residential environment for future residents

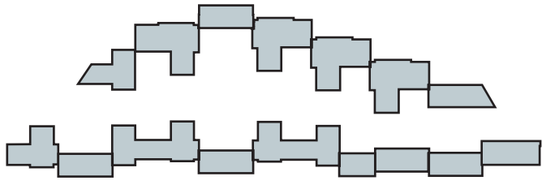
The new buildings have been carefully designed to provide an excellent living environment through a series of well conceived spaces. In portraying the journey, the following CGI's illustrate the a day in the life of resident living at Pentavia Mill Hill.

View 1
A resident and visitor approaches the scheme having walked from Mill Hill Broadway (10 minutes) or arrived at the newly located bus stop. The new archway denotes the scheme entrance.

Once reaching Pentavia Mill Hill on the north you are presented with welcoming and legible entrance to towards the heart of the scheme.

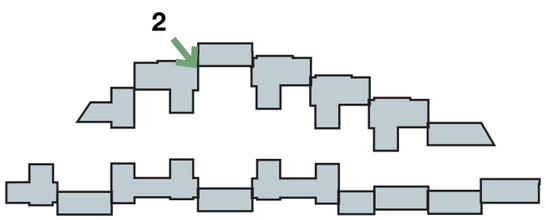


1



View 2
A series of landscape terraces and stairs lead you directly to main central courtyard. The arched entrance opens out to the central space where the resident cafés and amenities are strategically placed to gather the most sunlight hours for the active café spill out uses.





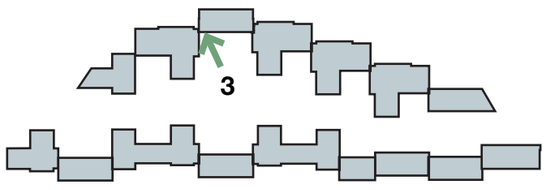
3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.7 High quality and liveable residential environment for future residents

View 3

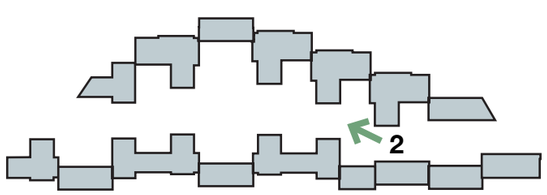
Once in the central courtyard, the scale of the buildings do not overwhelm the resident or visitor but provides a nice human experience within the carefully designed landscape setting.





3.7 High quality and liveable residential environment for future residents

View 4
The buildings give a sense of welcoming arrival through the linked green squares which incorporate a variety of external spaces for play, leisure and enjoyment.



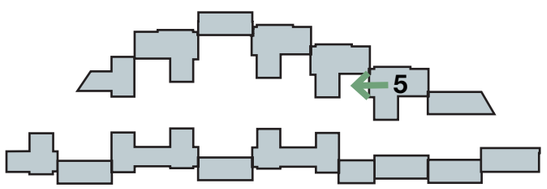


3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.7 High quality and liveable residential environment for future residents

View 5
The residential amenities are spread throughout the site to cater for residents who will like to have a place to drop in to work, access to nursery facilities, dry cleaning, supermarket, café, fitness centre and residents lounges and facilities. The scheme attempts to create a neighbourhood where resident doesn't enter a faceless development but inclusive and safe neighbourhood setting.



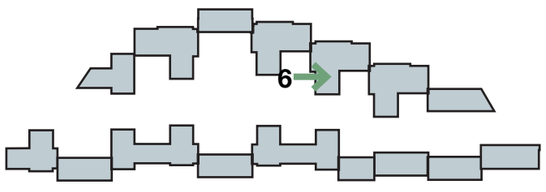


3.7 High quality and liveable residential environment for future residents

View 6

Residents are greeted by a legible entrance lobby to all the homes and are often adjacent residential amenity. In this case, the residential lobby is immediately adjacent to a residential workplace area. Each building is identifiable by name connected to a local famous local Mill Hill resident or branded so the building has an identifiable name.



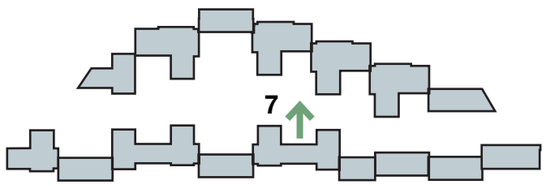


3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.7 High quality and liveable residential environment for future residents

View 7
The living areas are generous and flooded with light and face into the courtyard spaces. The homes have been designed to cater for all family needs in a simple and robust manner for either private owner to build to rent or affordable tenant. Everyone is treated like an equal enjoying well design apartment layouts. The homes are also designed to be adapted for accessible tenants.



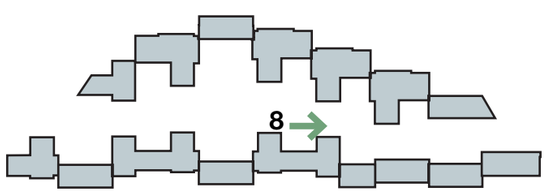


3.7 High quality and liveable residential environment for future residents

View 8

Equally the bedroom areas are light and airy with access to balconies spaces. The views on the balconies over the greenery landscaped areas are refreshing and pleasant during all times of the day.





3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.7 High quality and liveable residential environment for future residents

View 9

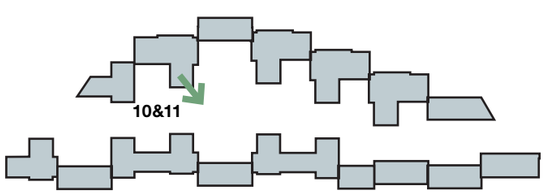
The view from a bedroom window on level 4 towards the M1 is also equally pleasant where the view west is through a canopy of trees onwards towards Colindale. The motorway below is not apparent in these views. The view is also very similar along the A1 with a landscape buffer where you look towards Mill Hill over a tree canopy. These bedrooms and rooms are mechanically ventilated with clean air drawn from the protected inner courtyards.

View 10&11

Residents enjoy rooftop amenity areas which look over the Mill Hill and surrounding area. Well-designed landscape areas give enjoyable and usable activity space on roof levels.







3.8 Quality of the North –East facing single aspect homes

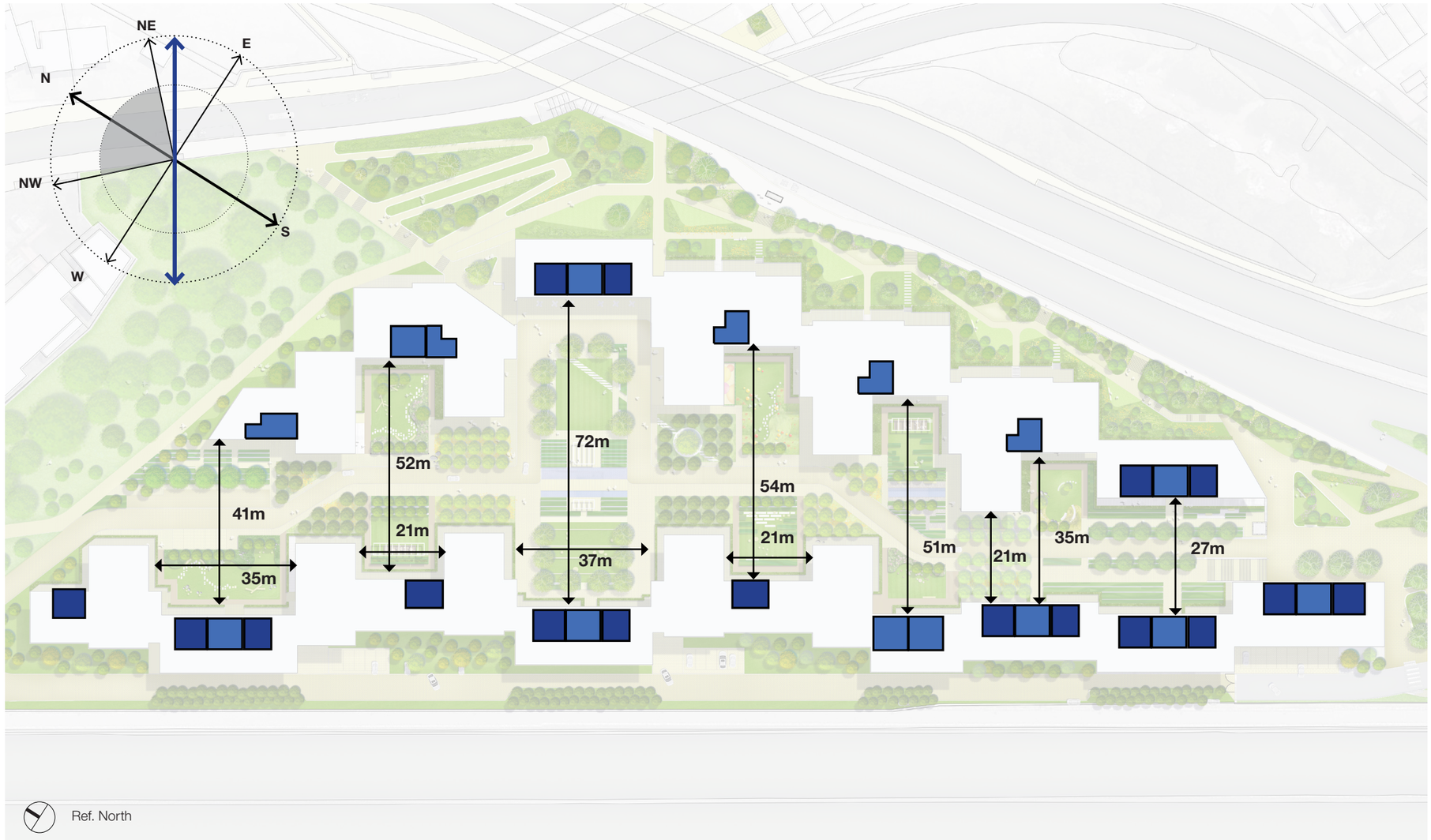
The scheme has been carefully designed to avoid direct North facing apartments. The following diagram shows the location of the single aspect units, which all are looking towards internal courtyards and non of them are facing North.

There are 204 out of the 844 units that are single aspect and NE - East facing but all of them are compensated with long and appealing views to central spaces of the developent.

Single Aspect 1B unit

Single Aspect 2B unit





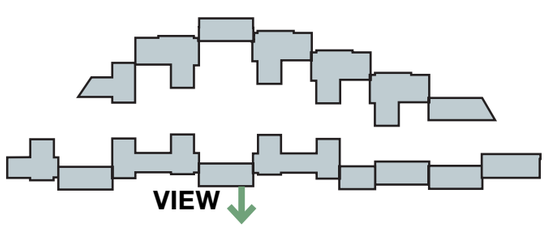
3.0 RESPONSE TO MAYOR DESIGN COMMENTS



3.9 Quality of the bedrooms facing the M1

The MDA noted a concerned that the bedroom spaces facing the M1 will not have the ability open windows onto the M1. This is in place on the advice from our air quality consultants, which requires clean air to be mechanically supplied from the courtyard side and central green spaces, to ensure the best quality air (exceeding World Health Organisation guidelines) is supplied to these bedrooms. The bedrooms all have views across the M1 through a tree canopy towards Colindale.

The view from a bedroom window on level 4 towards the M1 is also equally pleasant where the view west is through a canopy of trees onwards towards Colindale. The motorway below is not apparent in these views. The view is also very similar along the A1 with a landscape buffer where you look towards Mill Hill over a tree canopy. These bedrooms and rooms are mechanically ventilated with clean air drawn from the protected inner courtyards.





3.0 RESPONSE TO MAYOR DESIGN COMMENTS

3.10 Overlooking corner apartments removed

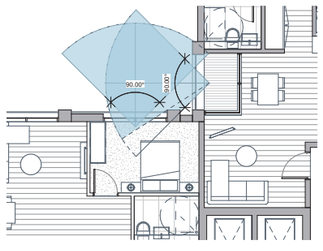
The MDA highlighted a study is required to look closely at the corner areas were there maybe issues with overlooking into adjacent windows.

A study was carried out to look at all corner conditions with assessment made from centre of window pane or balconies with a viewing angle of 90 degrees and looking where the view cone will hit an adjacent wall or window.

There isn't any direct overlooking and only 3 situation with bedrooms but in these cases, the overview is always partial to the room and never direct to the beds.

We have identified few instances that will required mitigation, corners G, I, N & P, where windows will be obscured through the introduction of translucent glass or industrial rolled dimple glazing. This obscured glazing is always located in bathrooms or in secondary windows of kitchens and bedrooms.





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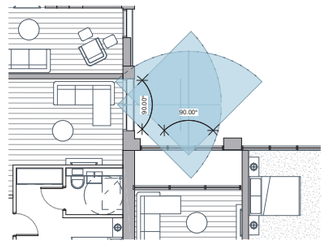

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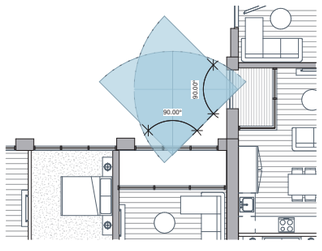

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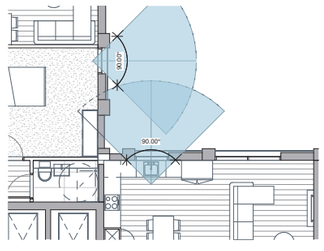

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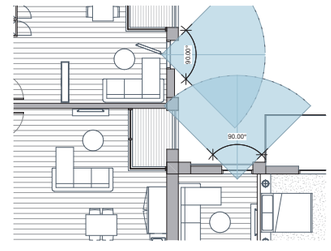

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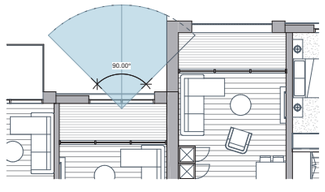

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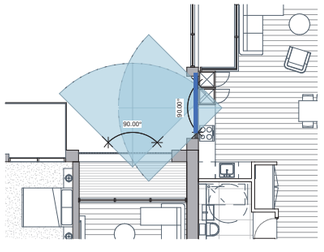

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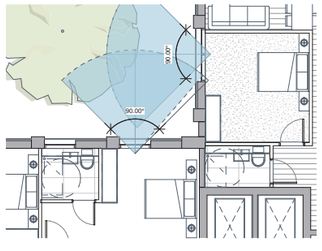

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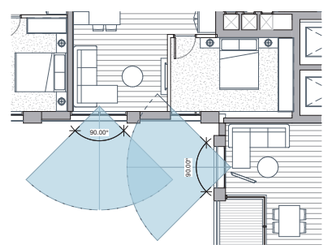

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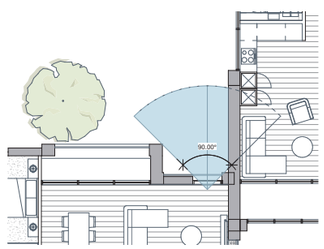

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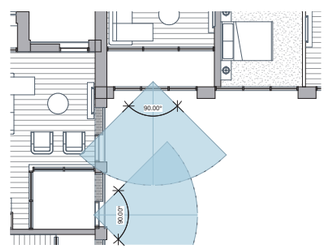

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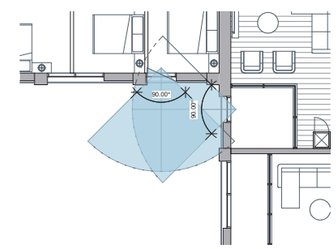

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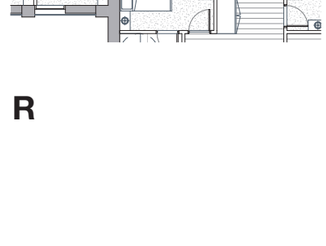

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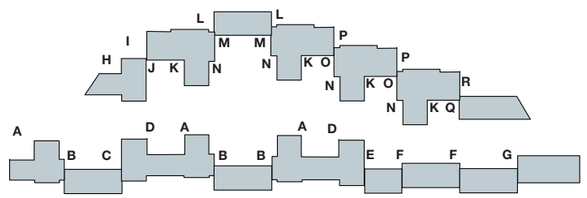


Obscured Glass

4.1 Design Objectives

Through the context analysis and briefing process the following key design objectives for the development were identified:

- **A new community**: Creation of a vibrant, new residential community through a significant regeneration of Brownfield land in the borough

- **Enhancing links**: Reinforce and enhance links to Mill Hill, Graeme Park Way and neighbouring Barnet College to the front entrance of the site. This will be acheived through a redefined sequence of spaces tot eh site from the pedestrian bridge over the M1 and railway. Further improvements have been considered to enhance links to Bunns Lane and Mill Hill town centre.

- **Protecting the heart of the community:** Turn the development inwards and introduce an articulated wall to sheild and protect the central amenity spaces from the busy A1 and M1.

- **Creating places:** Allow buildings to form edges to traditional streets and introduce a series of diverse spaces for the community to enjoy.

- **Providing homes:** Provide high quality Build to Rent, Private Sale and Affordable residential homes with private amenity space, secure large courtyards, and play spaces.

- **Landscape:** Enable increased access to green spaces by connecting the neighbourhood with Mill Hill and by introducing new high quality landscaping as an integral part of the scheme.

- **Identity:** Create a distinctive place with a clear sense of identity, orientation and address.

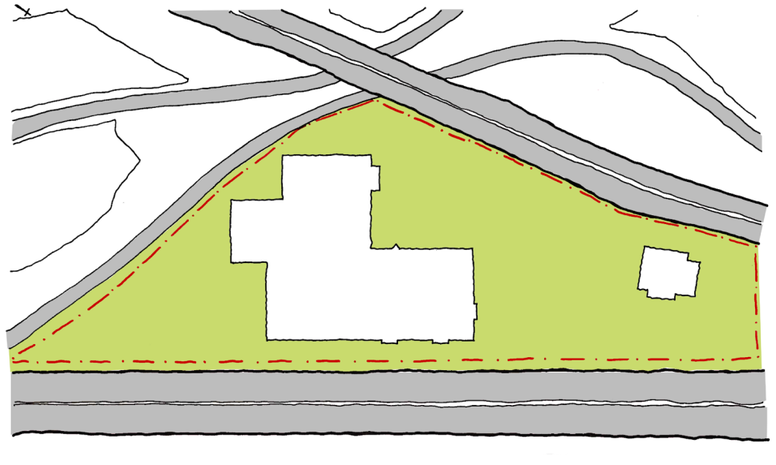
- **Fitting into Mill Hill:** Unify the site with a consistent architectural language, but to include variations on a theme to create a visual richness, which fits in well and references Mill Hill's vernacular.



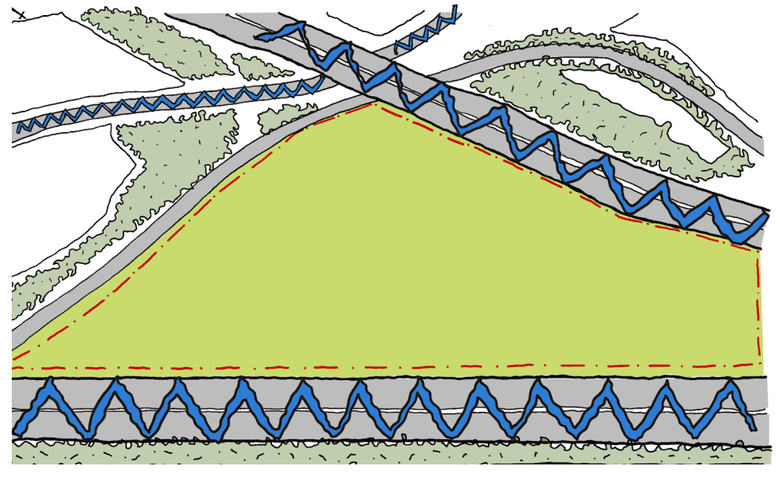
4.2 Concept Layout

The diagrams highlight the design principles of the proposed development:

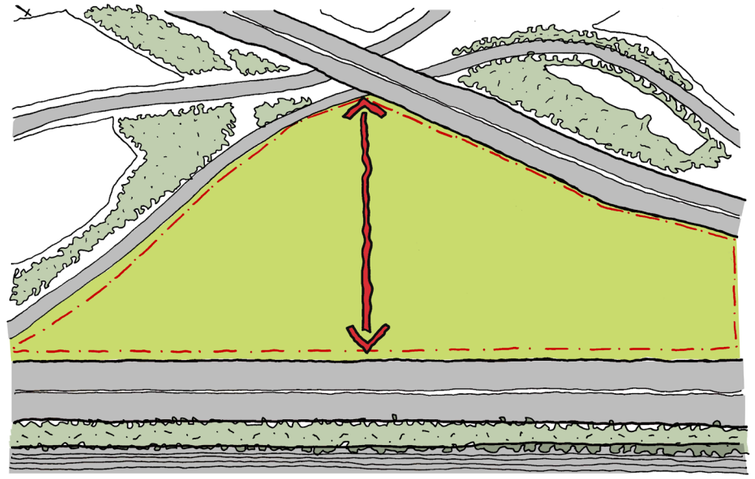
- Make full use of the former retail brownfield site by redeveloping into residential, retail uses and public space.
- Due consideration of noise, air quality and compromised visual amenity over neighbouring road ways.
- Recognition of where the largest depth of the site is located, to create a central social heart courtyard space together with a series of smaller and more intimate usable open space.
- Provide a clear and understandable sequence of interconnected and characterful spaces, entrances and front doors.
- Protection of the heart of the community by wrapping the permeated residential building footprint and built form.
- Protecting the Western edge along the M1 with an articulated wall
- Introducing rational straight blocks to protect spaces along the A1 and provide enclosure along elevation facing Bunns Lane.
- The Masterplan seeks to stitch back this isolated site into Mill Hill with a new pedestrian interface.



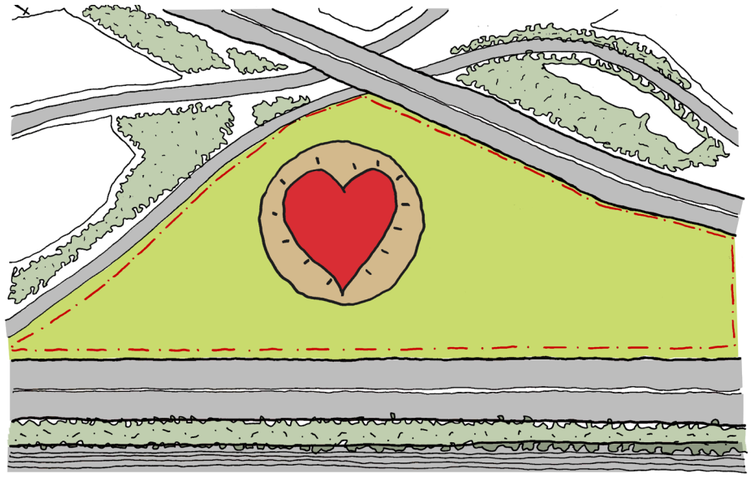
1. EXISTING SITE



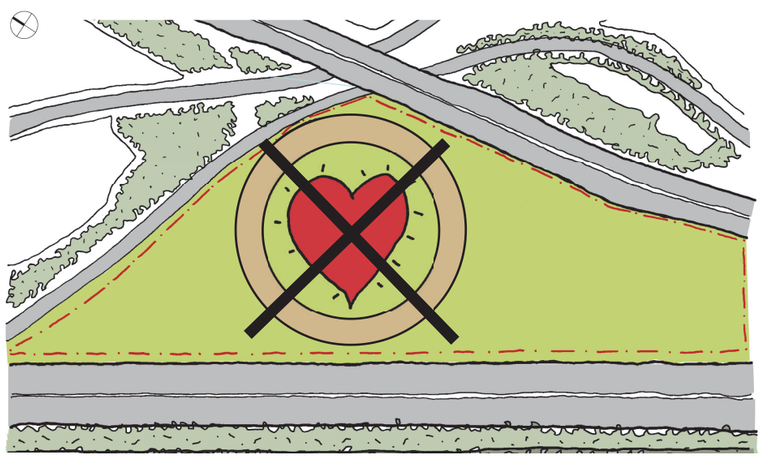
2. NOISE AND COMPROMISED OUTLOOK



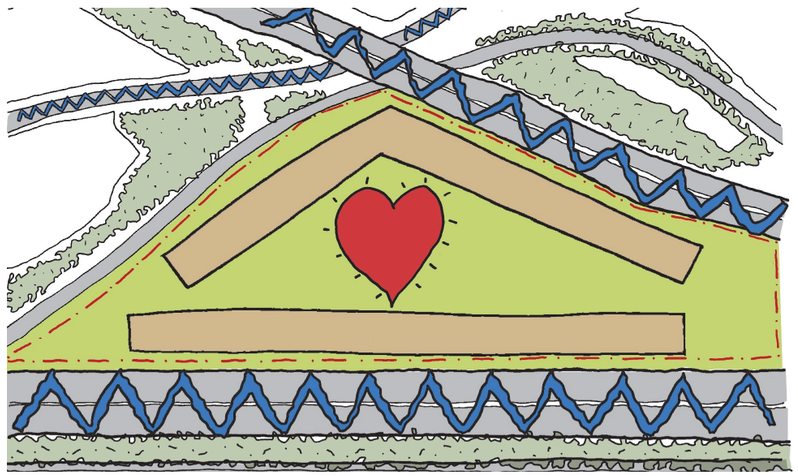
3. MAXIMISE DEPTH OF SITE



4. CREATE A COMMUNITY



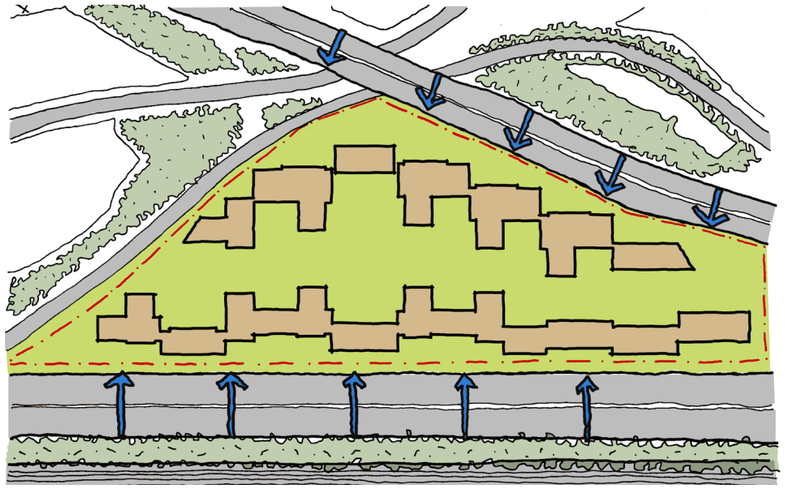
5. REDESIGN INITIAL DESIGN STRATEGY



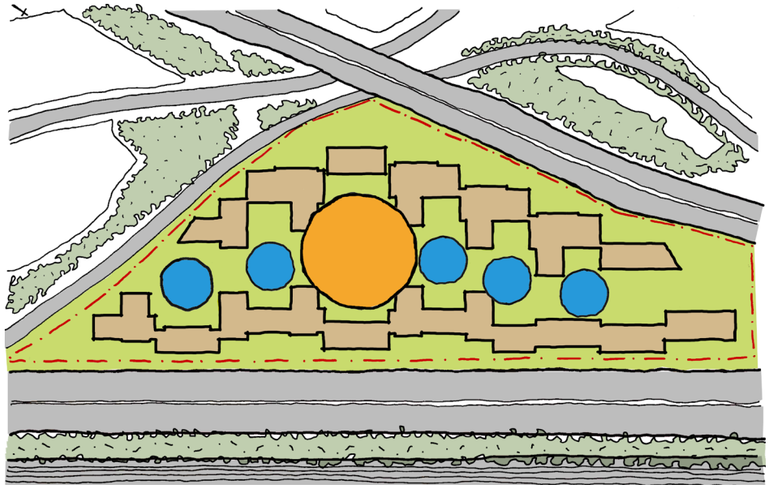
6. USE BUILT FORM TO PROTECT OUTDOOR SPACE



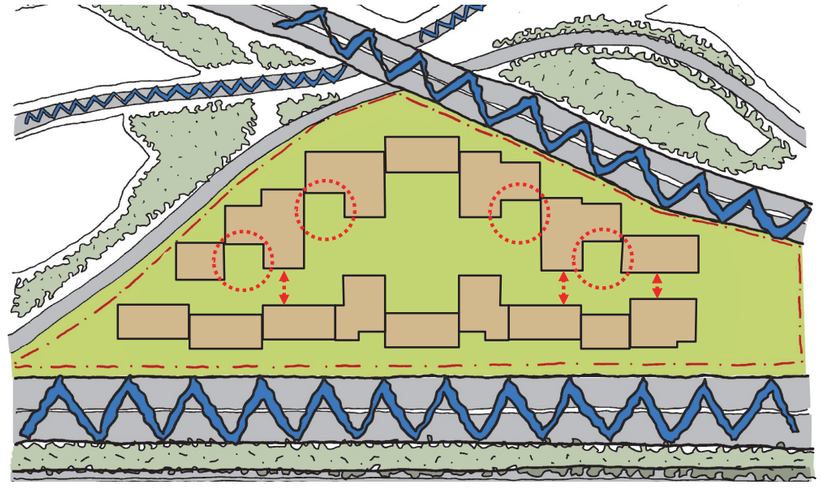
7. NEW BLOCK ARRANGEMENT WITH ARTICULATED WALLS



8. BUILT FORM PROTECTS CENTRE OF COMMUNITY



10. SERIES OF PROTECTED COURTYARD SPACES

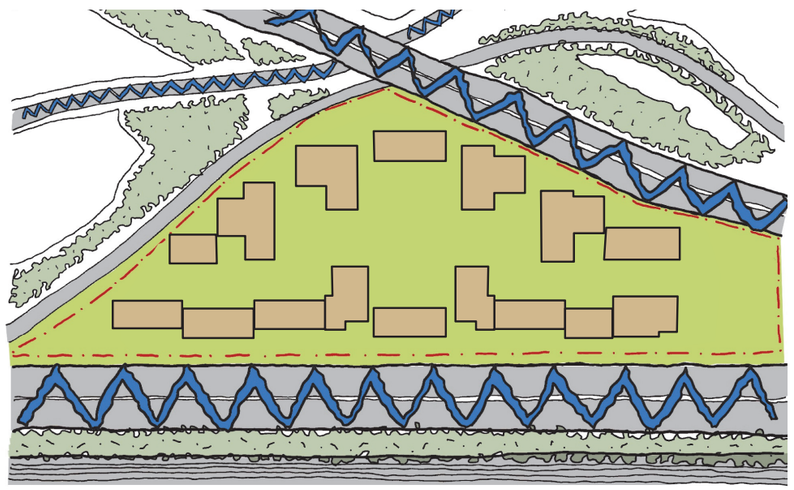


11. REFINED TO INCREASE SPACE BETWEEN BUILDINGS

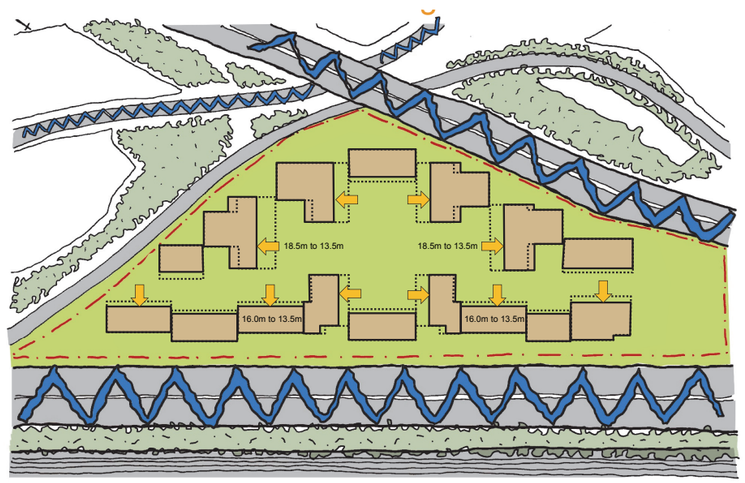
4.3 Design development

During the discussions with Barnet Planners and GLA the design was further improved by:

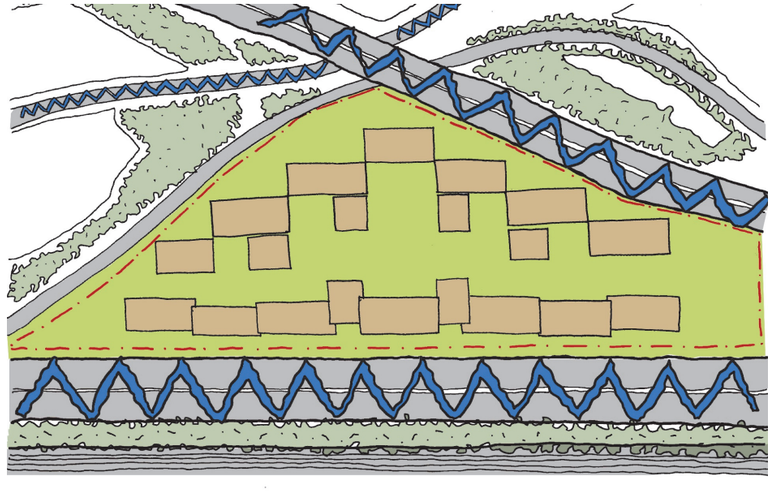
- Optimising the building widths
- Create more separation space between buildings. Min 21m.
- Introduce more variation along A1 by introducing more buildings
- Create a landscape buffer along the A1
- Moving the tower further south where it is least sensitive to Mill Hill



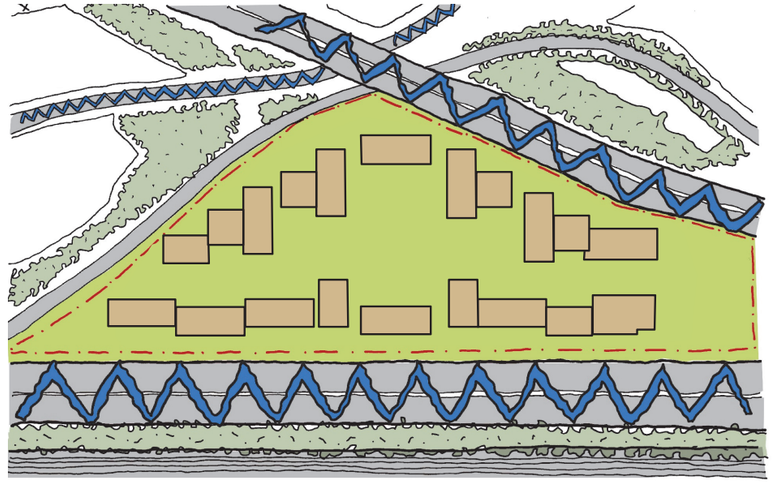
12. SHIELD FROM THE NOISE



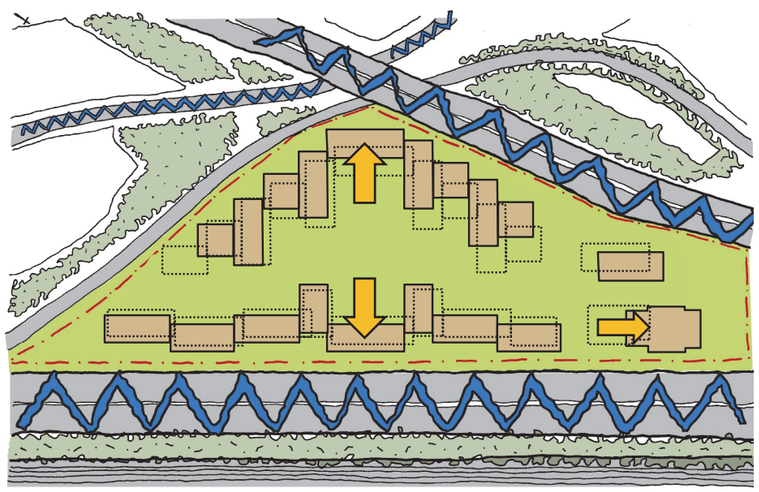
13. REDUCE BUILDING WIDTHS



15. DIVIDE INTO SMALLER BUILDINGS



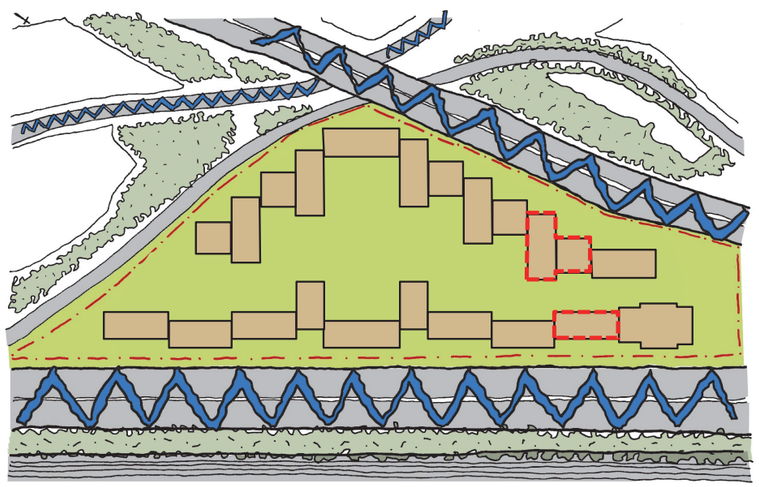
16. CREATE A MORE VARIEGATED EDGE TO THE A1



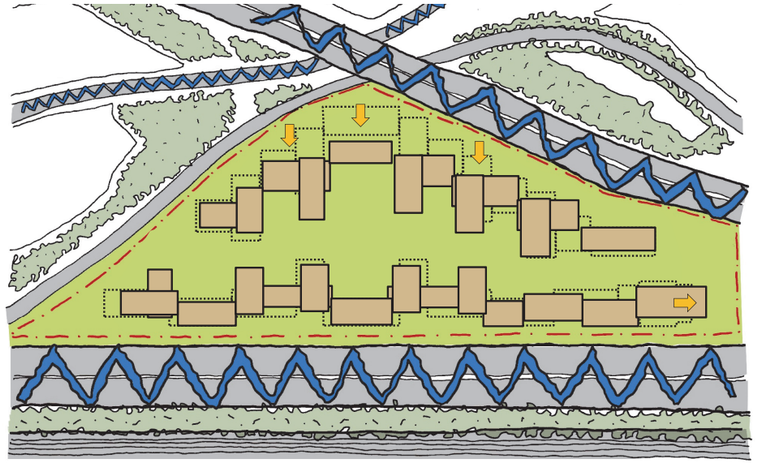
14. SLIDE BLOCKS TO THE BOUNDARY



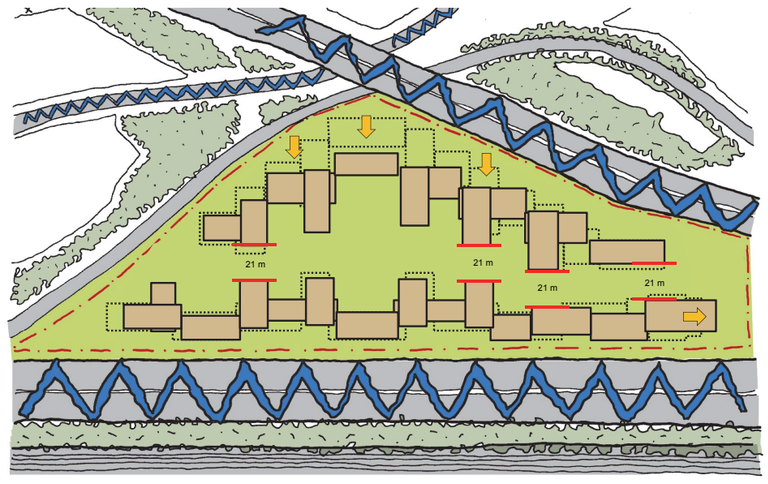
17. SHIFT THE BLOCKS TOGETHER



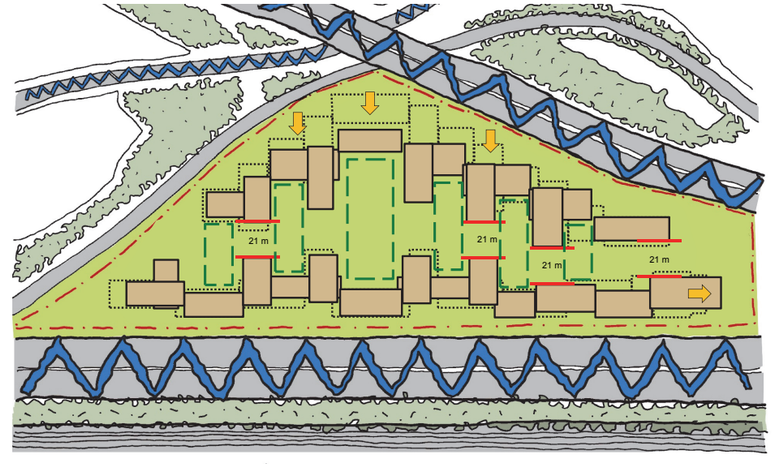
18. FILL IN THE GAPS



20. INCREASE DISTANCE FROM A1



19. IMPROVING BUILDING DISTANCES



21. IMPROVING THE GREEN SPACES

4.3 Design development

The design development resulted in significant improvements to the verified views from Bunns Lane and Mill Hill Park along Flower Lane which reduced the massing and perceived bulk towards these views.

The breaking of the blocks into individual buildings and creation of a variety of heights was a intentional move away from a singular building massing and more of traditional “London” model of a collection of buildings.

In addition, the colouration and predominant brick details evoke the patina and material of the Mill Hill.



BUNNS LANE VIEW - PLANNING APPLICATION
SEPT. 2016



BUNNS LANE VIEW - PLANNING APPLICATION
DEC. 2017



BUNNS LANE VIEW - PLANNING APPLICATION
MARCH. 2019

4.3 Design development

The design aims to reduce the massing impact to these key views and seeks to blend to its surroundings.

The collection of buildings creates a vision of new urban community and enhances the current use of the brownfield site.

The design development undertaken to date to form the March 2019 spplication takes into account GLA MDA review panel for more pronounced articulation to break the long facades through the introdction of hieght in various points in the masterplan.



MILL HILL PARK FLOWER LANE VIEW
PLANNING APPLICATION SEPT. 2016



MILL HILL PARK FLOWER LANE VIEW
PLANNING APPLICATION DEC. 2017



MILL HILL PARK FLOWER LANE VIEW
PLANNING APPLICATION MARCH. 2019

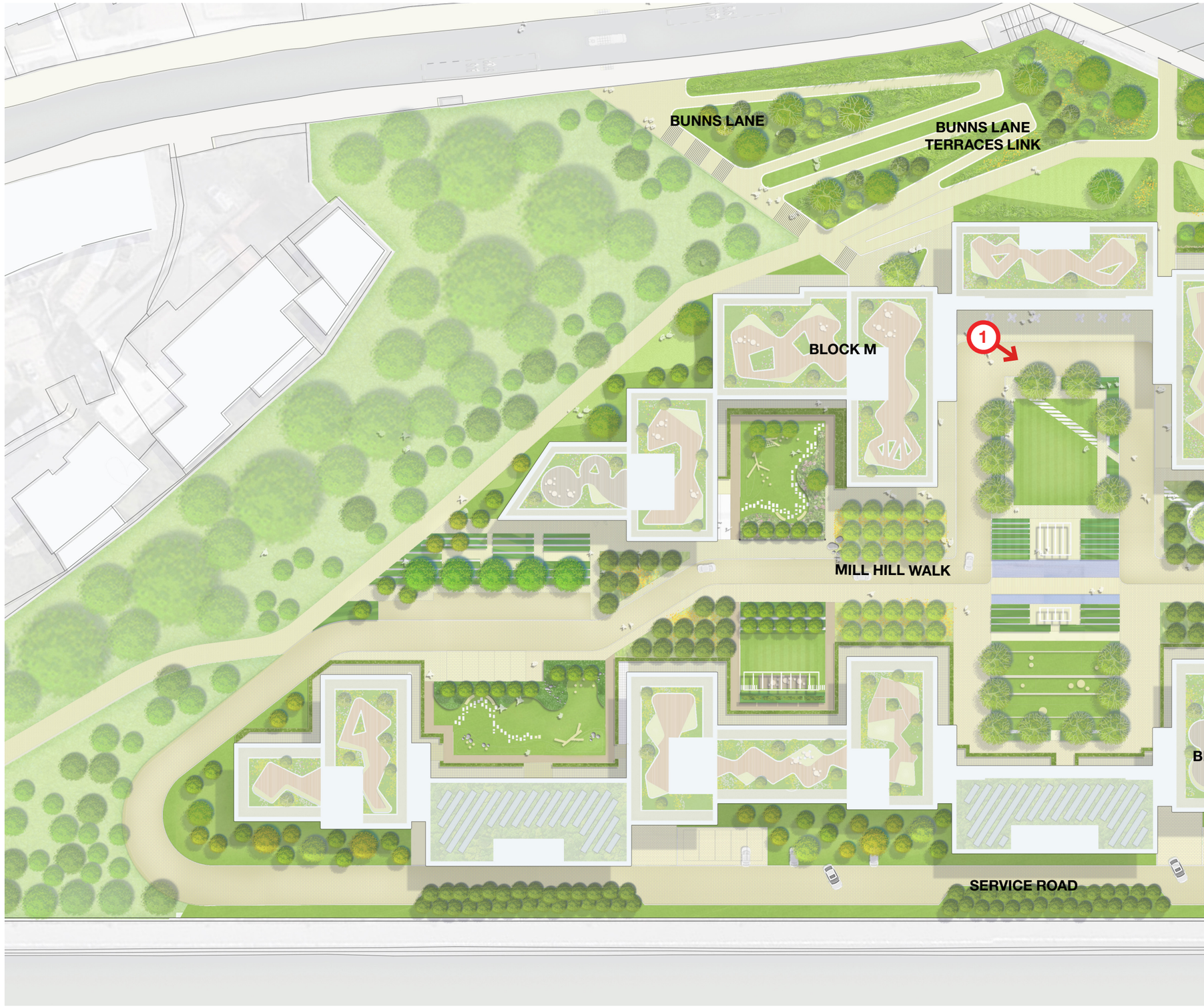
4.0 DESIGN CONCEPT



1



2




3
WATFORD WAY
PERIMETER ROAD
BLOCK H
BLOCK F
BLOCK D
BLOCK B
MILL HILL WALK
2
LOCK J
BLOCK I
BLOCK G
BLOCK E
BLOCK C
BLOCK A
4
M1
MOTORWAY



3



4

4.0 DESIGN CONCEPT

4.4 Use and Amount

Residential

The residential accommodation proposed is defined by the need to deliver a viable scheme and the need to provide suitable housing to help meet housing needs.

Accommodation will be designed to the Lifetime Homes requirements and to comply with the Mayor's Housing Design Guide. There will be a provision for 10.9 % adaptable accessible units spread across all tenures and unit sizes.

In total, the proposal will provide 844 Build to Rent, Private Sale and Affordable residential units, which will be offset at various rent levels with a mix of 41% Affordable and 59% Private.

The table opposite outlines in detail the amount, mix and types of residential accommodation proposed.

BLOCK A

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	30	1,567	16,864	16	10	4			
2 Bed (3 Person)	62	15	937	10,088	9	5	1			
2 Bed (4 Person)	78	4	312	3,357	4					
3 Bed (5 Person)	-									
3 Bed (6 Person)	98	26	2,550	27,453	14	8	4			
TOTAL	-	75	5,366	57,763	43	23	9	0	0	0

BLOCK B

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	20	1,039	11,184				18		2
2 Bed (3 Person)	63	11	693	7,458				9		2
2 Bed (4 Person)	88	22	1,945	20,937				18		4
3 Bed (5 Person)	88	1	88	950						1
3 Bed (6 Person)	-									
TOTAL	-	54	3,765	40,528	0	0	0	45	0	9

BLOCK C

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	18	941	10,131	11	4	3			
2 Bed (3 Person)	63	10	626	6,742	6	3	1			
2 Bed (4 Person)	73	20	1,466	15,784	12	6	2			
3 Bed (5 Person)	88	1	88	950		1				
3 Bed (6 Person)	-									
TOTAL	-	49	3,122	33,607	29	14	6	0	0	0

BLOCK D

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	56	25	1,392	14,980				25		
2 Bed (3 Person)										
2 Bed (4 Person)	76	27	2,065	22,232				27		
3 Bed (5 Person)	90	7	633	6,810				7		
3 Bed (6 Person)	105	11	1,150	12,373				11		
TOTAL	-	70	5,239	56,395	0	0	0	70	0	0

BLOCK E

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	14	732	7,880	8	4	2			
2 Bed (3 Person)	63	8	501	5,392	5	2	1			
2 Bed (4 Person)	73	16	1,174	12,635	10	4	2			
3 Bed (5 Person)	88	1	88	950		1				
3 Bed (6 Person)	-									
TOTAL	-	39	2,495	26,858	23	11	5	0	0	0

BLOCK F

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	55	22	1,217	13,102				22		
2 Bed (3 Person)										
2 Bed (4 Person)	77	24	1,843	19,836				24		
3 Bed (5 Person)	90	6	543	5,842				6		
3 Bed (6 Person)	104	10	1,041	11,205				10		
TOTAL	-	62	4,644	49,985	0	0	0	62	0	0

BLOCK G

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	2	104	1,123		2				
2 Bed (3 Person)	62	22	1,356	14,591	14	5	3			
2 Bed (4 Person)	73	12	879	9,465	7	3	2			
3 Bed (5 Person)										
3 Bed (6 Person)										
TOTAL	-	36	2,339	25,178	21	10	5	0	0	0

BLOCK H

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	56	19	1,055	11,357				19		
2 Bed (3 Person)										
2 Bed (4 Person)	76	20	1,523	16,398				20		
3 Bed (5 Person)	90	6	543	5,842				6		
3 Bed (6 Person)	107	7	748	8,055				7		
TOTAL	-	52	3,870	41,651	0	0	0	52	0	0

BLOCK I

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	67	9	599	6,453	5	3	1			
2 Bed (3 Person)										
2 Bed (4 Person)	84	21	1,764	18,990	13	5	3			
3 Bed (5 Person)										
3 Bed (6 Person)										
TOTAL	-	30	2,364	25,442	18	8	4	0	0	0

BLOCK I

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	67	9	599	6,453	5	3	1			
2 Bed (3 Person)										
2 Bed (4 Person)	84	21	1,764	18,990	13	5	3			
3 Bed (5 Person)										
3 Bed (6 Person)										
TOTAL	-	30	2,364	25,442	18	8	4	0	0	0

BLOCK J

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	7	365	3,930	2	4	1			
2 Bed (3 Person)										
2 Bed (4 Person)	76	23	1,755	18,888	17	4	2			
3 Bed (5 Person)	83	6	498		3	2	1			
3 Bed (6 Person)	93	6	556	5,979	3	2	1			
TOTAL	-	42	3,173	28,797	25	12	5	0	0	0

BLOCK K

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
Studio (1 person)	42	2	85	911	2					
1 Bed (2 Person)	52	20	1,043	11,231	12	6	2			
2 Bed (3 Person)	63	8	501	5,397	4	3	1			
2 Bed (4 Person)	74	20	1,472	15,841	12	5	3			
3 Bed (5 Person)										
3 Bed (6 Person)										
TOTAL	-	50	3,101	33,380	30	14	6	0	0	0

BLOCK L

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
Studio (1 person)	42	2	85	910	2					
1 Bed (2 Person)	52	24	1,251	13,465	14	6	4			
2 Bed (3 Person)	63	11	689	7,416	6	4	1			
2 Bed (4 Person)	73	26	1,908	20,539	16	7	3			
3 Bed (5 Person)	88	1	88	950		1				
3 Bed (6 Person)										
TOTAL	-	64	4,021	43,281	38	18	8	0	0	0

BLOCK M

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	54	20	1,073	11,552	10	7	3			
2 Bed (3 Person)	60	5	300		2	2	1			
2 Bed (4 Person)	77	12	922	9,929	8	2	2			
3 Bed (5 Person)										
3 Bed (6 Person)	99	10	993	10,686	8	2				
TOTAL	-	47	3,288	32,167	28	13	6	0	0	0

BLOCK N

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	6	314	3,382					6	
2 Bed (3 Person)										
2 Bed (4 Person)	76	18	1,375	14,800					18	
3 Bed (5 Person)		5	415						5	
3 Bed (6 Person)	93	5	463	4,982					5	
TOTAL	-	34	2,567	23,164	0	0	0	0	34	0

BLOCK O

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	67	9	603	6,495					9	
2 Bed (3 Person)										
2 Bed (4 Person)	83	20	1,668	17,950					20	
3 Bed (5 Person)										
3 Bed (6 Person)										
TOTAL	-	29	2,271	24,445	0	0	0	0	29	0

BLOCK P

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	62	10	623	6,710	5	4	1			
2 Bed (3 Person)										
2 Bed (4 Person)	81	13	1,055	11,356	8	3	2			
3 Bed (5 Person)										
3 Bed (6 Person)	109	3	326	3,505	2	1				
TOTAL	-	26	2,004	21,572	15	8	3	0	0	0

BLOCK O

BLOCK R

Unit Type	Average Unit Area m^2	No. Units	NIA m^2	NIA ft^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
1 Bed (2 Person)	52	6	315	3,389					6	
2 Bed (3 Person)										
2 Bed (4 Person)	78	15	1,168	12,572					15	
3 Bed (5 Person)		5	454						5	
3 Bed (6 Person)	93	5	463	4,982					5	
TOTAL	-	31	2,400	20,944	0	0	0	0	31	0

OVERALL MIX & AREAS

		Total			Build To Rent			Conventional		
Unit Type	Average Unit Area m^2	No. Units	% of Total	NIA m^2	Private rent	Discount Market Rent (DMR)	Living Rent	Private Sale	London Affordable Rent (LAR)	Shared ownership (LSO)
Studio (1 Person)	42	4	0%	169	4					
1 Bed (2 Person)	54	281	33%	15,281	83	50	21	84	21	22
2 Bed (3 Person)	62	101	52%	6,292	46	24	9	9	0	13
2 Bed (4 Person)	77	335		25,908	107	39	21	89	53	26
3 Bed (5 Person)	88	40	15%	3,526	3	5	1	19	10	2
3 Bed (6 Person)	100	83		8,289	27	13	5	28	10	0
TOTAL	-	844	100%	59,465	270	131	57	229	94	63

HOUSING TENURE

	Mix	Tenure	Mix	Type	Mix	Units	Split %	Total %	Hab. Rooms	Split %
Build-to-Rent	54%	Private Rent	59%	Private Rent	100%	270	59%	32%	1,019	32%
		DMR Affordable	41%	DMR	70%	131	29%	16%	492	15%
				Living Rent	30%	57	12%	7%	213	7%
					BTR Total	458	100%	54%	1,724	54%
Conventional	46%	Private Sale	59%	Private Sale	100%	229	59%	27%	879	27%
		Conventional AH	41%	London Affordable Rent	60%	94	24%	11%	375	12%
				Shared Ownership	40%	63	16%	7%	232	7%
					Conv Total	386	100%	46%	1,486	46%
					Total	**844**	-	**100.00%**	**3,210**	**100.00%**

Affordable	1,312	**41%**
Private	1,898	**59%**

WHEELCHAIR ADAPTABLE APARTMENTS

	M4(3)	
Block	No. Adaptable Units	% of Total
A	0	0.0%
B	11	1.3%
C	0	0.0%
D	7	0.8%
E	0	0.0%
F	6	0.7%
G	11	1.3%
H	5	0.6%
I	14	1.7%
J	0	0.0%
K	6	0.7%
L	6	0.7%
M	3	0.4%
N	0	0.0%
O	13	1.5%
P	10	1.2%
Q	0	0.0%
R	0	0.0%
TOTAL	92	10.9%

RESIDENTIAL AMENITIES

	Public	Private			
Block	Public Courtyard m^2	Roof floor gardens	Balconies m^2	Winter Gardens m^2	Total Private
A	6,623	-	-	675	675
B		-	166	300	466
C		-	148	134	281
D		502	109	411	520
E			111	111	222
F		502	91	367	960
G		-	149	84	232
H		502	69	283	854
I		226	63	126	189
J		252	64	229	293
K		239	12	170	170
L		-	136	330	467
M		493	39	224	756
N		252	46	192	238
O		226	57	127	184
P		311	108	143	251
Q		-	166	179	345
R		299	51	145	197
	6,623	3,804	1,585	4,231	9,620
TOTAL	16,243				

			Residents	Resident visitors	Car club	Retail/ Commercial/ Community	Total
Standard							
	Elect. active	20% total	74	10	5	7	96
	Elect. passive	Rest	207				207
			281	**10**	**5**	**7**	303
Disabled electrical active		10% units	85			2	87
			85			**2**	87
TOTAL			**366**	**10**	**5**	**9**	**390**

NO. OF CYCLE SPACES

	Residential	Retail/ Commercial/ Community	Total
Long stay	1544	8	1552
Short stay	30	21	51
TOTAL	**1,574**	**29**	**1,603**

COMMERCIAL USES

Type	Block	NIA (sqm)	GIA (smq)
A Class Comercial	A	248	251
	F	151	154
	K	169	171
	M	153	154
		721	**731**
Build to Rent Ancillary Uses	B	209	212
	D	153	154
	H	129	132
	M	132	136
	P	245	251
		868	**885**
D1 Community Space	H	153	154
	K	141	143
		294	**297**
TOTAL		**1,883**	**1,913**

GIA BY LEVEL

	Residential	Commercial/ Build To Rent Amenities				Other		Total	
Level	Residential	A1 Class Order	A3-A4 Class Order	D1 Class Order	C3 Ancillary	Carpark	Plant/ Refuse/ Bike Store	GIA m^2	GIA ft^2
Lower Ground	1,138	251		-	212	10,258	3,553	15,412	165,895
Ground	7,217	154	326	297	673	-	-	8,667	93,287
Level 01	8,587	-	-	-	-	-	-	8,587	92,431
Level 02	8,791	-	-	-	-	-	-	8,791	94,622
Level 03	8,790	-	-	-	-	-	-	8,790	94,613
Level 04	8,611	-	-	-	-	-	-	8,611	92,693
Level 05	7,776	-	-	-	-	-	-	7,776	83,703
Level 06	6,839	-	-	-	-	-	-	6,839	73,618
Level 07	5,513	-	-	-	-	-	-	5,513	59,340
Level 08	3,834	-	-	-	-	-	-	3,834	41,270
Level 09	3,793	-	-	-	-	-	-	3,793	40,827
Level 10	2,709	-	-	-	-	-	-	2,709	29,162
Level 11	1,097	-	-	-	-	-	-	1,097	11,804
Level 12	836	-	-	-	-	-	-	836	8,995
Level 13	392	-	-	-	-	-	-	392	4,225
Level 14	392	-	-	-	-	-	-	392	4,225
TOTAL	76,316	405	326	297	885	10,258	3,553	92,040	990,709

GIA BY BLOCK

	Residential	Commercial/ Build To Rent Amenities				Other		Total	
Block	Residential	A1 Class Order	A3-A4 Class Order	D1 Class Order	C3 Ancillary	Carpark	Plant/ Refuse/ Bike Store	GIA m^2	GIA ft^2
Lower Ground All		251		-	212	10,262	3,549	14,274	153,645
A	7,177							7,177	77,251
B	4,845							4,845	52,153
C	3,894							3,894	41,916
D	6,573				154			6,728	72,417
E	3,331							3,331	35,857
F	5,856	154						6,011	64,697
G	3,193							3,193	34,371
H	4,886			154	132			5,172	55,676
I	2,994							2,994	32,227
J	4,106							4,106	44,193
K	3,973		171	143				4,287	46,145
L	5,067							5,067	54,543
M	4,165		154		136			4,455	47,955
N	3,347							3,347	36,023
O	2,874							2,874	30,934
P	2,595				251			2,846	30,632
Q	4,443							4,443	47,827
R	2,996							2,996	32,247
TOTAL	76,316	405	326	297	885	10,262	3,549	92,040	990,709

GEA BY LEVEL

	Residential	Commercial/ Build To Rent Amenities				Other		Total	
Level	Residential	A1 Class Order	A3-A4 Class Order	D1 Class Order	C3 Ancillary	Carpark	Plant/ Refuse Store	GEA m^2	GEA ft^2
Lower Ground	1,278	273		-	226	10,400	3,710	15,887	171,002
Ground	7,760	171	329	360	755			9,375	100,913
Level 01	9,280							9,280	99,884
Level 02	9,510							9,510	102,368
Level 03	9,510							9,510	102,368
Level 04	9,315	-	-	-	-	-	-	9,315	100,269
Level 05	8,439	-	-	-	-	-	-	8,439	90,833
Level 06	7,464	-	-	-	-	-	-	7,464	80,347
Level 07	6,023	-	-	-	-	-	-	6,023	64,826
Level 08	4,192	-	-	-	-	-	-	4,192	45,124
Level 09	4,158	-	-	-	-	-	-	4,158	44,757
Level 10	2,972	-	-	-	-	-	-	2,972	31,993
Level 11	1,206	-	-	-	-	-	-	1,206	12,981
Level 12	919	-	-	-	-	-	-	919	9,892
Level 13	496	-	-	-	-	-	-	496	5,334
Level 14	496	-	-	-	-	-	-	496	5,334
TOTAL	83,018	444	329	360	981	10,400	3,710	99,241	1,068,225

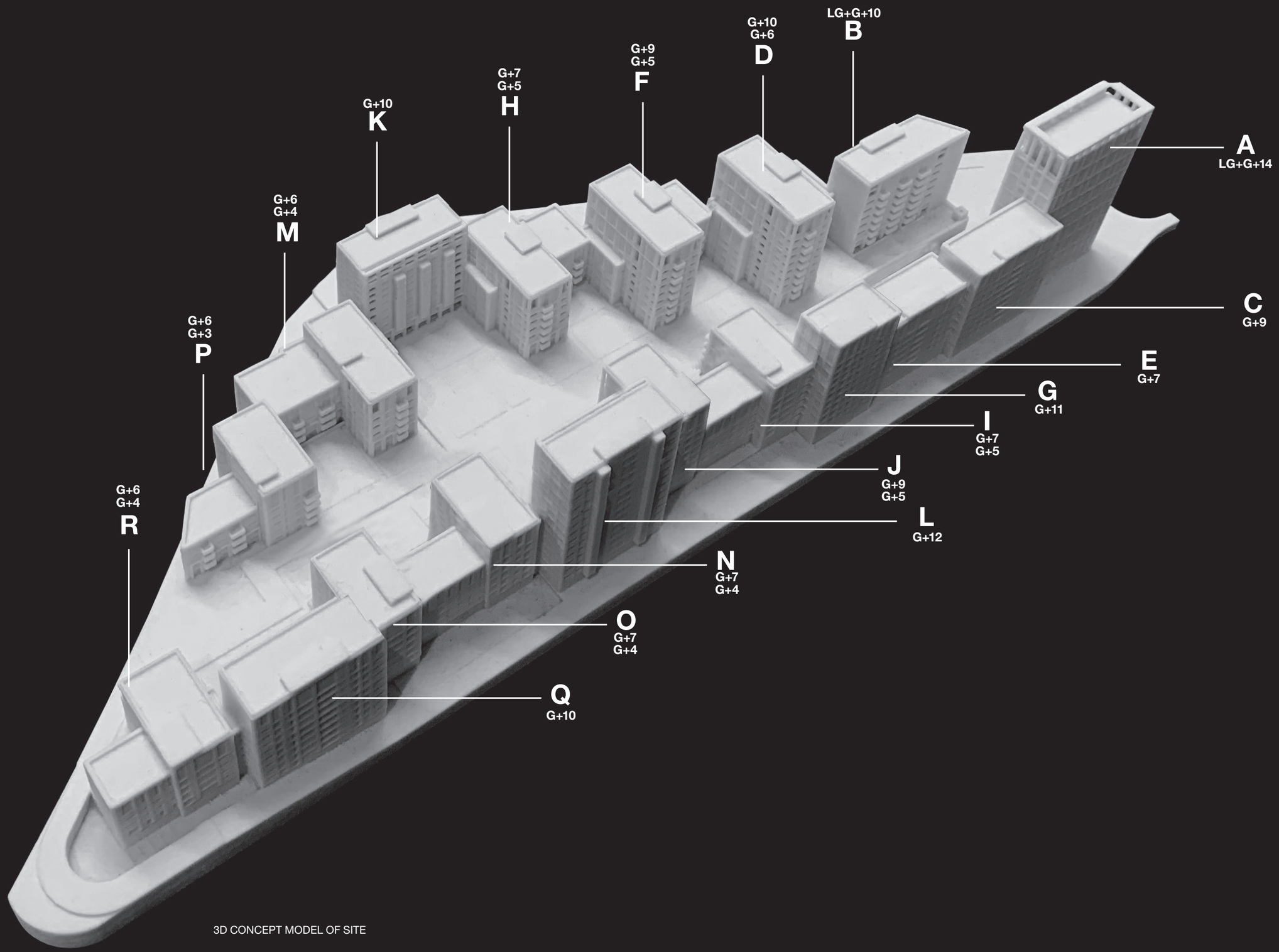
TOTAL GEA

	Residential	Commercial/ Build To Rent Amenities				Other		Total	
Block	Residential	A1 Class Order	A3-A4 Class Order	D1 Class Order	C3 Ancillary	Carpark	Plant/ Refuse/ Bike Store	GEA m^2	GEA ft^2
Lower Ground All	-	273		-	226	10,400	3,710	14,609	157,245
A	8,056							8,056	86,711
B	5,272							5,272	56,748
C	4,304							4,304	46,324
D	7,103				171			7,274	78,300
E	3,480							3,480	37,453
F	6,331	171						6,502	69,987
G	3,469							3,469	37,344
H	5,250			171	155			5,575	60,012
I	3,248							3,248	34,964
J	4,438							4,438	47,768
K	4,311		158	189				4,657	50,129
L	5,555							5,555	59,789
M	4,501		171		148			4,821	51,888
N	3,632							3,632	39,090
O	3,144							3,144	33,846
P	2,859				282			3,140	33,800
Q	4,721							4,721	50,815
R	3,346							3,346	36,013
TOTAL	83,018	444	329	360	981	10,400	3,710	99,241	1,068,225


FITNESS

4.0 DESIGN CONCEPT

4.5 Heights and Massing

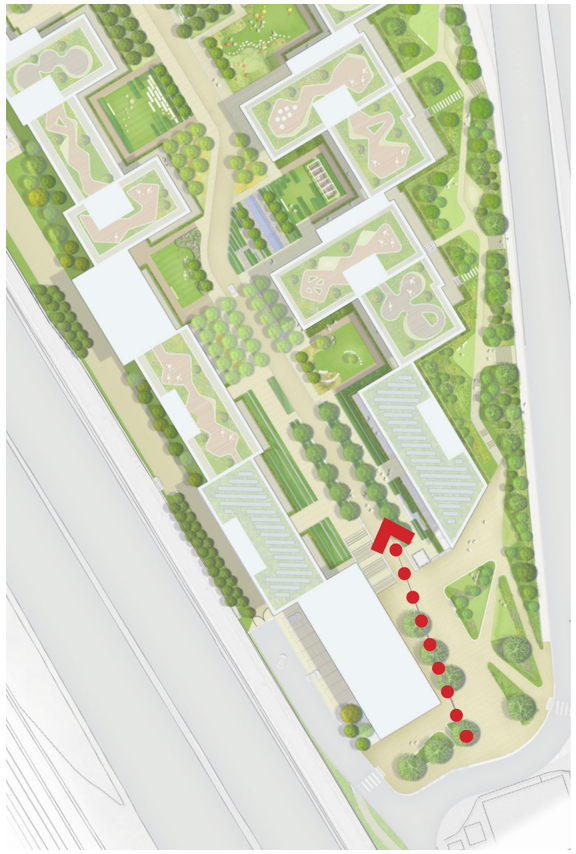


3D CONCEPT MODEL OF SITE

4.6 Arriving at Pentavia Mill Hill

There are a number of ways to arrive to Pentavia Mill Hill. The southern arrival experience will be from the existing slipway from the A1 when travelling by car or bus.

From this main point of arrival the front buildings establish a recognisable landmark and public facing building which has active Ground Floor retail uses with residential buildings above. The pedestrian footpath is aligned on this entrance axis and leads up towards the central green landscaped space. The image on the adjacent page shows how the view is drawn to the centre of the scheme on arrival.



ENTERING THE SITE FROM THE SOUTH



VIEW FROM THE M1 MOTORWAY TRAVELLING NORTH



ENTRY TO MILL HILL WALK FROM SOUTHERN CARPARK



MILL HILL WALK CONNECTS THE SOUTHERN CARPARK AND RETAIL SPACES WITH THE CENTRAL COURTYARD SPACES

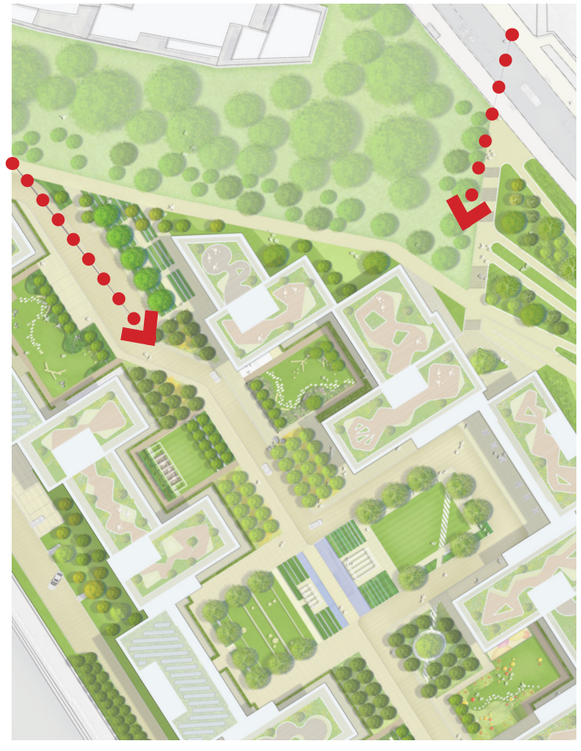
4.0 DESIGN CONCEPT

4.7 A new part of Mill Hill

To stitch this isolated site into Mill Hill, a new pedestrian Ground Level link is proposed, from Bunns Lane to the heart of the scheme, to provide a natural pedestrian connection.

The pedestrian enhancements to Bunns Lane provides a connection to Mill Hill Broadway station and bus services along the A1.

The process of stitching back the site into Mill Hill also extends to the greenery, central and more intimate courtyards and the transforming of large areas of tarmac surfaces back into green spaces.



ENTERING THE SITE FROM BUNNS LANE



VIEW TOWARDS THE CENTRAL SPACES FROM THE NORTH ENTRY



VIEW OF BUNNS LANE TERRACES AND PEDESTRIAN LINK TO NEW PENTAVIA RESIDENTIAL SCHEME

4.8 Levels and Access

The proposed level change from the front of the site to the South and towards Bunns Lane is approximately 5m. The proposals incorporate an accessible route up to the series of spaces with lift and stair access down to Ground Level towards Bunns Lane. The buildings are arranged utilising the existing site levels to minimise cut and fill.





4.0 DESIGN CONCEPT

4.9 New Public Open Spaces

The proposal is structured around a coherent framework of public spaces, each with a distinctive character in contrast to the site's harsh urban context. The landscape chapter reviews the detail of these public open spaces.

The key public spaces are:

- Central Courtyard Spaces
- Mill Hill Walk
- Communal gardens
- Woodland Edge
- Bunns Lane Terraces

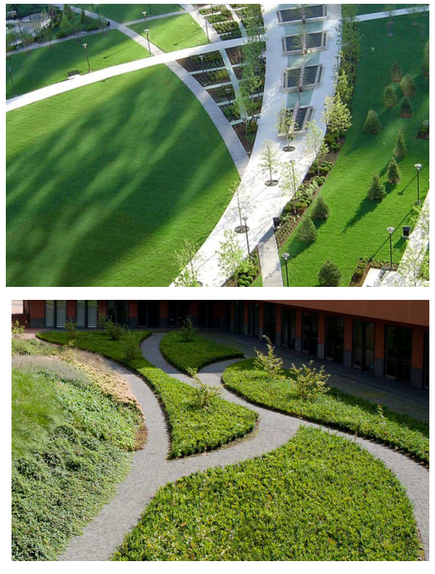
These spaces reinforce a key concept of the masterplan, and transform an existing harsh site into a beautiful landscape amenity. This landscape will be both for residents and the Mill Hill community, and will provide an environment which is safe, accessible and visually interesting and that celebrates a "softer" and habitable inner core.



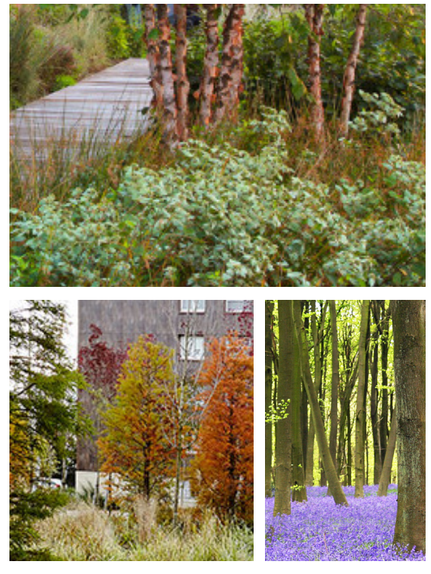
CENTRAL COURTYARD



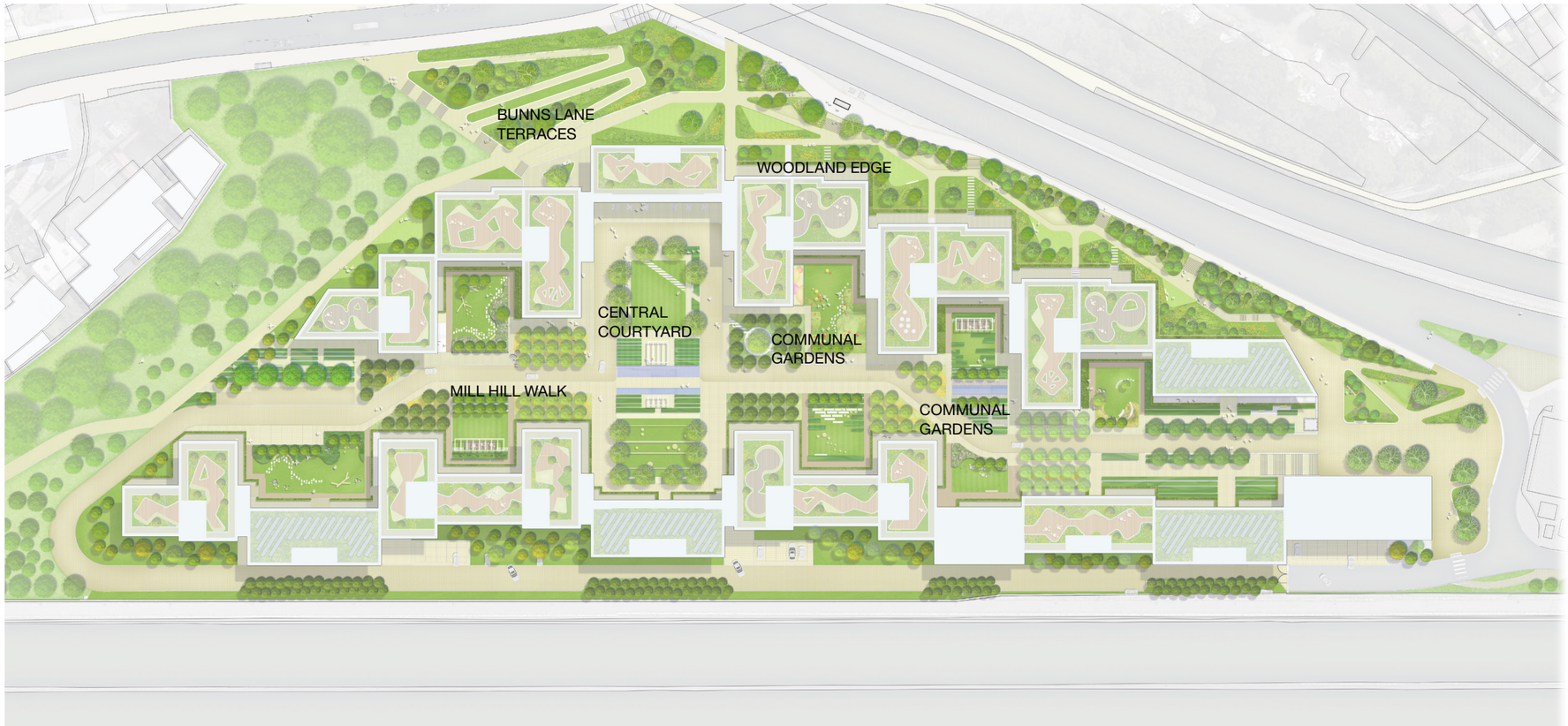
MILL HILL WALK



COMMUNAL GARDENS



WOODLAND EDGE & BUNNS LANE TERRACES



4.10 Central Courtyard- Space Comparison

The 32 x 68m central courtyard gives a large central public space at the heart of the scheme. To understand the scale and size various direct comparisons of well-known public spaces in London.

The main space provides a significant area for amenity similar sized to public or large communal spaces in London.



ST PANCRAS SQUARE - LONDON

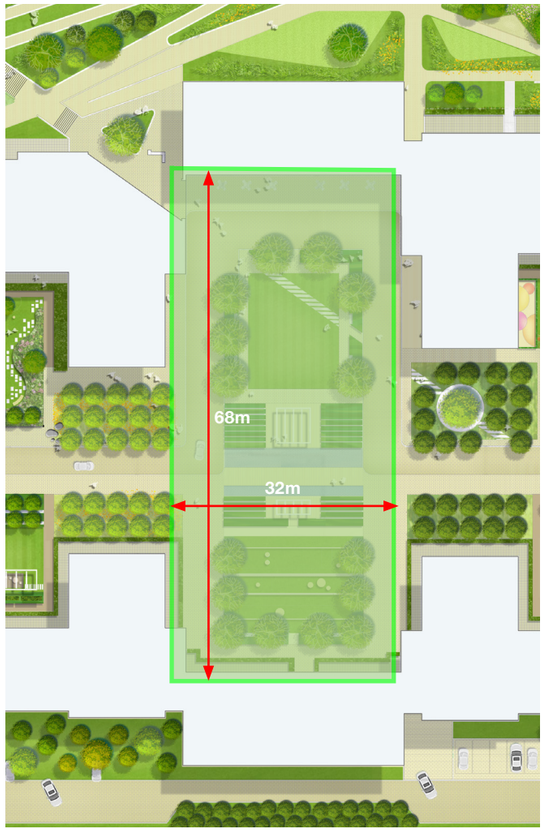


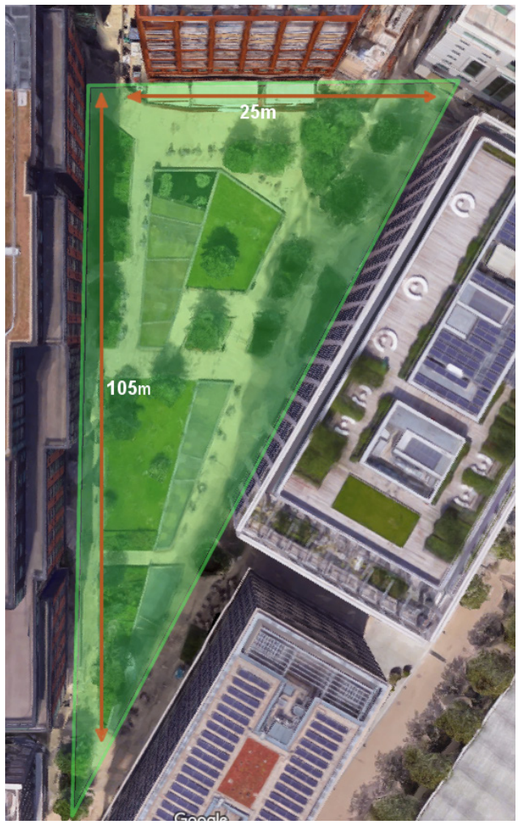
CANARY RIVERSIDE - LONDON

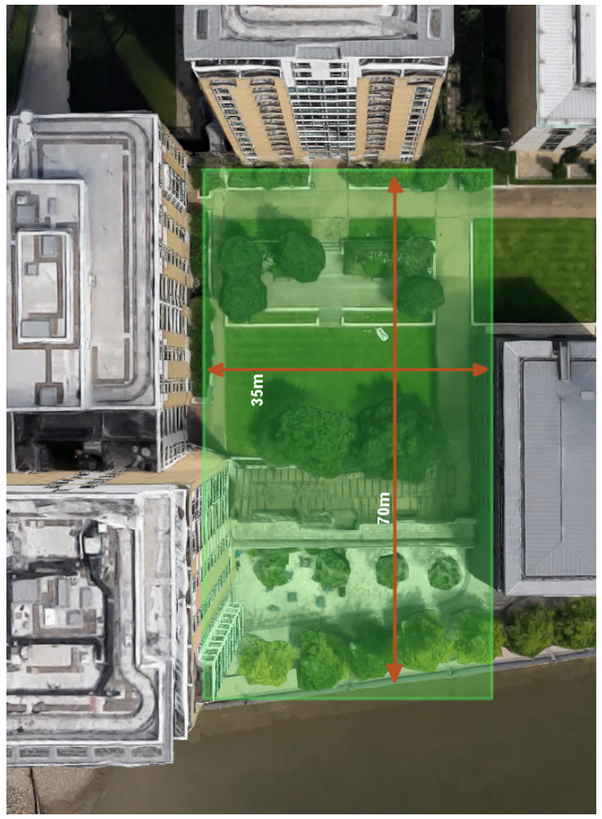


WYCOMBE SQUARE - LONDON

PENTAVIA MILL HILL - LONDON









4.0 DESIGN CONCEPT



40 DESIGN CONCEPT

4.11 Street Hierarchy and Access

The main pedestrian route will be simple and legible and will run through the centre of the scheme, linking all the major and smaller external spaces. The new route links through the central landscaped spaces, which the residential blocks and community uses have front door access to. The pedestrian routes will connect to Bunns Lane and provide cross routes through the site, which are accessible to residents and visitors with all levels of physical mobility.

The vehicle access routes are via perimeter service roads accessing the Lower Ground parking areas of the residential Blocks. Accessible parking bays within the Lower Ground are located in close proximity to each service core minimising travel distances.

Accessible parking bays and drop-off will be located for community uses and access to residential front entrances within the site. The design of the main streets / access routes have been conceived with varying character in order to create areas of pleasurable pedestrian public walkways to vehicular accessible routes to general car park access and servicing. These are shown on the adjacent diagrams.

Mill Hill Walk

A new pedestrian axis, Mill Hill walk will link the front entrance to the centre of the site and through to Bunns Lane Link. Strong landscape features will be present throughout.

Central Boulevard

This is an informal pedestrian route through the centre of the site, which responds to the active Ground Floor residential amenity uses and residential front gardens, and creates a pleasant series of spaces with trees and landscape features.

Bunns Lane Link

This is the pedestrian route created by a series of landscape ramps with pockets of trees and landscape on either side of the route. Also accessing at grade crossing the service road to lift and stair link towards the centre of the scheme.

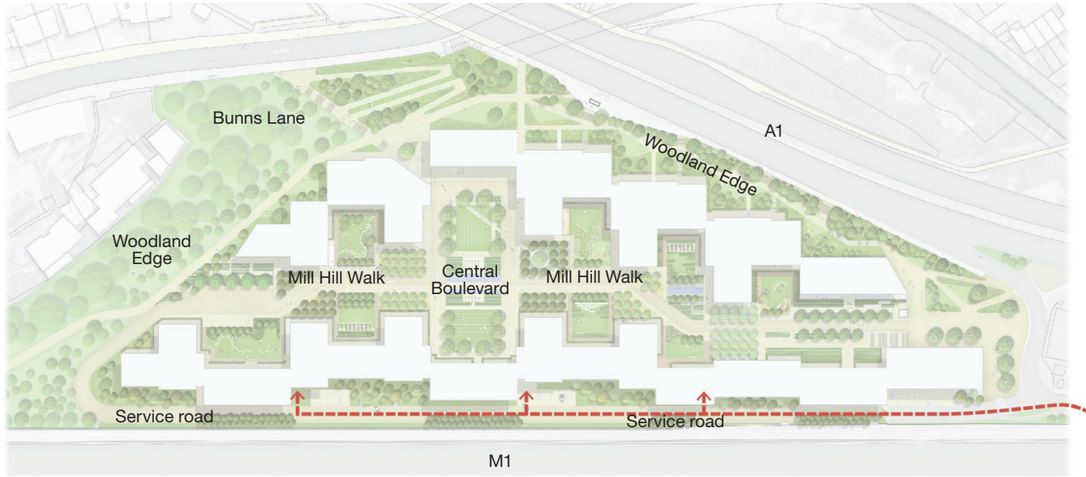
Woodland Edge

A new woodland edge will connect to existing mature woodland at the Perimeter of the site. This new woodland edge will provide a strong landscape buffer to the A1 and Bunns Lane, while adding to the biodiversity and ecology of the site.

Service Roads

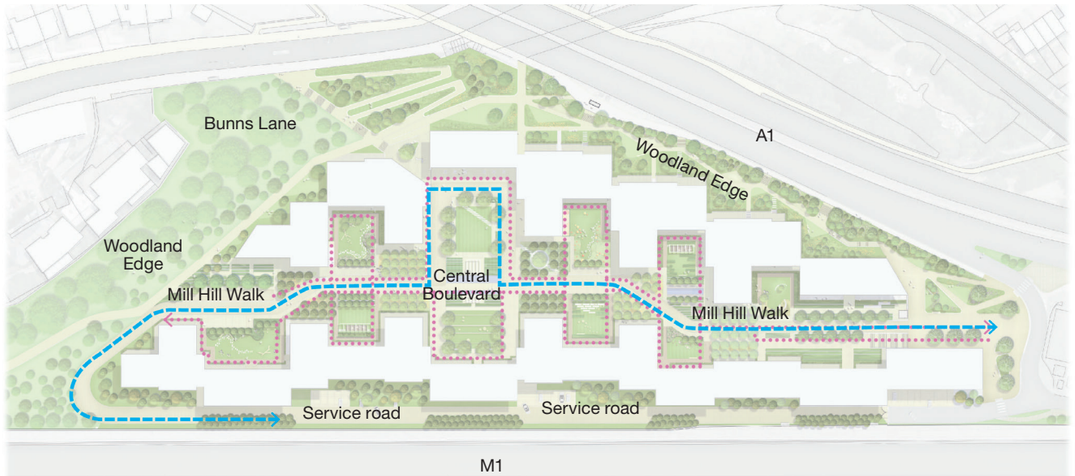
There are two service roads to the scheme, with pedestrian walkways on either side. The service roads will have pockets of landscape areas and green walls, to link these access routes to the woodland edge and increase their visual appeal.

PARKING ACCESS



Car Parking entrances

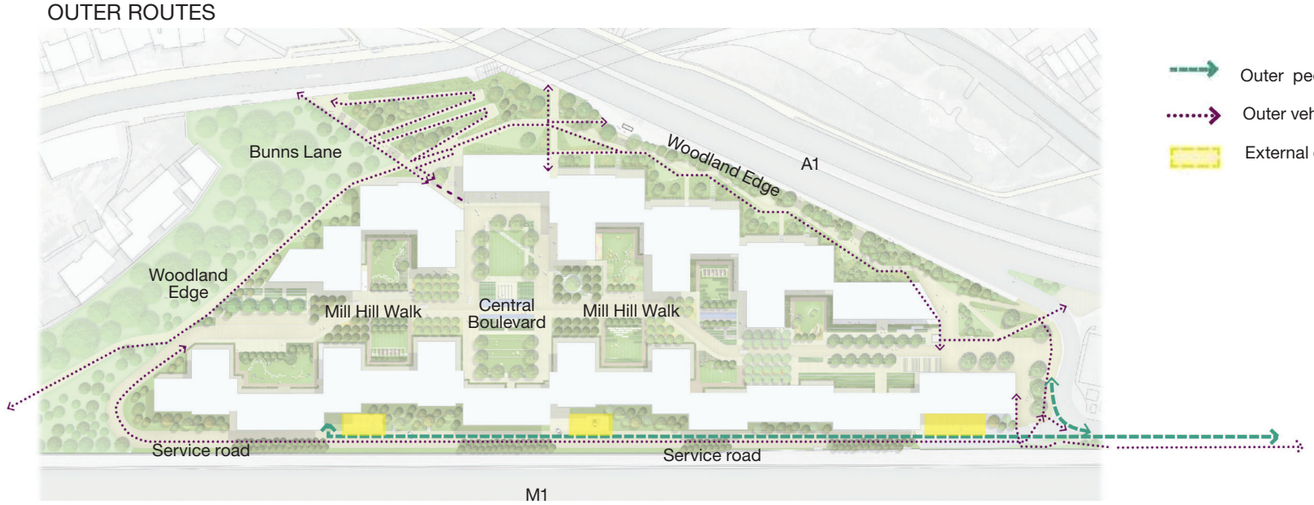
INNER ROUTES



Inner pedestrian routes

Inner vehicular routes controlled by Facility Management

OUTER ROUTES



Outer pedestrian / cycle route

Outer vehicular service

External car parking spaces

4.11 Street Hierarchy and Access

Mill Hill Walk

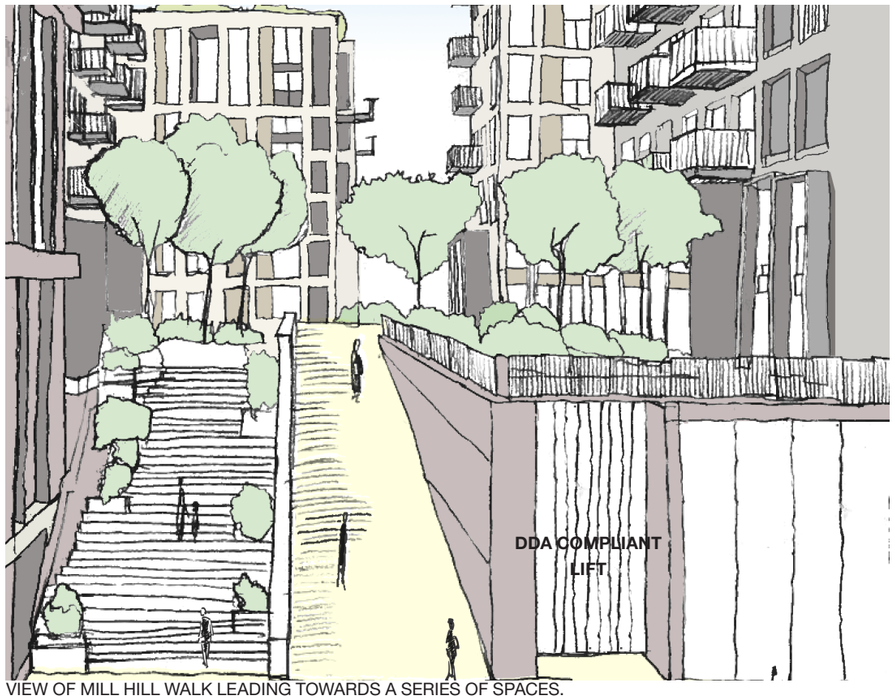
This is a new pedestrian axis linking the front entrance through the centre of the scheme and linking towards Bunns Lane. Strong landscape features inform this direct pedestrian link.

Central Boulevard

This is an informal pedestrian route linking and connecting the grand central courtyard landscape setting, the smaller, more intimate courtyards and active Ground Floor residential amenity uses and residential front gardens. This creates a pleasant space with trees and landscape features in the centre of the scheme.



SECTION THROUGH BLOCK B AND MILL HILL WALK



VIEW OF MILL HILL WALK LEADING TOWARDS A SERIES OF SPACES.
RAMP, STAIRS AND DDA COMPLIANT LIFT



SECTION THROUGH BLOCK K AND L AND CENTRAL SPACES



VIEW OF THE CENTRAL COURTYARD

4.11 Street Hierarchy and Access

Bunns Lane Terraces

This is the pedestrian route created by a series of landscape ramps with pockets of trees and landscape on either side to access to heart of the scheme and also provided a accessible link to the relocated bus stop along the M1.

Service Roads

There are two service roads on the perimeter of the scheme, with a pedestrian walkway on either side of the service routes. The service roads have pockets of landscape areas, green walls and link to the woodland edge, making these areas visually pleasant.



SECTION THROUGH BLOCK H AND BUNNS LANE TERRACES



SECTION THROUGH BLOCK L, SERVICE ROAD AND A1 MOTORWAY



VIEW OF BLOCKS K,H AND BUNNS LANE TERRACES



VIEW FROM A1 TO SOUTH

4.12 Building Frontages and the Public/Private Interface

For most blocks, the key elements of the public realm include Mill Hill Walk and the relationship to the central series of spaces. The street frontages are predominantly residential with defensible spaces at Ground Level.

The communal squares serves as the predominant public open space, with pedestrian links to Mill Hill Walk. The street frontages are predominantly residential with defensible spaces and front entrances opening directly onto the pocket park.

For blocks aligning the courtyard to the east, the relationship to the series of spaces is important. The street frontages are predominantly Retail, Residential facilities and residential lobbies fronting the landscaped spaces.

Smaller play areas coming off Mill Hill Walk create intimate pockets of open space suitable for the scale and proportion of the building. The street frontages are again predominantly residential with defensible spaces and front entrances linking directly onto the Mill Hill Walk axis.

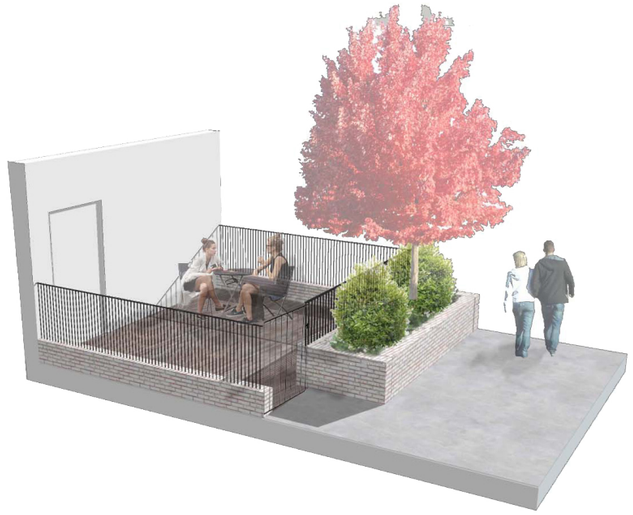
Building Entrances and Access to Shared Green Spaces

The building entries and lift/stair cores have been designed where possible to give a clear view from the street through to the core. This is to encourage residents to utilise the shared green spaces in addition to the private amenity space provided by the Ground Floor terraces, balconies and winter gardens. These shared green spaces provide valuable local play spaces for children of different age groups, where parents can be close by.

Entrances, Public Green Spaces & Private Amenity

The adjacent illustrations show typical examples of the differing treatments to provide defensible space throughout the scheme.

These treatments offer an important buffer between private and public space. Planting is used as a gentle screen and to offer a distance between public and private space. The planting is to be maintained at approximately 1.1metres in height. This allows for privacy and screening whilst also allowing for clear lines of site.

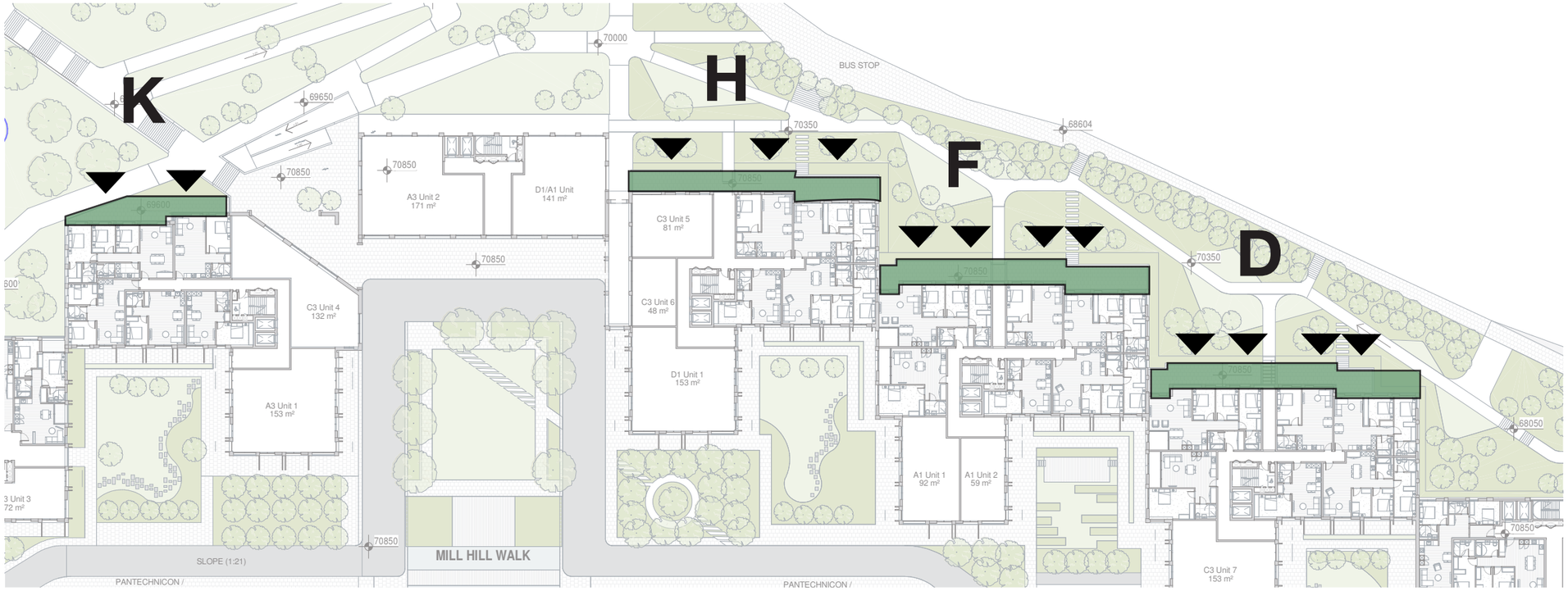




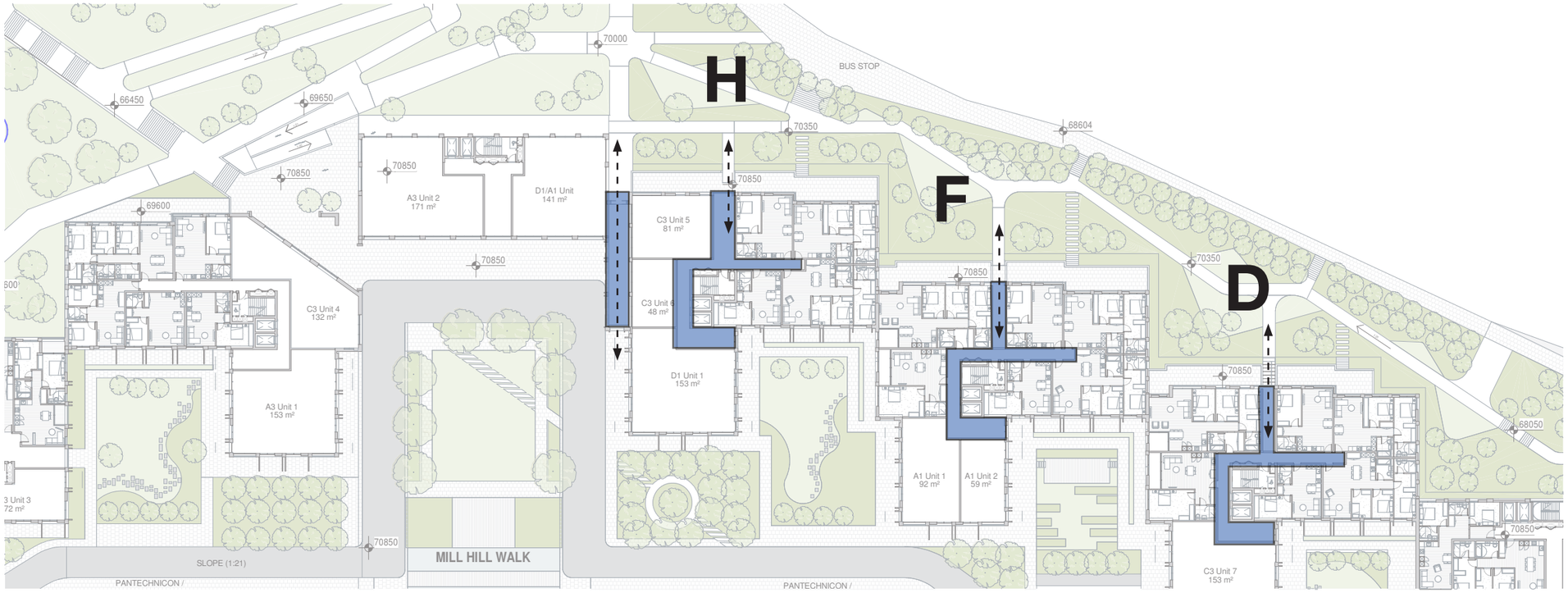




EXAMPLE DEFENSIBLE SPACES

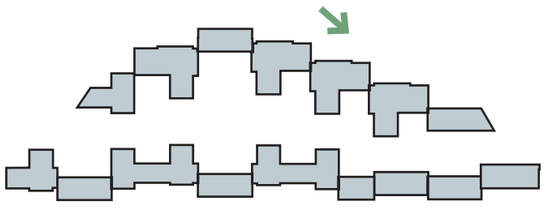


Example location defensive spaces at Ground Floor with direct access to the apartments



Direct access to cores from the A1





4.13 Materials and Character Areas

The use of materials across the proposal is guided by the key principle of relationship to context and setting. This will provide robust façades for road facing elements and softer façades with balconies for areas facing onto the green social spaces.

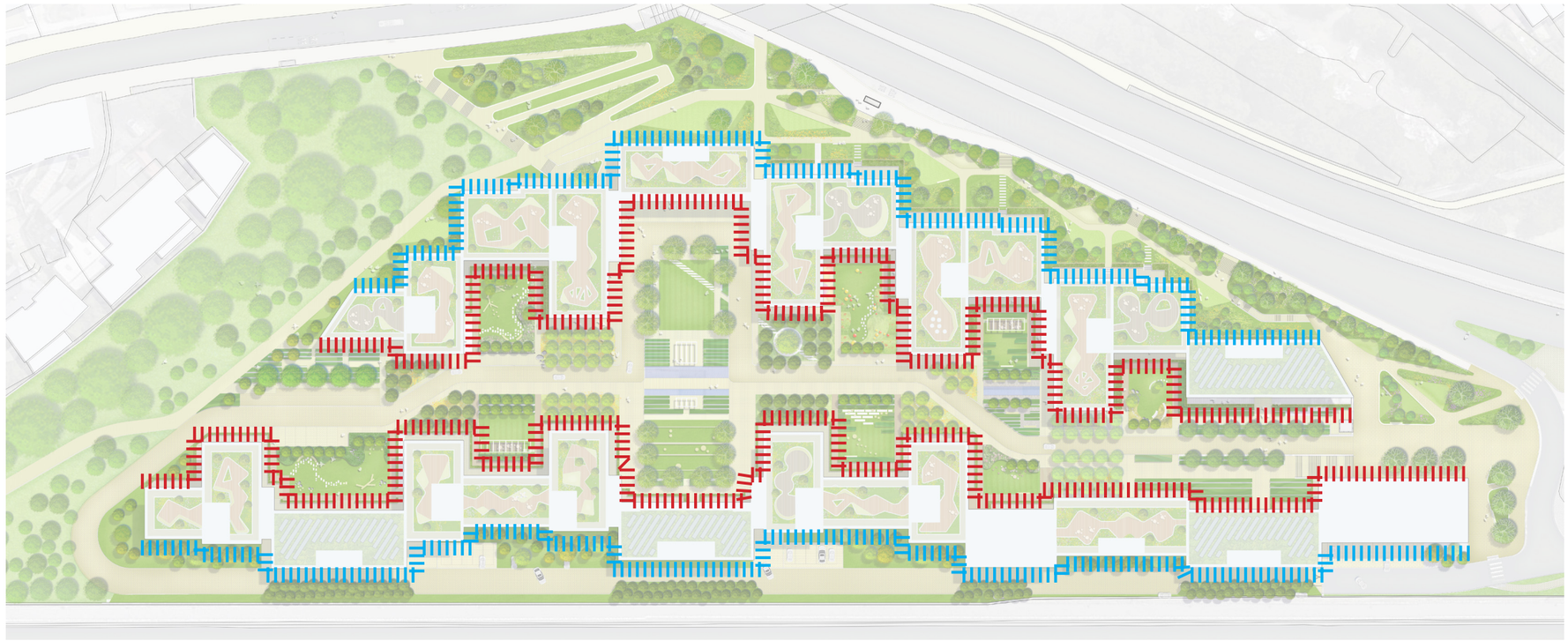
- M1 Façade. The colour and form responds to the context of breaking the linear nature of consistent wall with vary brick colours and facade expression
- A1 Façade. The colour and form responds to the context across the road to Mill Hill, with dark brown brick being used on the smaller blocks and lighter beige brick to the advancing buildings.
- Bunns Lane. Similarly to A1 façade, the colour responses to the context along Bunns Lane.
- The inner façades facing the courtyard spaces will have warmer tones to create a softer inner surface which responds the green areas.
- The inner façades of the blocks will have areas of brick and straight various details to the metal balustrades. There will be inner operable glass doors creating winter gardens along the inner façades. This provides an opportunity for residents' private greenery on these façades, giving a softer inner surface.



COOL EXTERIOR



WARM INTERIOR



EXTERIOR AND INTERIOR FACADE LOCATION

4.0 DESIGN CONCEPT

4.14 Facade Concept

By taking the comments of the needing to relate back more the Mill Hill, the building expression takes cues from the Mill Hill suburban and building context and applies this the subtle moves to derive a new architectural expression to relate contextually with Mill Hill.

There are a series of building types in Mill Hill which are predominately brick and masonry. They all act as a collection of buildings and the grander building either have stone with brick infills like Mill Hill School or articulated openings.

The design recognises building next to the “metro-land” context where the philosophy was about creating low scale single dwellings set in leafy green areas but most importantly it was commutable from busy London and living in a landscape setting. This is low density housing making a large part of Mill Hill.



MILL HILL IS A MIX OF ARCHITECTURAL STYLES AND PREDOMINANTLY BRICK AND MASONARY



THE ROMANTIC VISION OF “METRO-LAND” - LEAVING THE CRAMPED CONDITIONS OF CENTRAL LONDON FOR A PLACE WITH SPACE AND GREENERY

AFK examined the Mill Hill suburban typology and extracted a few key principles

- Buildings are set within large areas of landscape, front and large back gardens
- Act a collection of buildings
- Buildings shift to allow areas of larger and smaller spaces
- Street line is made from positive advancing buildings and separated by gaps or recessive elements
- The street scape is also made from consistent reading of a top, middle and bottom

Similarly, the next scale up is the high street where the principles are the same with buildings set into gardens with hard building edge line.

They are also some notable principles along the high street

- Predominantly brick and masonry
- A variegated roof line
- Subtle colour variation between building blocks
- A layering of primary expressed edges with secondary brick skins



SUBURBAN BUILDINGS SET WITHIN LANDSCAPE AND ACT AS A COLLECTIVE



SUBURBAN HIGH STREET - PREDOMINANTLY BRICK AND VARIEGATED ROOF LINE



ADVANCING AND RECESSIVE ELEMENTS



TOP, MIDDLE AND BASE ARTICULATION



MILL HILL BROADWAY - BUILDING WITH EXPRESSED EDGES AND ARTICULATION

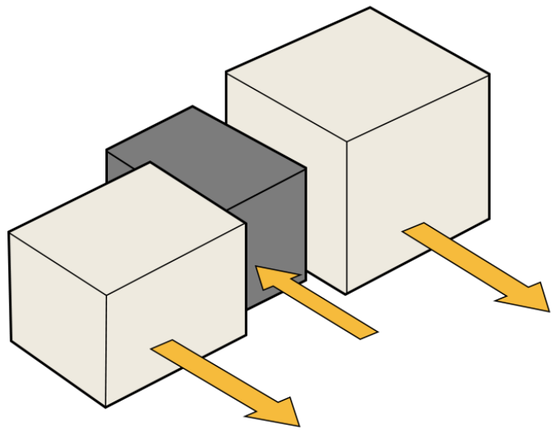


MILL HILL SCHOOL AND MEDICAL RESEARCH BUILDING - STRONG ORDER AND STRATA

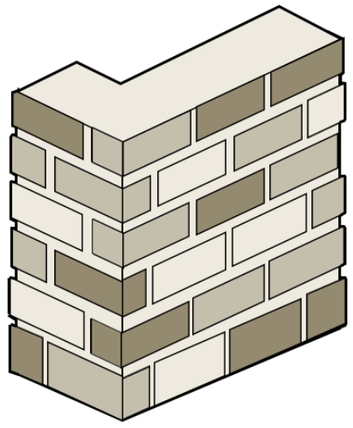
4.15 - 8 Key Architectural Principles in learning from Mill Hill

Through a study of Mill Hill, we came to 8 key principles for the façade expression

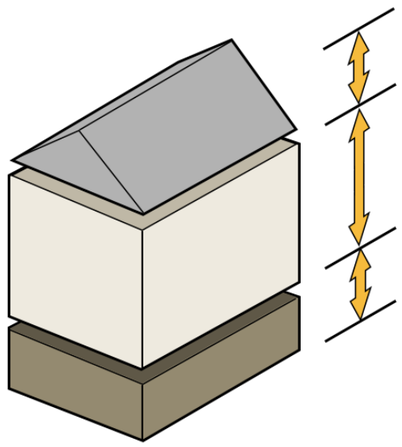
1. Building should have advancing and recessive building blocks expression
2. They should be predominantly masonry and brick
3. They all should have top, middle and base expression
4. Layering of primary and secondary skins
5. Buildings set within a landscape setting
6. Buildings act as collection of buildings
7. Variegated roof line
8. Simple colouration fitting with Mill Hill building brick colours



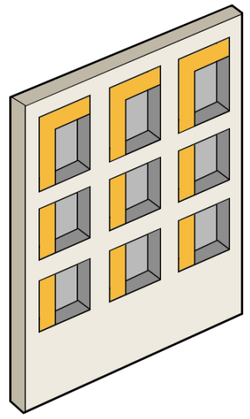
1. ADVANCING AND RECESSIVE BUILDINGS



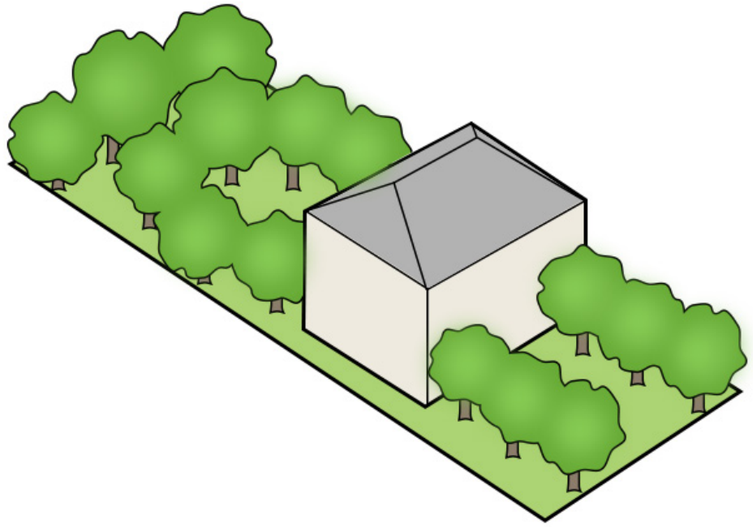
2. PREDOMINANTLY BRICK AND MASONARY BUILDINGS



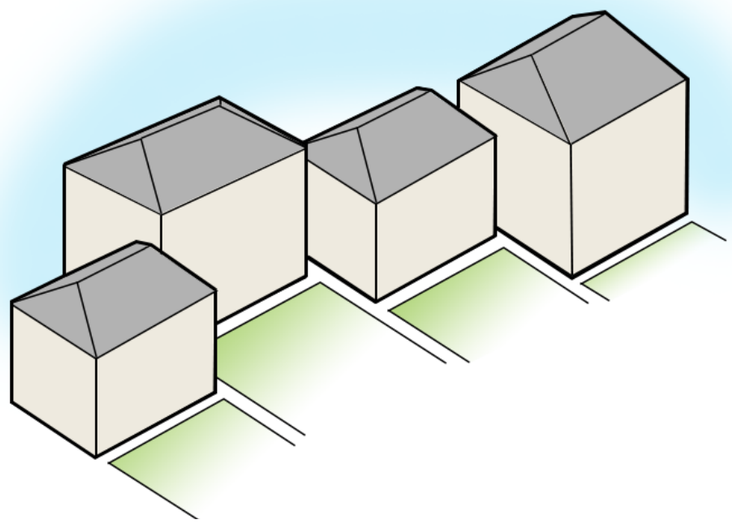
3. TOP, MIDDLE AND BOTTOM ARTICULATION



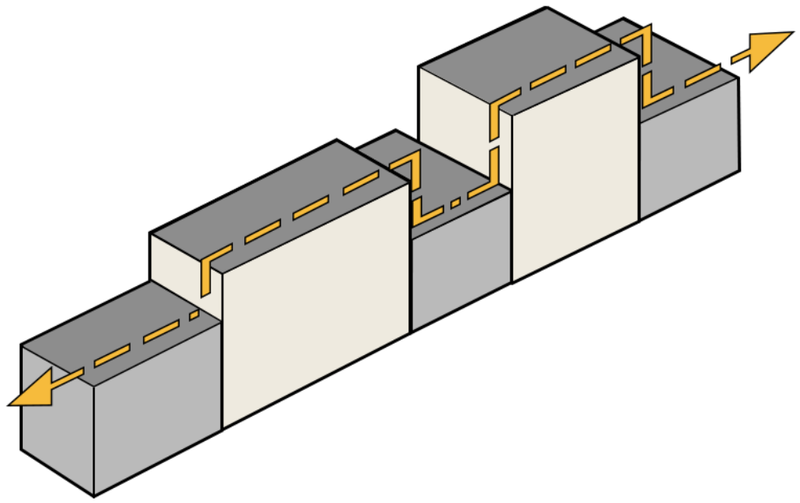
4. PRIMARY AND SECONDARY MASONARY SKINS



5. BUILDINGS SET IN LANDSCAPE



6. BUILDINGS ACT AS A COLLECTIVE



7. BUILDINGS HAVE A VARIEGATED ROOF LINE



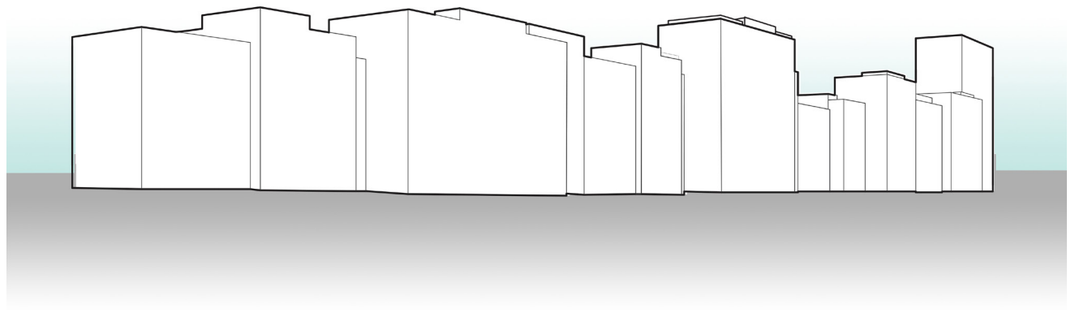
8. BUILDINGS SHOULD BE OF THEIR TIME BUT WITH SUBTLE COLOURATION TO KEEP WITHIN MILL HILL'S CONTEXT

4.16 - 8 Key Architectural Principles in learning from Mill Hill

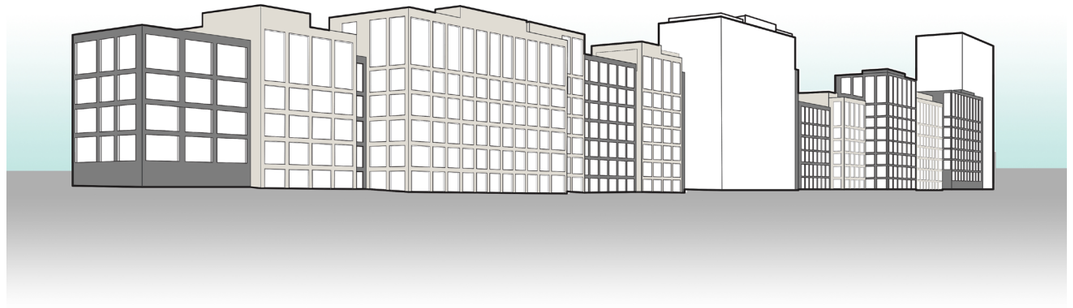
When we apply these 8 key architectural principles along the M1 and A1 facades we create a much varied and articulated facade.

The diagrams to the right show the M1 facade articulation through varying the roof line, expressing the individual blocks with positve and recessive buildings by brick and stone, articulate top, middle and bottom and articulating secondary skins all of which give richness and highly modelled facades when experienced from the motorway and a far.

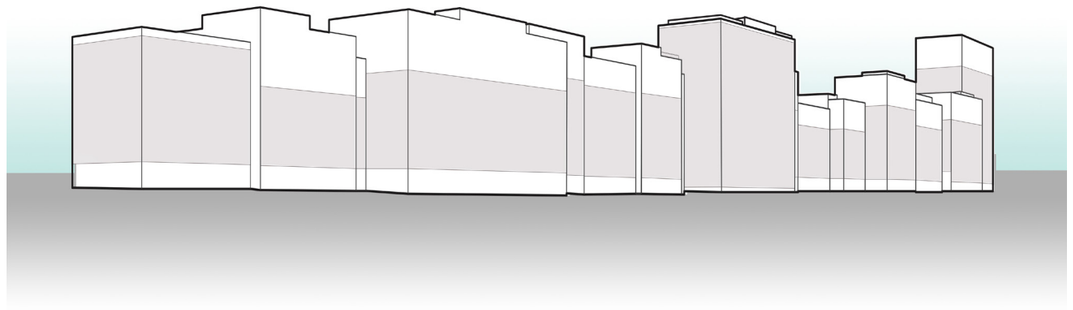
ARTICULATION ALONG THE M1



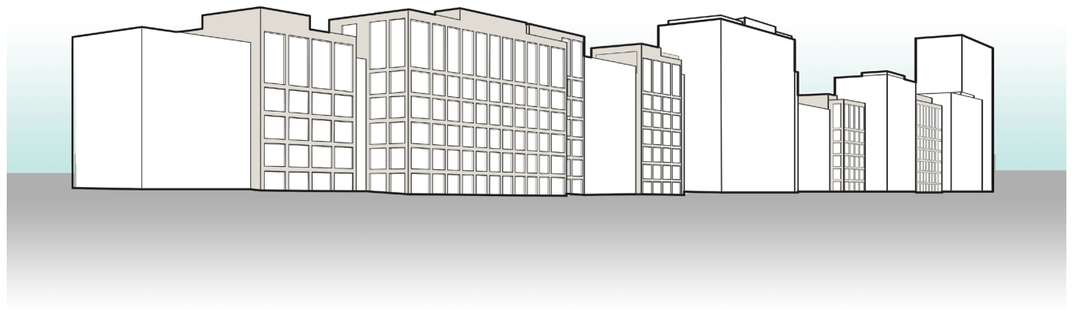
1. VARIEGATED MASSING



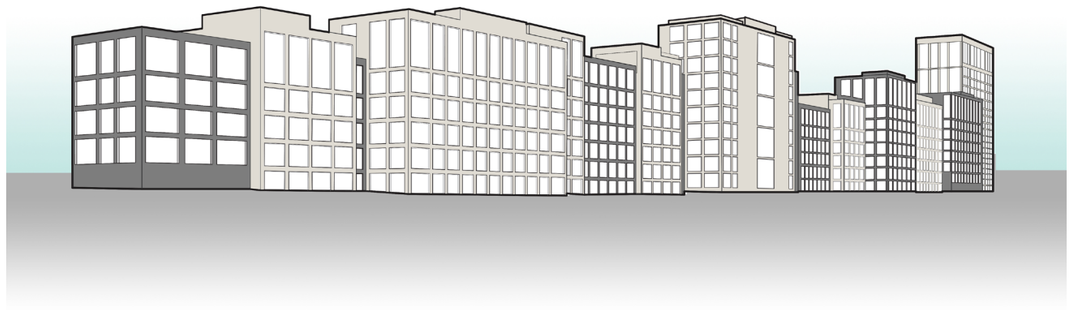
4. PUNCHED OPENINGS – RECESSIVE BUILDINGS



2. EXPRESS TOP, MIDDLE AND BOTTOM



3 FRAMED BUILDINGS – POSITIVE BUILDINGS



5. CENTRAL BUILDINGS AND TOWER – STONE AND BRICK



6. SECONDARY BRICK LAYER

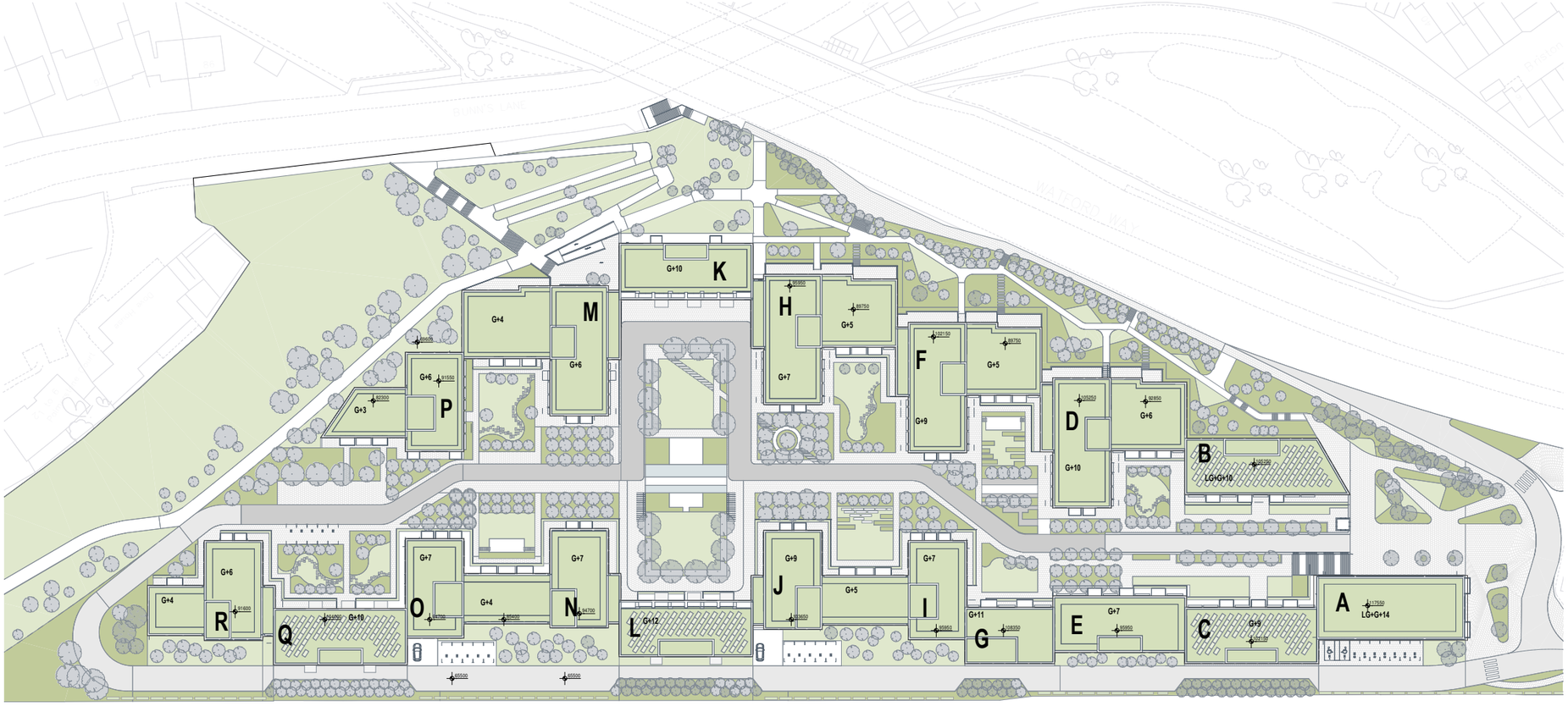
5.0 DETAIL SCHEME (BLOCKS A – R)

5.1 Introduction

The following section covers in detail the individual Blocks and addresses scale, massing, appearance and building relationship with public realm building upon the masterplan principles in section 3

There are 18 Building Blocks which are:

Block A - 75 units - TYPE C Block
Block B - 54 units - TYPE A Block
Block C - 49 units - TYPE A Block
Block D - 70 units - TYPE A Block
Block E - 39 units - TYPE A Block
Block F - 62 units - TYPE A Block
Block G - 36 units - TYPE A Block
Block H - 52 units - TYPE A Block
Block I - 30 units - TYPE A Block
Block J - 42 units - TYPE A Block
Block K - 50 units - TYPE B Block
Block L - 64 units - TYPE B Block
Block M - 47 units - TYPE A Block
Block N - 34 units - TYPE A Block
Block O- 29 units - TYPE A Block
Block P - 26 units - TYPE A Block
Block Q- 54 units - TYPE A Block
Block R- 31 units - TYPE A Block



Principally two building types make up the overall massing and architecture.
These are:
Type A – Framed and Recessive Buildings
Type B – Taller Buildings

Blocks C, E, G, I, J, L, N, O, Q, and R are located along the M1 and together the external façades form a protective barrier and articulated buffer to the busy motorway – protecting the central spaces at the heart of the proposal. Blocks K, H, F, D, B are located along the A1, with the external façades shielding the scheme. Block A, the taller structure, fronts the M1 and A1, bookending the scheme and acting as a visual marker for the site.

The Blocks contains a mix of one bed, two, three bed and three bed apartments.

All floors from Ground Level are for residential use, providing a combination Build to Rent, Private Sale and Affordable residential units. Commercial / retail space is provided on Ground floor and Lower Ground to the South reinforcing the commercial activity at the head of the site parallel to the A1 slip road link.

The building arrangement creates an articulated roof line that provides a barrier along the M1 and A1, but also allows ample access to daylight / sunlight and visual amenity into the green spaces within the centre of the proposal.

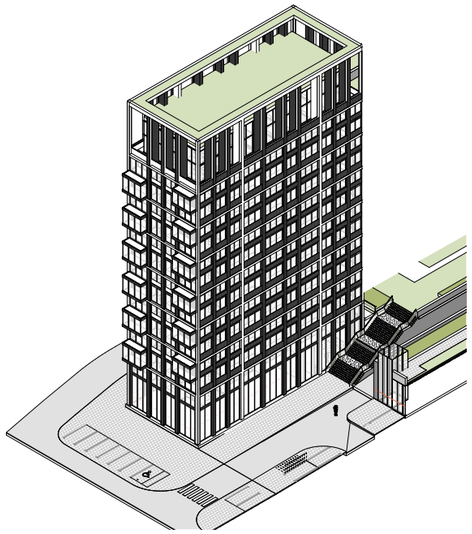
Within Blocks P,M,K,H,F, and D, the Ground Floor level has Residential amenities which includes a Café, Restaurant/Bar, Concierge, Gym, Residents Lounge, Private Dining Room, Informal Screening Room, Work Stations, Post and Package Store / Cold Storage areas. There is also the expected use for a public Crèche / Nursery facility.

The majority of units are dual aspect and there are no North facing or motorway facing single aspect units and typically are 3 to 6 units per core.

All apartments have been developed to comply with Lifetime Home Standards and their layouts have been developed according to the recommendations of the London Housing Design Guide.



BLOCK TYPE A - FRAMED AND RECESSIVE BUILDINGS



BLOCK TYPE B - TALLER BUILDING

BUILDING TYPES

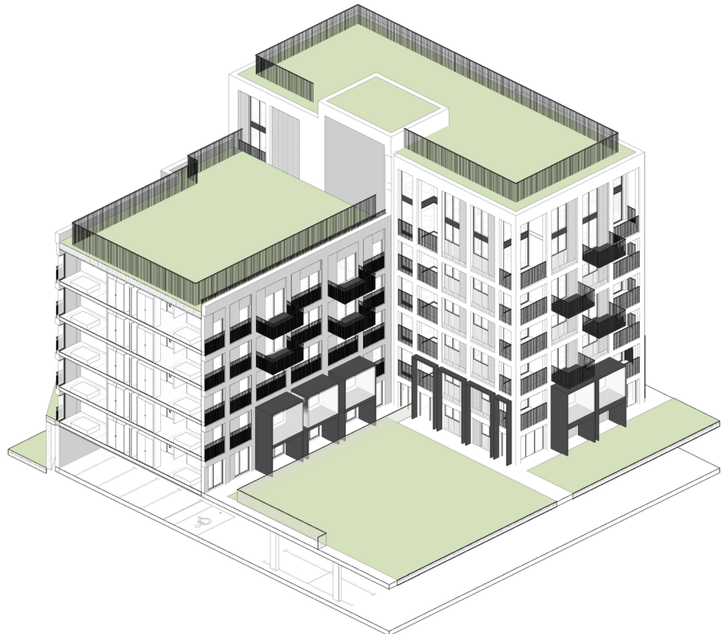
5.0 DETAIL SCHEME (BLOCK TYPE A – FRAMED AND RECESSIVE BUILDINGS)

5.2 Block Type A - Scale and Massing

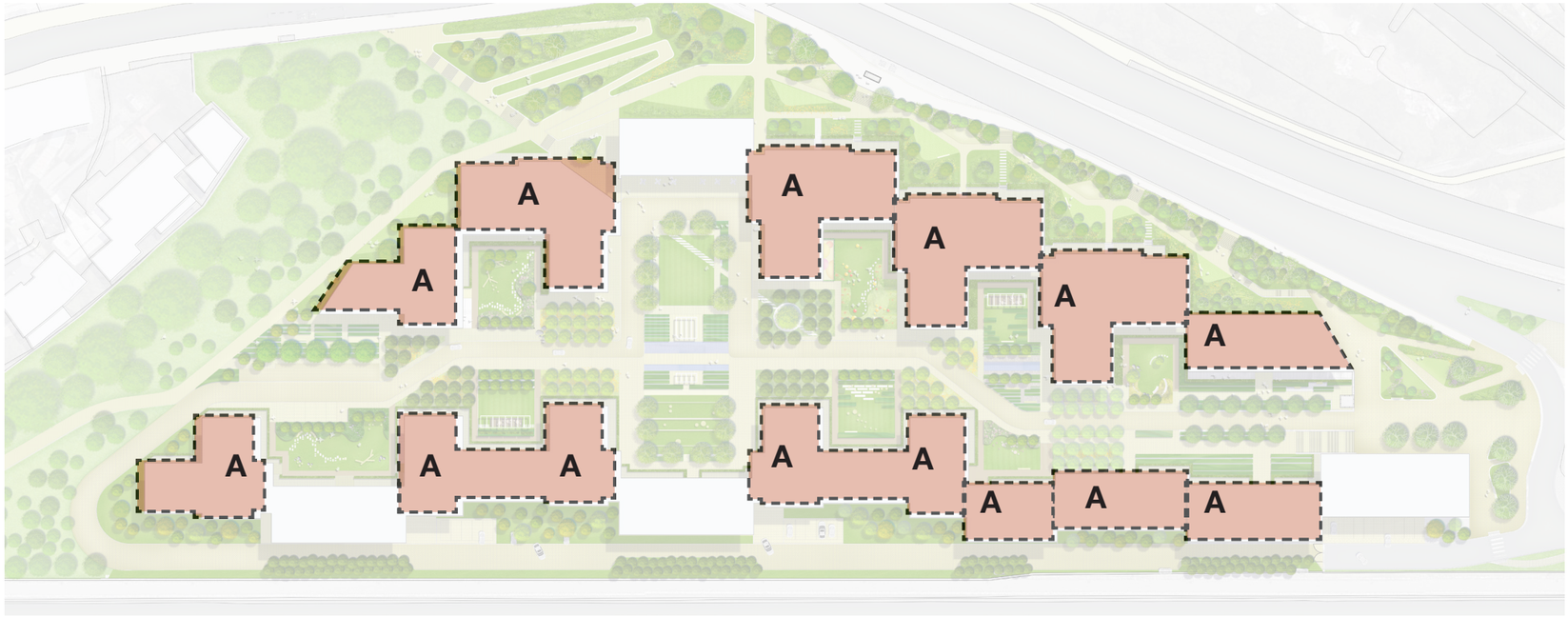
These building blocks form the majority of the scheme and are designed to express the visual cues from Mill Hill's suburban streetscape, but on a larger scale.

These buildings follow the massing and façade principles set out in the concepts, and consist of a straight block which is interlinked to another smaller block.

These buildings feature a lower, set-back block which connects to a larger block , resulting in the articulation of both advancing and recessive building elements.



BLOCK A - FRAMED AND RECESSIVE BUILDINGS



BLOCK A -LOCATION PLAN

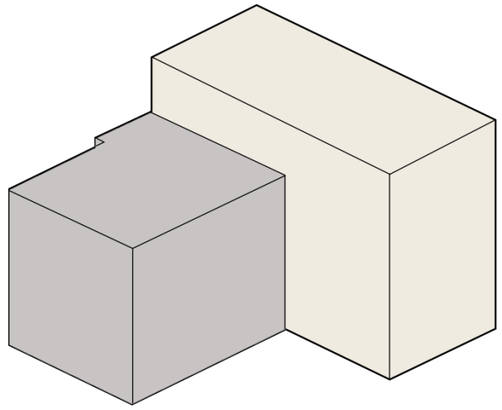
5.2 Block Type A - Scale and Massing

The top and ground are articulated in the massing on both interlocking blocks but are expressed differently to denote each. The advancing buildings have a grander frame with secondary brick infills, while the recessive buildings have punched openings and a more intimate human scale, with articulated blue brick infills.

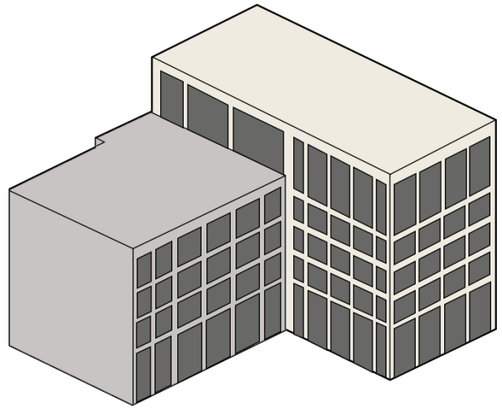
The inner façades facing towards the courtyard, are articulated with softer balconies, greenery and timber screens.

Holistic building expressions feature on both the inner façades facing the courtyard spaces, and the outer façades which face the motorway.

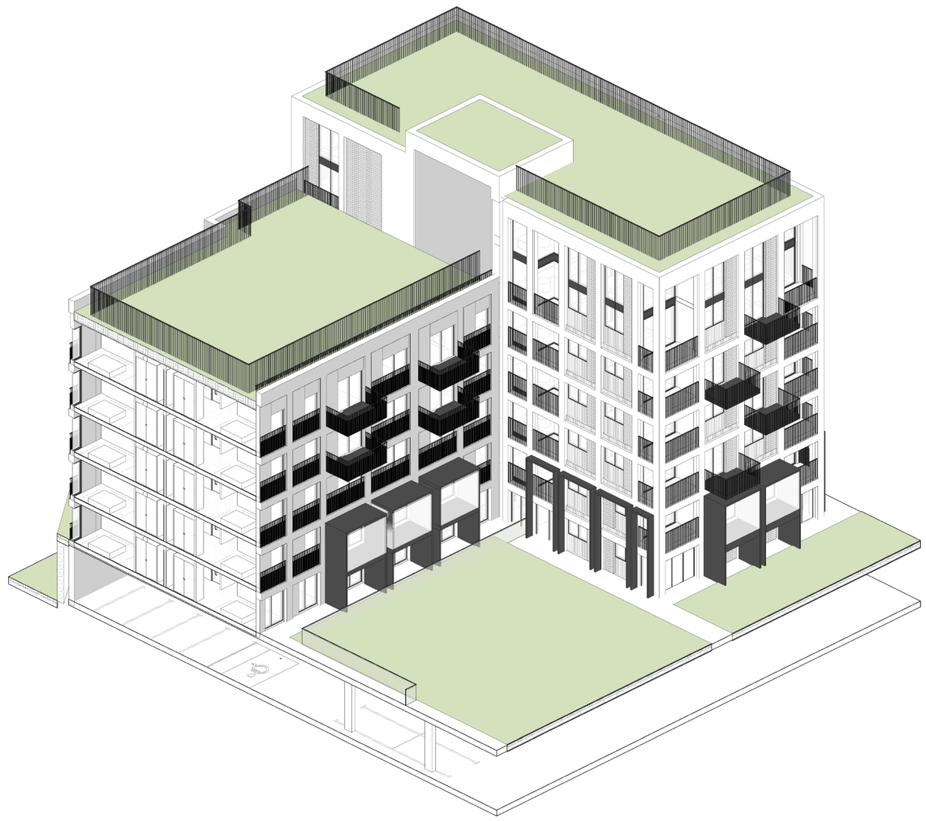
The residential entrances and access are all accessed from the inner, protected heart of the scheme (the sides which do not front the motorway) on the ground level



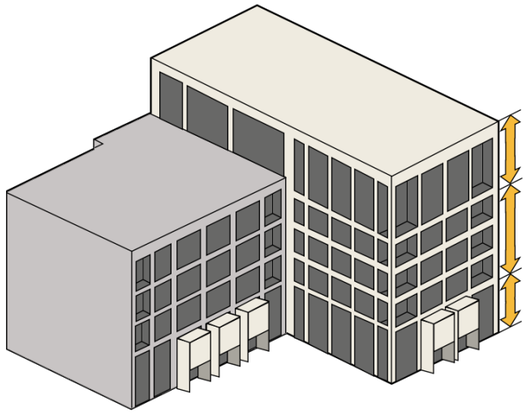
INTER-CONNECTING BLOCKS



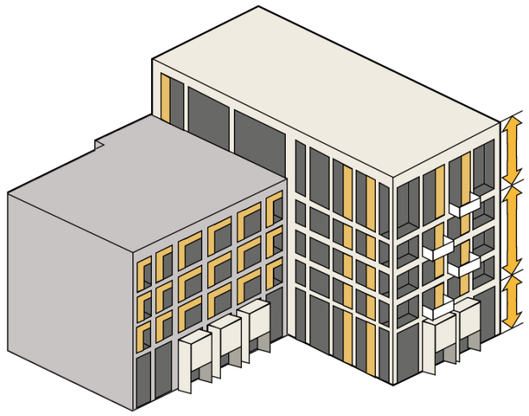
ARTICULATE PRIMARY AND RECESSIVE FORMS



BLOCK A - FRAMED AND RECESSIVE BUILDINGS



ARTICULATE TOP AND BOTTOM



SECONDARY ELEMENTS TO ANIMATE FACADES

5.0 DETAIL SCHEME (BLOCK TYPE A – FRAMED AND RECESSIVE BUILDINGS)

5.3 Block A - Plans

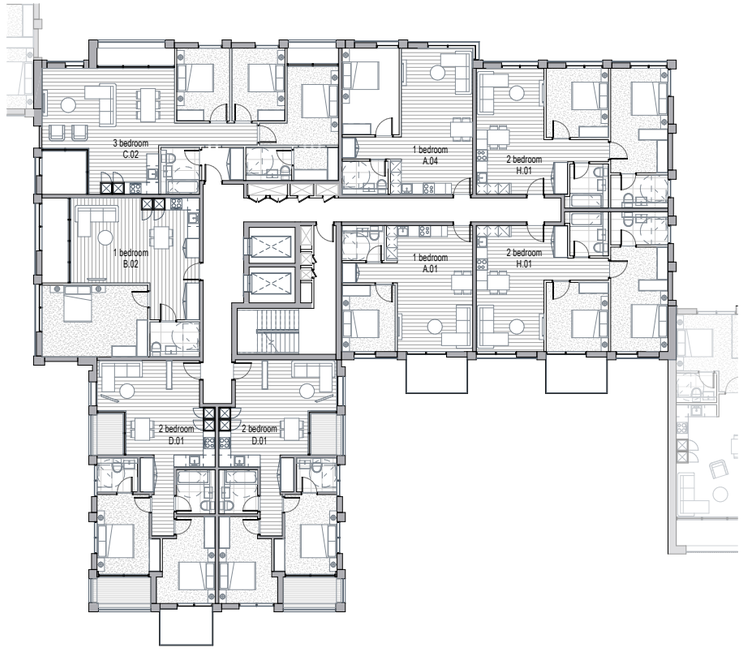
The typical plans consists of ground floor with lobby access and apartments around a central core, with surrounding defensible space.

The typical level plan has a number of 1 beds, 2 beds and 3 beds units, with dual aspect units and single aspect units facing the inner, protected courtyards.

The upper level plan has four units to the core and access to the lower roof green amenity spaces.



BLOCK A - GROUND LEVEL



BLOCK A - TYPICAL FIRST FLOOR



BLOCK A - TYPICAL UPPER FLOOR

KEY PLAN

5.4 Block A - Appearance

In developing the detailed proposal for Block A, our aim has been to create a visually coherent, robust and contextual design that relates to Mill Hill but that also includes a softer inner side facing the courtyards, which shield the community from the M1 and A1 context.

The building has simple palette of timeless materials, predominantly brick and stone with a consistent frame rhythm of verticals to unify the secondary skin of brick, windows, recess and projecting balconies. The white frame creates depth and changing light quality over the façades when seeing the building from the roadways. The softer elements, which include the balconies, timber louvre screens behind glass and greenery, as well as vibrant coloured glazed brick are introduced for articulation.

For the recessive building, the primary brick skin is darker brown brick with punched openings articulated in blue glazed brick, stacked with projecting prepends in a diagonal pattern. Again the depth of the façade lends texture, intimacy and a changing light quality.

The inner components with differing types of balconies and timber louvre screens further enhance the feeling of softer the inner facades. The balconies can be visually greened by residents giving a softer feel.

The façade is constructed from 6 materials:

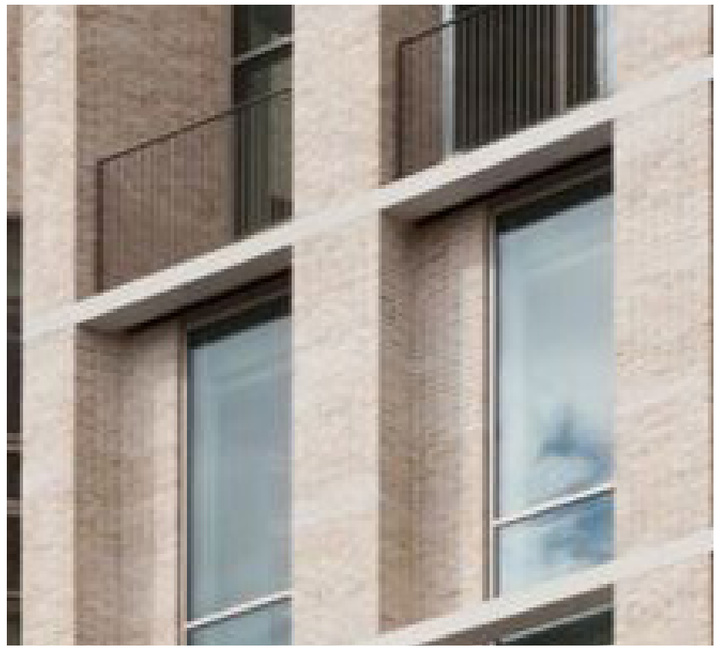
- Stone / GRC frame (white)
- Brickwork (London yellow stock brick, dark brown brick)
- Aluminium (window frames and metal vertical bottom panels)
- Metal Balustrades (dark black colour)
- Stone walls to lower ground levels






TOP FACADE MATERIALS

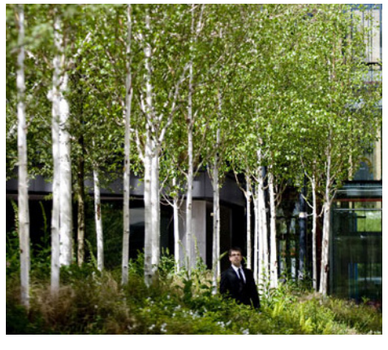
BRICK FOR SECONDARY INFILLS


FACADE DARK BRICK OR DARK BROWN FOR RECESSIVE BUILDINGS

FACADE BEIGE YELLOW BRICK MATERIAL FOR ADVANCING BUILDINGS

STONE FRAME - LIGHT GREY




BASE FACADE MATERIALS

5.0 DETAIL SCHEME (BLOCK TYPE A – FRAMED AND RECESSIVE BUILDINGS)

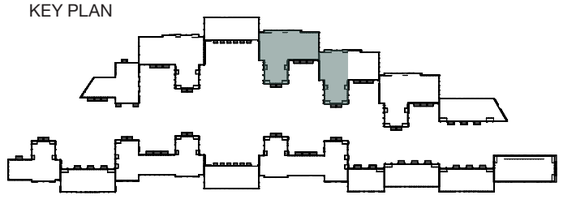
Materials Key:

1. BEIGE YELLOW BRICK INFILL
2. STONE FRAME - LIGHT GREY
3. BLACK METAL BALUSTRADE
4. GLAZED BLUE BRICK
5. DARK BROWN BRICK
6. PROJECTING BLACK METAL FRAME
7. STONE GABION WALL





KEY PLAN





FRAMED BUILDING FACADE MATERIALS



RECESSED BUILDING FACADE MATERIALS

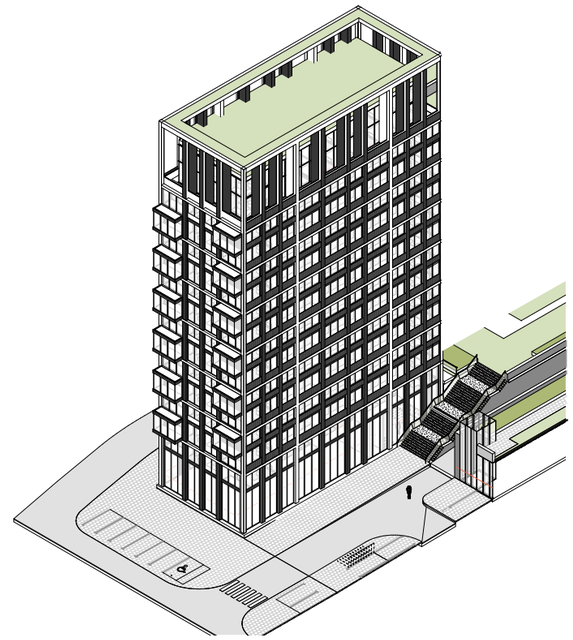
5.0 DETAIL SCHEME (BLOCK TYPE B - TALLER BUILDING)

5.5 Block Type B – Scale and Massing

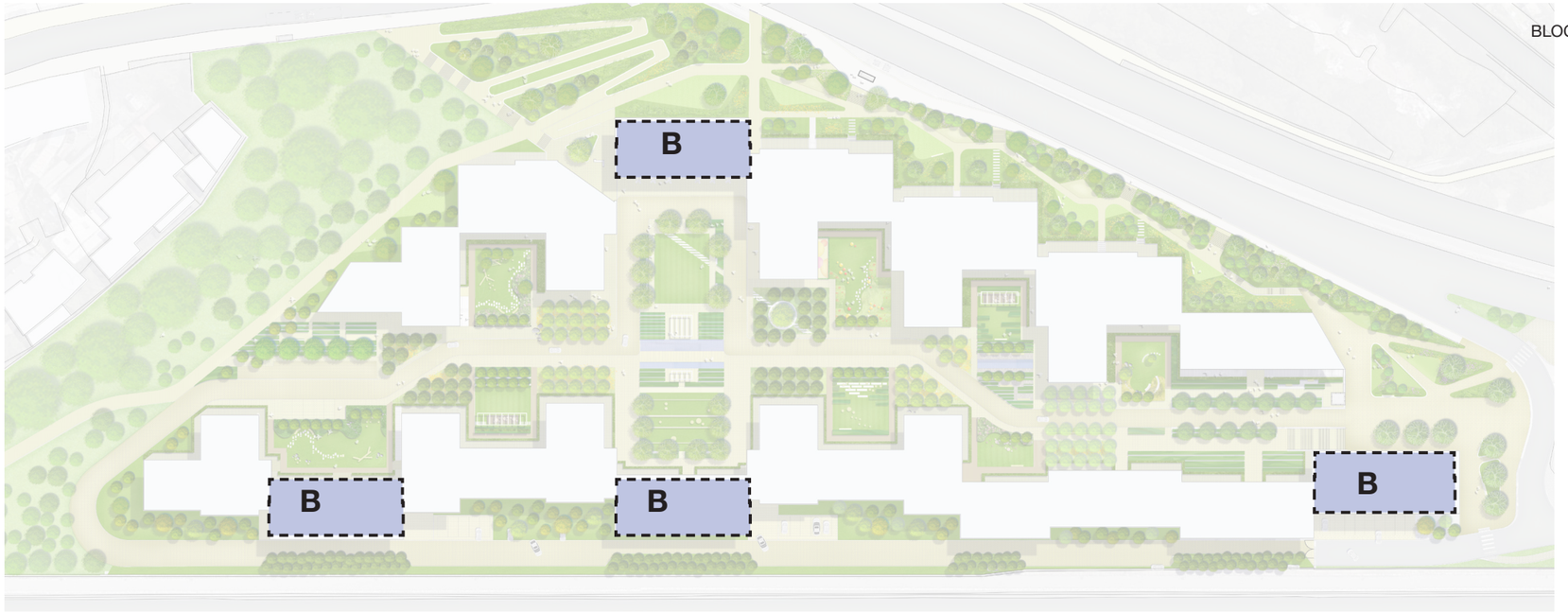
The tower building bookends the site and acts as an important gateway and wall articulation along the M1.

The building predominantly features less brick, in favour of a stone frame with lightweight bronze metal infills to articulate the façades.

In common with the other building types, the Tower building is conceived from the idea of using interlocking planes to form the building.



BLOCK TYPE B - TOWER BUILDING



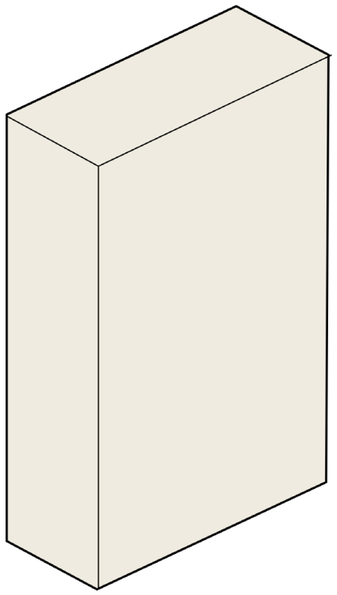
BLOCK TYPE B - TALLER BUILDING

5.6 Block Type B – Scale and Massing

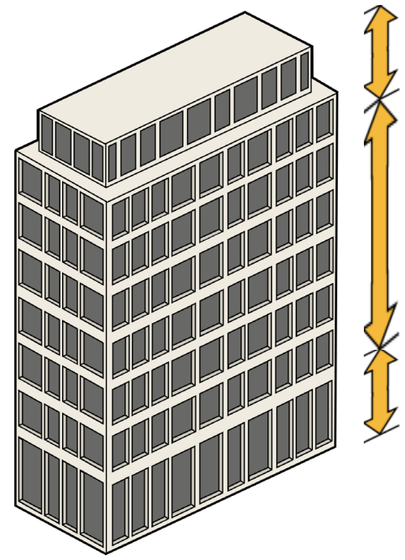
An important difference between the Tower Building and the other Block Types is that every second floor is expressed, in order to lend a slender proportion to this important taller element of the scheme and to soften its visual impact.

The top of the tower element is recessed, with private amenity areas creating a crown and top to the tower.

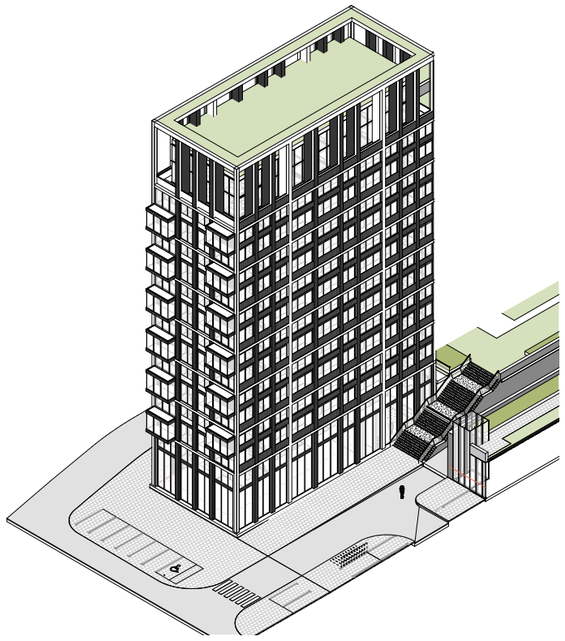
The residential entrances and access to the building are all from the inner greenery (non-motorway) side on the ground level.



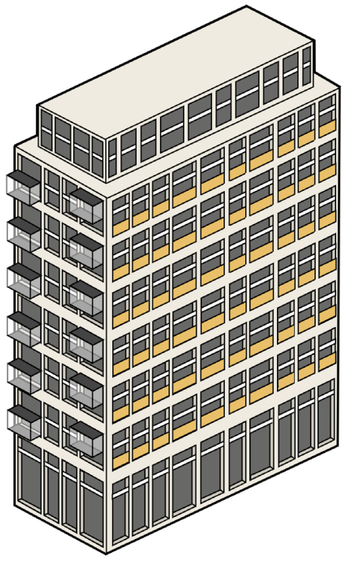
SOLID MASS



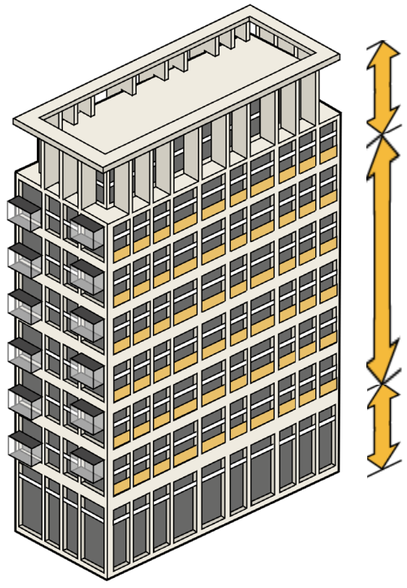
EXPRESSED FLOORS AND WALLS



BLOCK TYPE C - TOWER BUILDING



ARTICULATE TOP, MIDDLE, BOTTOM



ADDING ADDITIONAL VERTICAL GRAIN

5.0 DETAIL SCHEME (BLOCK TYPE B - TALLER BUILDING)

5.7 Block Type B Tower – Plans

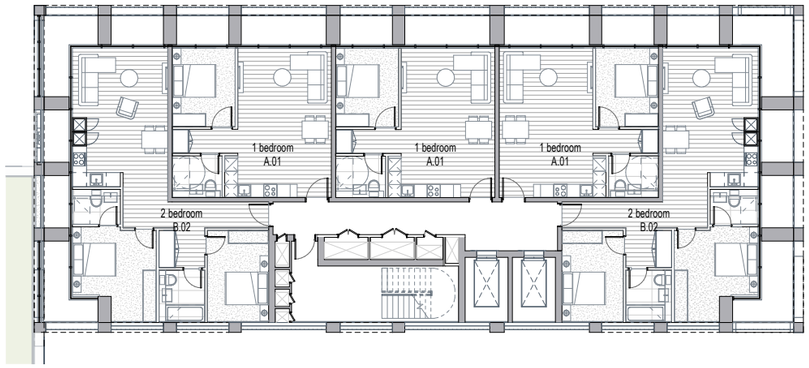
The residential tower is accessed from the lower ground floor through a dedicated lobby. The general plan arrangement through the tower consists of 1 bed, 2 bed and 3 bed units with winter gardens.

The tower is crowned by recess terraces to create a vibrant top to the building.

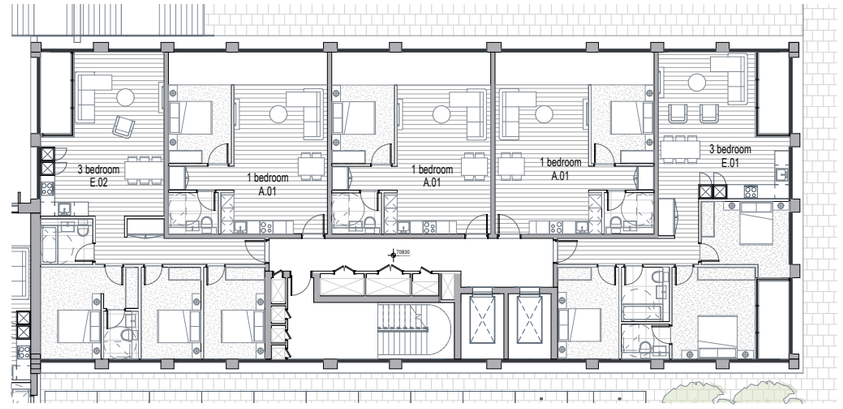
The typical plans consists of a ground floor with lobby access. The ground floor has units facing onto the main courtyard space, and these units have living rooms facing the main inner space with bedrooms facing either the courtyards or motorways.

The typical plan has 1 bed, 2 bed and 3 bed units with balconies either recessed or projecting into the courtyard.

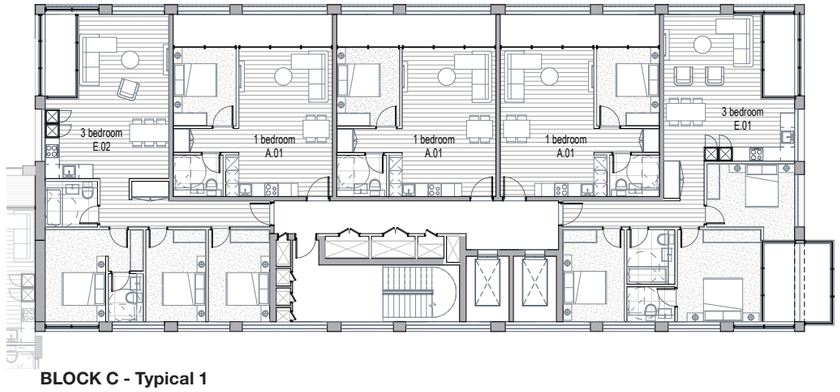
The upper level is set back and finished with a crowning top. The plan has four units to the core, on the top level.



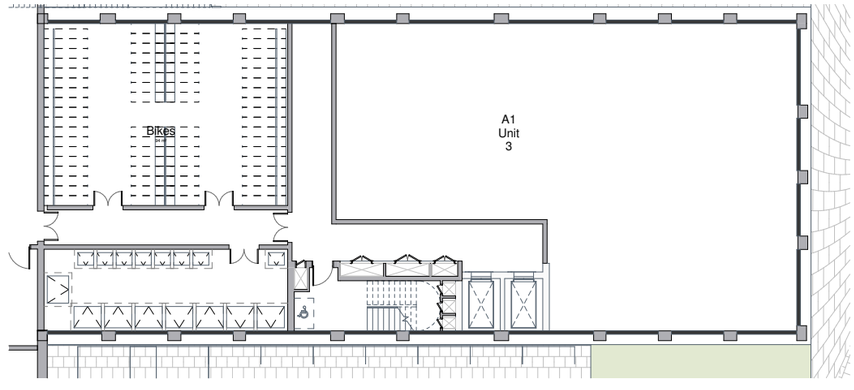
BLOCK C - Typical 2



BLOCK C - Ground Floor



BLOCK C - Typical 1



BLOCK C - Lower Ground Floor

5.8 Block Type B - Tower - Appearance

The building has simple palette of materials, comprising a white stone frame expressed every second floor level to articulate the scale of the building and a consistent horizontal rhythm of bronze panels and vertical rhythm of brick adds further texture the tower.

The secondary skin of bronze panels lends a unique character to this building, while the white frame provides depth and changing light quality over the facades.

The inner components consist of differing types of balconies and timber louvre screens, to further soften and add texture to the inner facades. The balconies can be additionally greened by residents, to further soften their feel.

The façade is constructed from six materials:

- Stone / GRC frame (white)
- Brick piers
- Bronze metal panels
- Aluminium (window frames and metal vertical bottom panels)
- Metal Balustrades (dark black colour)
- Green walls
- Stone walls to lower ground levels



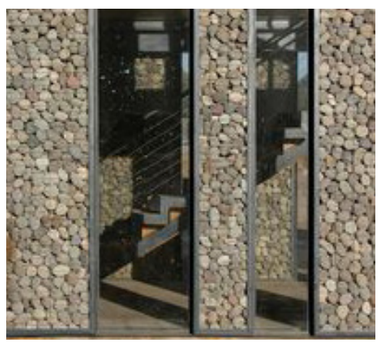

TOP FACADE MATERIALS


RECESS GLAZED TOP


STONE FRAME


BRASS INFILL


BRICK PIERS AND WHITE HORIZONTAL FRAME



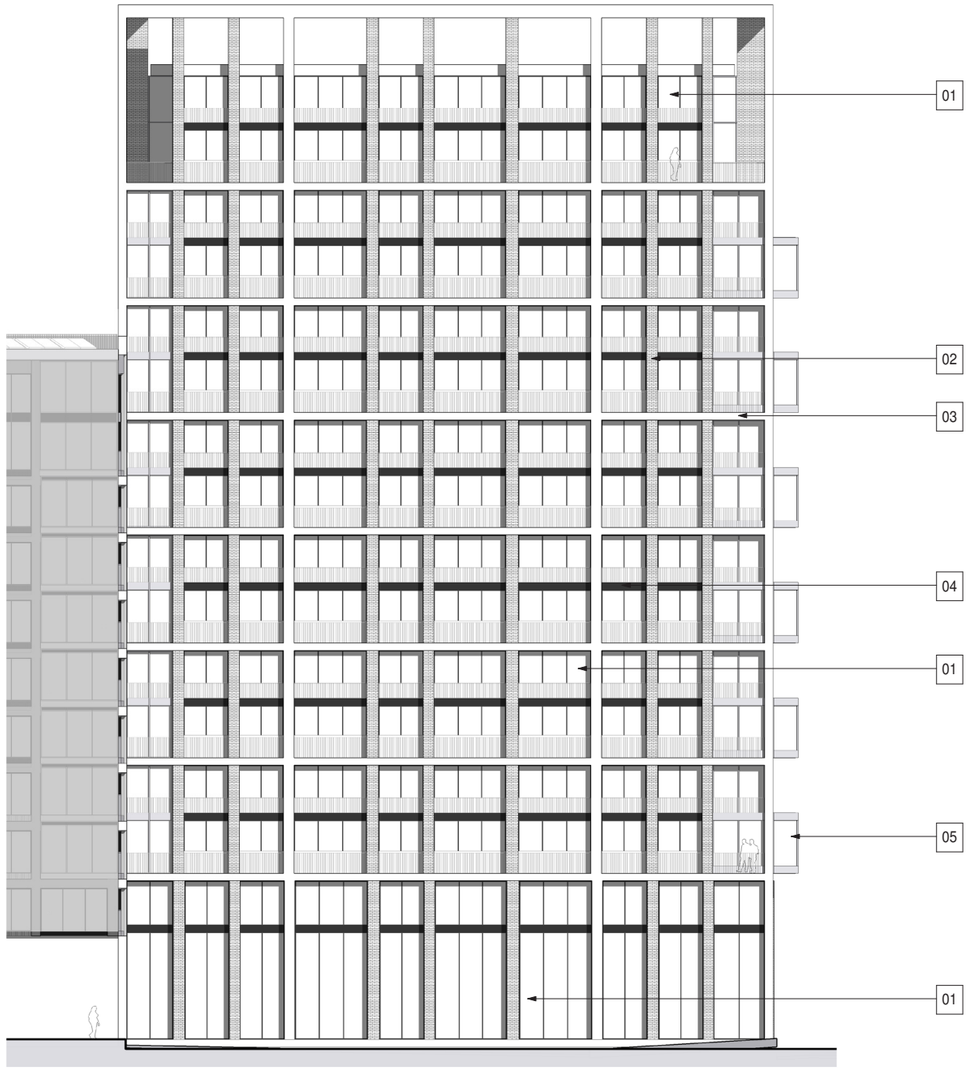


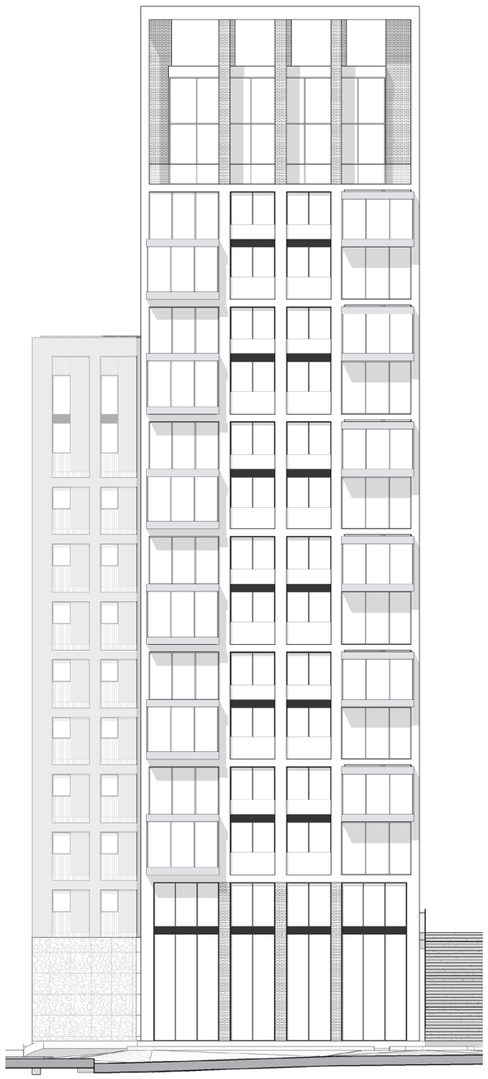

BASE FACADE MATERIALS

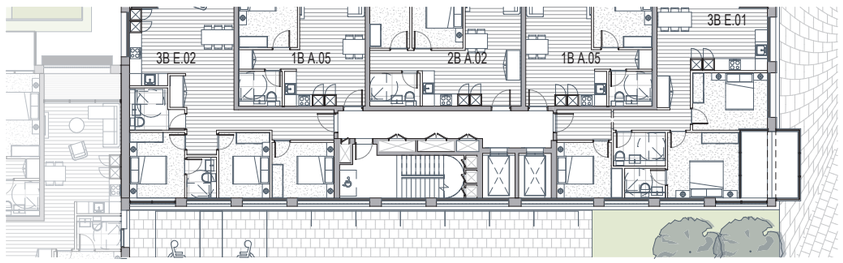
5.0 DETAIL SCHEME (BLOCK TYPE C - TALLER BUILDING))

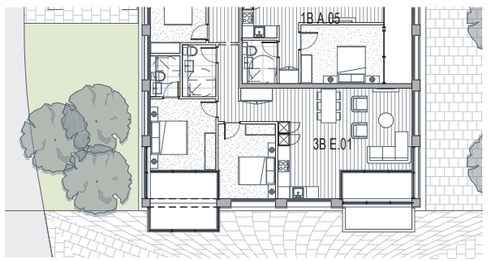
Materials Key:

1. DOUBLE GLAZED UNIT
2. BRICK VERTICALS - BEIGE
3. STONE FRAME - LIGHT GREY
4. BRONZE PANEL
5. WINTER GARDENS
6. STONE GABION WALL

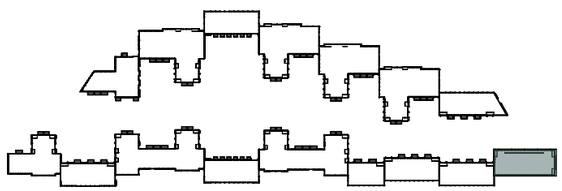








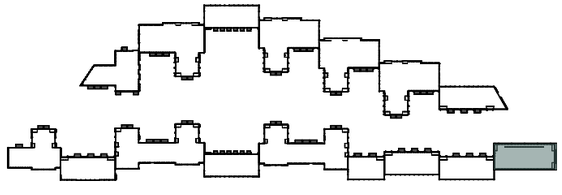
KEY PLAN





FACADE DETAIL

KEY PLAN





COLOURED BAY STUDY

5.0 DETAIL SCHEME (BLOCK A - R)

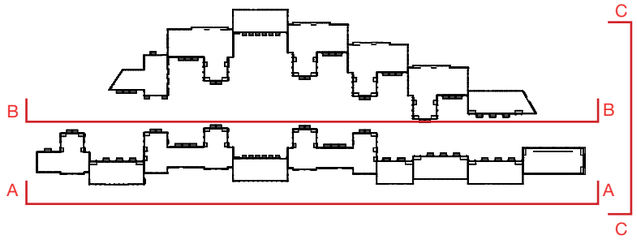


OUTWARD M1 FACADE - AA



MILL HILL WALK FACADE - BB

KEY PLAN

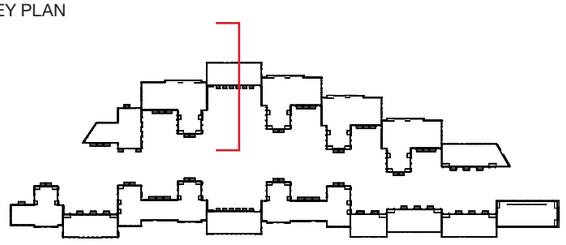




MILL HILL WALK SOUTH ENTRANCE - CC



KEY PLAN



SECTION THROUGH BLOCK A

5.0 DETAIL SCHEME (BLOCK A - R)

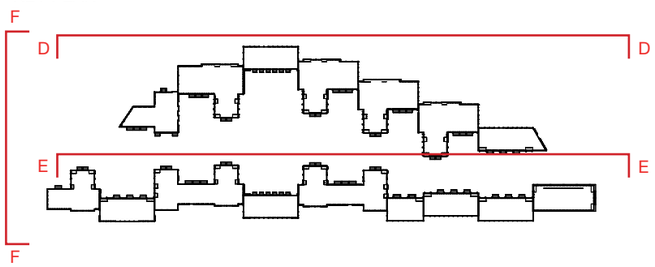


FACADE FACING MILL HILL - DD



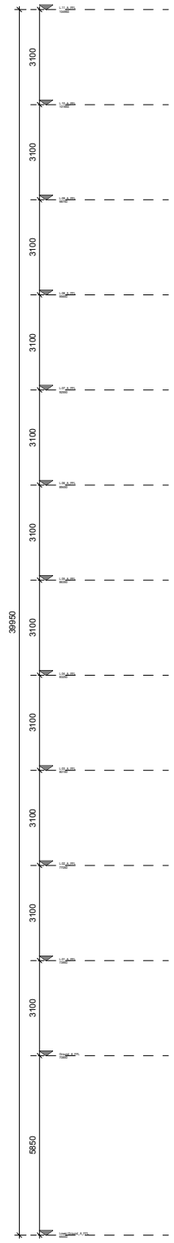
FACADE THROUGH THE COURTYARD SPACES ALONG MILL HILL WALK - EE

KEY PLAN

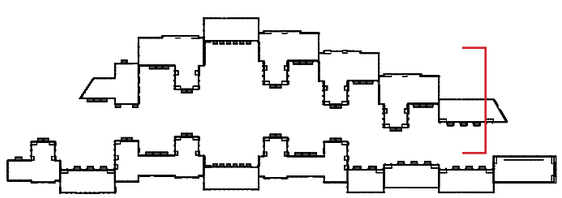




FACADE FACING NORTH - FF



KEY PLAN





SECTION THROUGH BLOCK C

5.0 DETAIL SCHEME (BLOCK A - R)

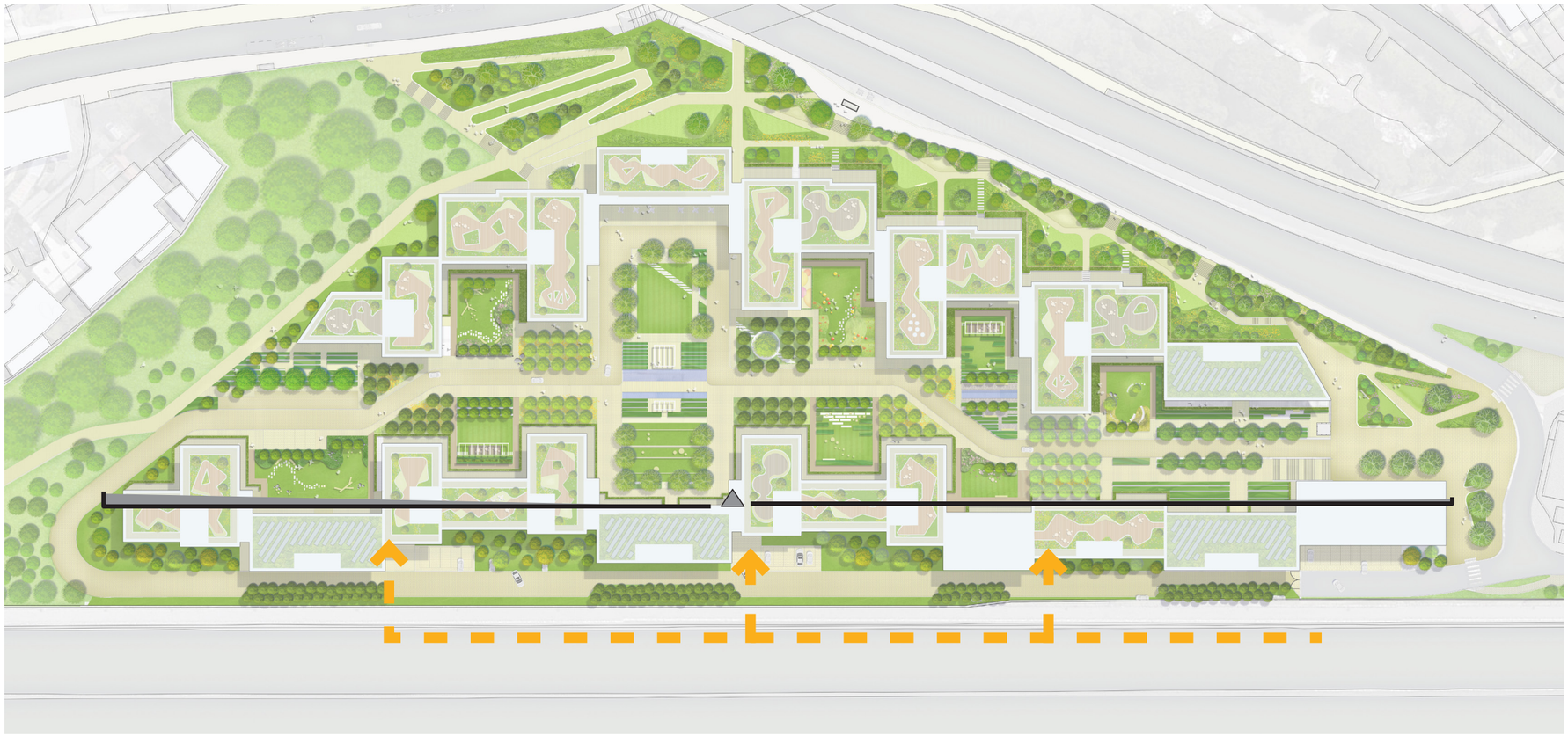
4.12 Lower Ground Car Park and Forecourt Retail Car Park

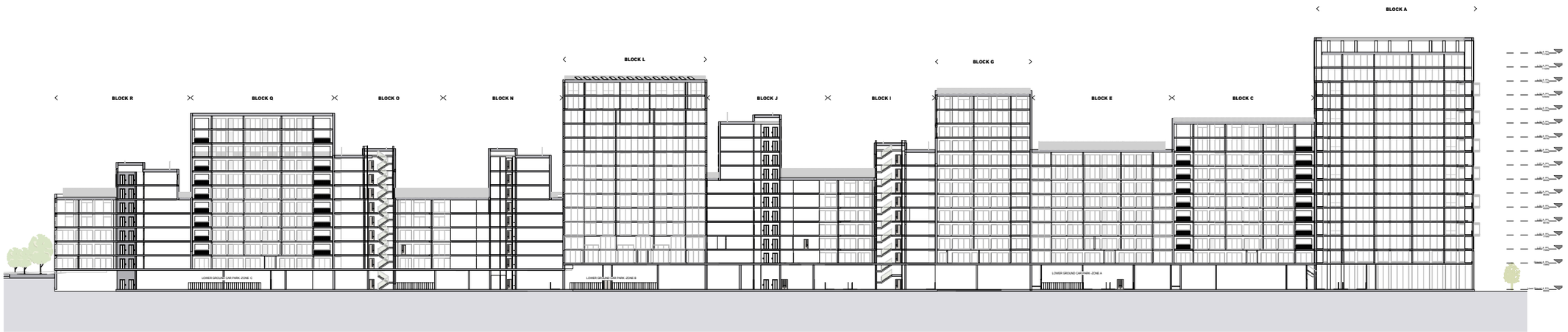
The Lower Ground lies below all building Blocks with direct core access to this level from residential cores. This level contains car parking, cycle parking areas, plant, CHP, refuse areas, and commercial use under Blocks A and B to the South.

There are three vehicle access points around the perimeter road leading to defined car and cycle parking zones under the building Blocks.

The total car parking spaces has been reduced from previous planning application and the number of cycle spaces has increased. There are 366 car spaces for residential at Lower Ground, 10 visitor parking, 9 for retail parking and 5 car club spaces on lower ground and ground floor level.

Furthermore, a total of 1,574 cycle spaces are provided on this level. There is also an extra 29 bike spaces for retail and commercial.





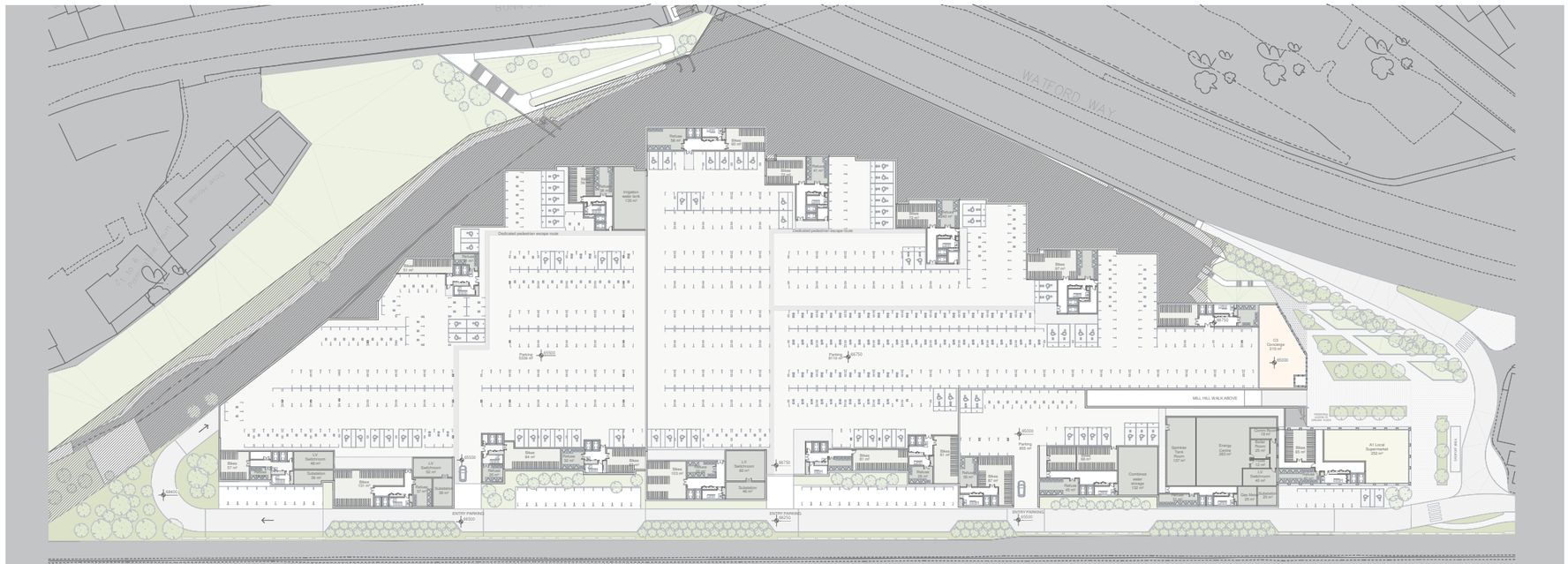
SECTION THROUGH LOWER PARKING LEVEL

NO. OF CAR PARKING

		Residential	Resident visitors	Car club	Retail/ Commercial/ Community	Total
Standard						
	Electrical	86			3	89
	Electrical prov.	86			3	89
	Oversized				4	4
	Standard	256	40	5	21	322
		428	**40**	**5**	**31**	
Disabled						0
	Electrical	14			1	15
	Electrical prov.	14				14
	Standard	44			4	48
		72			**5**	
		500	**40**	**5**	**36**	**581**

NO. OF CYCLE SPACES

	Residential	Retail/ Commercial/ Community	Total
Long stay	1117	11	1128
Short stay	18	36	54
	1,135	**47**	**1,182**

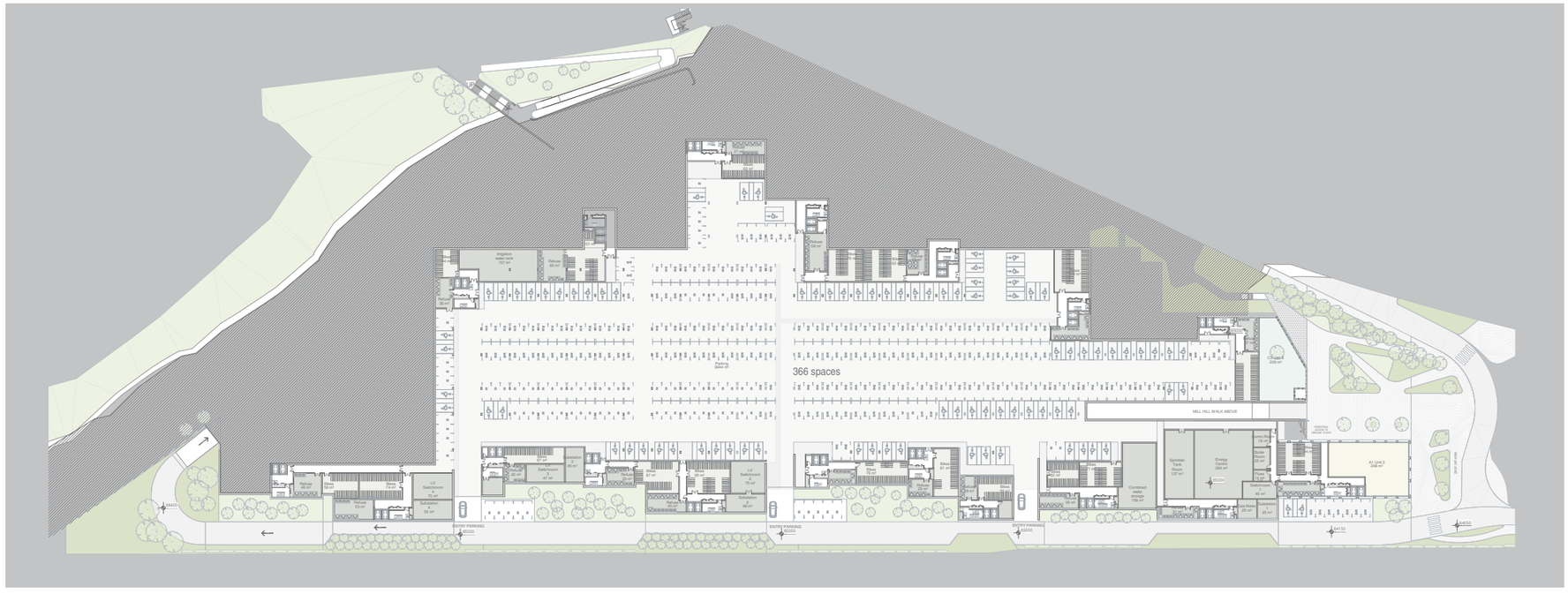


LG Floor plan. Planning application December 2017

			Residents	Resident visitors	Car club	Retail/ Commercial/ Community	Total
Standard							
	Elect. active	20% total	74	10	5	7	96
	Elect. passive	Rest	207				207
			281	**10**	**5**	**7**	303
Disabled electrical active		10% units	85			2	87
			85			**2**	87
TOTAL			**366**	**10**	**5**	**9**	**390**

NO. OF CYCLE SPACES

	Residential	Retail/ Commercial/ Community	Total
Long stay	1544	8	1552
Short stay	30	21	51
TOTAL	**1,574**	**29**	**1,603**



LG Floor plan. Current Planning application March 2019

5.13 Lower Ground Appearance

The Lower Ground creates a visual base for the whole proposal. Made from gabion or stone walls, this rustic stone base will blend well with the landscape design.

The stone walls will allow ventilation slots to aid the car park ventilation strategy as well as to create openings for car access.



BASE FACADE MATERIALS













5.14 Summary

The design team has moved away from the original design towards a more contextual solution and taken on the comments made from the Mayor's Design Advocates, which fragments the massing and places the height to break up the lond linear mass.

The design seeks to be sensitive towards Mill Hill and the buildings have been softened and given a stronger variegated roof line to ensure the scheme blends in with its surrounding context given the site is seperated from Mill Hill through major motorways.

The design has also improved through enhanced connections to local infrastructure and reduced the number of car park spaces given its close proxmity to Mill Hill Broadway.

A landscape buffer has been created between the new buildings and the A1, to place the new buildings in a green, visually appealing setting.

The landscape works intrinsically with the new buildings and introduces a greater variety of courtyards and spaces, which are protected from the hostile immediate environment – a consequence of the site's immediate proximity to both the M1 and A1.

The buildings are more 'traditional' London urban block in appearance, configuration and layout, which has made the scheme more phaseable and deliverable.

The new scheme will create a vibrant new urban village and community on an underused brownfield site, and will also deliver much need homes for London, within easy commute to the Central London.



BUNNS LANE VIEW – IMPROVED CONTEXTUAL RESPONSE



MILL HILL PARK - FLOWER LANE VIEW - IMPROVED CONTEXTUAL RESPONSE


Beautylife
Beautylife

6.1.1 APPROACH

The quality of the landscape will be critical factor in the success of this new sustainable neighbourhood. It will provide an attractive, active and welcoming environment for both the residents living there and the existing local community passing through it as a new route through this presently severed townscape. Indeed the landscape scheme will be an immense enhancement of both the human amenity and level of bio-diversity within this negelected site.

Taking this forward our overall objective is to create a solution that achieves a sense of belonging: to its time, its place and its community as follows:

1. Belonging to the time: promoting a high quality contemporary solution fit for the twenty first century;

2. Belonging to the place: responding to the wider context of regeneration within Mill Hill and enhnace the poor level of connectivity, promoting an accessible, legible, active and spatially dynamic environment;

3. Belonging to the community (both human and natural): appreciating the human scale psychological and amenity requirements of the residents; whilst maximising the ecological value of the site.

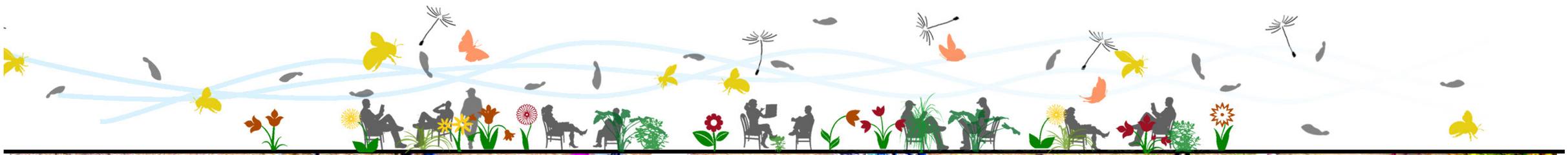
This report explains our design approach and design product: our strategy and the developed proposals. It initially sets out an analysis of the site's townscape context to provide an understanding of the issues to solve and opportunities to explore. It subsequently describes our concept for a holistic and cohesive masterplan whilst celebrating the character of the individual spaces in the proposals. Finally we provide a guide towards the proposed landscape elements that will make up this masterplan, the paving materials, furniture, planting and play equipment.

In summary the report describes how the landscape scheme achieves a sense of belong to the time, the place and the local human and natural community.



It’s HUMAN-NATURE

Creating a new sustainable neighbourhood based on the integration of social interaction and biodiversity, whilst enhancing the connectivity within the local townscape







6.2.1 ANALYSIS - LOCAL CONTEXT: BIODIVERSITY & ECOLOGY

The site is in proximity to a variety of green open spaces with diverse habitats.

Although the site is surrounded by large scale infrastructure this project provides a great opportunity to connect the varied landscapes of Mill Hill.

A combination of recreational, biodiversity, ornamental and woodland spaces will be introduced that will compliment and connect to the natural typologies already present in the area.

The varied landscapes within the site will form both physical and visual connections to the surrounding environment.



Amenity Grassland



Woodland Habitat



Wildlife



Mature Parkland Trees




ARRANDENCE OPEN SPACE
MILL HILL PARK
COPTHALL PLAYING FIELDS
SUNNY HILL PARK
SITE
MONTROSE PLAYING FIELDS

6.2.2 ANALYSIS - LOCAL CONTEXT: AMENITY & RECREATION

There are an abundance of outdoor amenity and recreation spaces surrounding the site, from museums to sports fields, parks and shopping. Mill Hill Broadway is within walking distance from the site providing shopping facilities and connections via the rail network into London.

However, the area is dominated by the M1 motorway and A1 dual carriageway which separate the site from nearby amenity spaces.

This project provides the opportunity to connect previously separated areas whilst creating a brand new location for community, recreation and commerce.

The landscape design will compliment and expand on the currently available amenity opportunities in Mill Hill, offering a variety of spaces and experiences for both existing and future residents, and visitors to the area.

Play Areas

Education & Learning

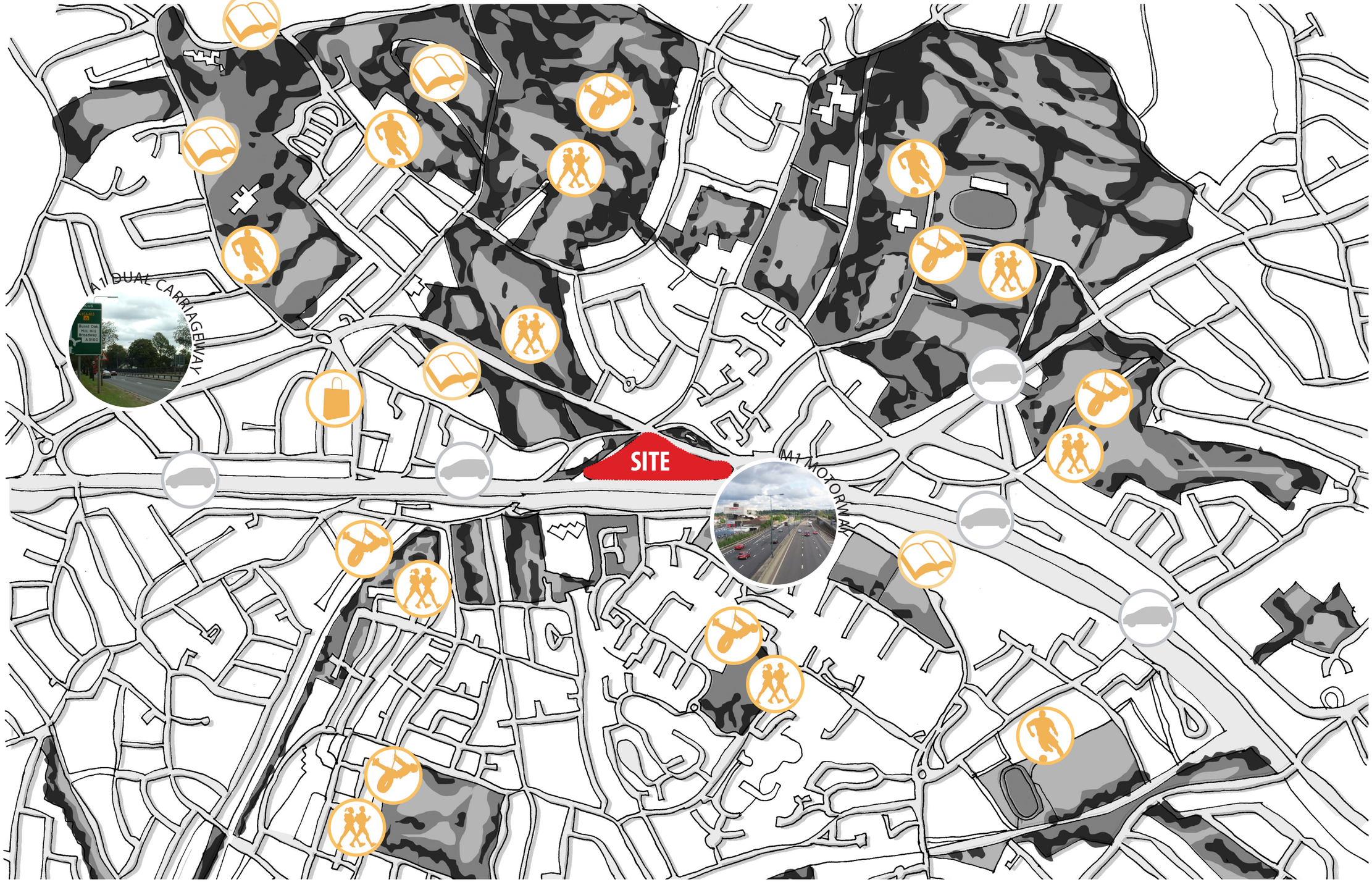
Recreation

Shopping

Sport

Vehicular Dominance




A1 DUAL CARRIAGEWAY
SITE
M1 MOTORWAY

6.3.1 OUR STARTING POINT: ENHANCE THE WIDER CONNECTIVITY OF MILL HILL

The site sits on an island between the M1 and A1 major roads, which presently serve as major barriers to pedestrian connectivity within the wider townscape.

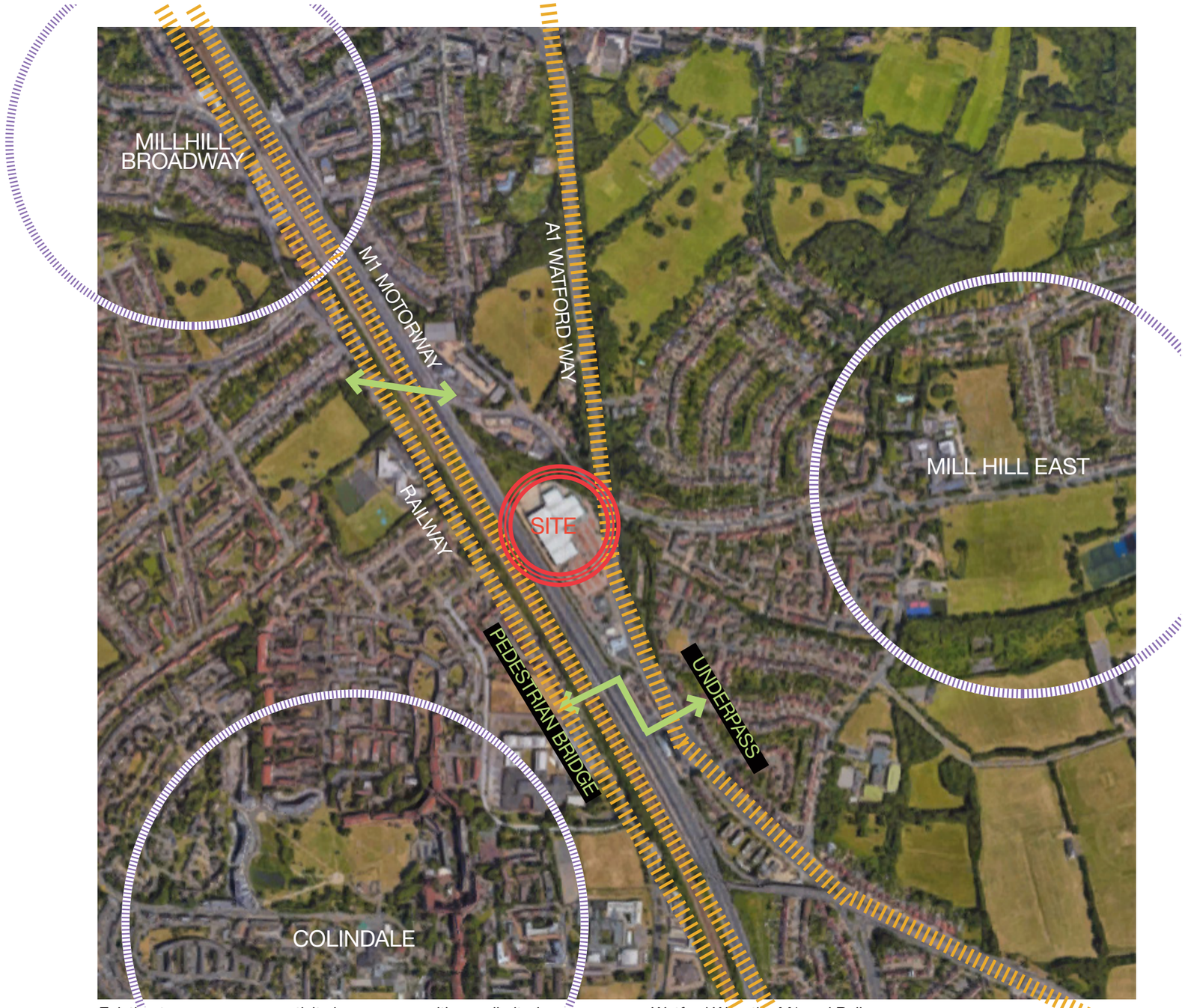
The combination of the fragmented and inactive existing site townscape and the lack of safe and attractive routes across this infrastructure provides an amazing opportunity for the new development to help heal this severed connectivity.

Thus the overiding landscape principles are to:

- Create a high quality pedestrian link to Bunns Lane;
- Create and improved the cycle route through the site and connecting to Bunns Lane;
- Enhance the public realm of the existing routes to the M1 footbridge and A1 underpass;
- Provide a new DDA compliant ramped path up the presently steep and vegetated embankment from Bunns Lane;
- Provide a new lift and staircase linking Bunns Lane with the A1pavement;

Together these improved and new routes will benefit the lives of both the new residents within the development and also the existing local communities who will be able to walk and cycle throughout this part of Mill Hill.

In essence the development will provide a ‘lily pad’ of connectivity across the major barriers of the A1 and M1 infrastructure corridors, mending the fragmented townscape and helping to create social and environmental cohesion.



Existing townscape connectivity is very poor, with very limited access across Watford Way, the M1 and Railway



The present severence of the local townscape through the Watford Way and M1 infrastructures. The development is pivotal to the connectivity of the Mill Hill Broadway, Collingdale and Edgeware communities through public realm enhancements north and south of the site.

BSE Bus Bus stops (existing)

BSN Bus stops (new proposed)

Primary access routes

Internal pedestrian routes

6.3.2 DESIGN APPROACH AND PRINCIPLES

The overriding objective for the landscape is to create clearly identifiable communal spaces. This will be achieved with a design that adopts the following principles:

- Create a new neighbourhood with a pedestrian orientated environment, whilst appreciating the needs of cyclists and occasional vehicles;

- Reinforce the legibility of the new neighbourhood by enhancing the sense of arrival from surrounding streets, introducing a heart with focus to the community

- Maximise activity for all ages and physical abilities within the community, providing recreational opportunities throughout the development, both in semi-private communal gardens and public spaces;

- Promote sustainability and ecological value within the design of all the spaces, incorporating biodiversity and native planting wherever possible.

6.3.3 LANDSCAPE MASTERPLAN

The landscape strategy for the new development is based on the creation of a community environment. It will also support and contribute to the wider environment of Mill Hill through the provision of high quality and usable amenity space for the new residents and wider community.

Our Masterplan celebrates the creation of the following streets and spaces that will in turn be described in detail within this chapter:

1. Village Green:
A formal central hub with opportunities for socialisation, recreation and biodiversity. This space will also provide an attractive view to look down upon from the residences above. The central square is accessible by a shared space perimeter.

2. Communal Gardens:
Garden spaces for the residents of each block, changing in charater and composition, but each offering quiet contemplation, play and socialisation. A combination of biodiversity, native and ornamental planting arrangements will be introduced.

3. Village Street:
A shared route linking all the spaces within the devlopment, creating an exciting range of experiences along its course.

4. Bunns Lane Link:
A gradiated approach with gently ramped (DDA compliant) access from Bunns Lane up into the heart of the neighbourhood.

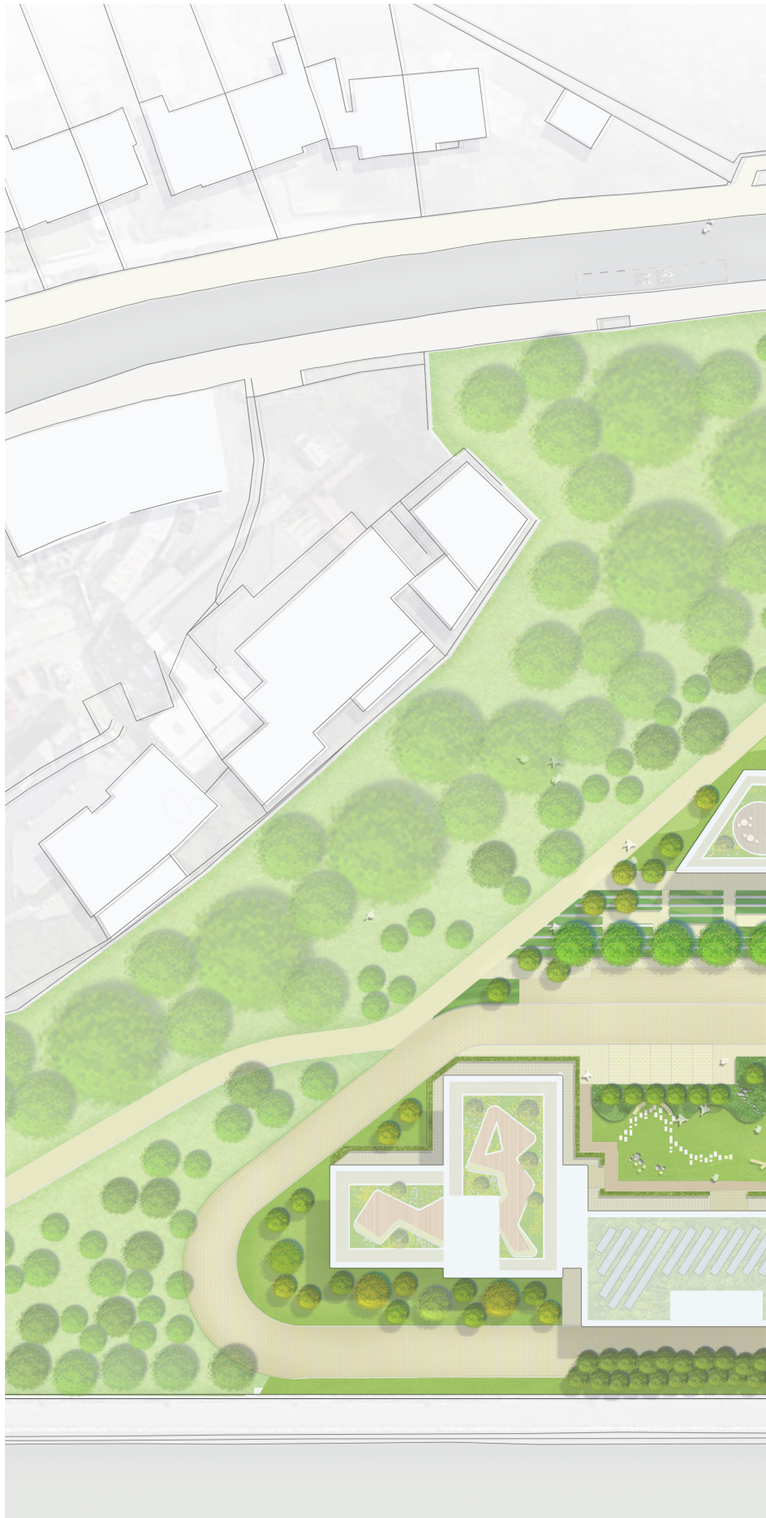
5. Watford Way frontage:
A linear park providing access from the pavement up into the development, also offering a softening visual amenity and biodiversity enhancement.

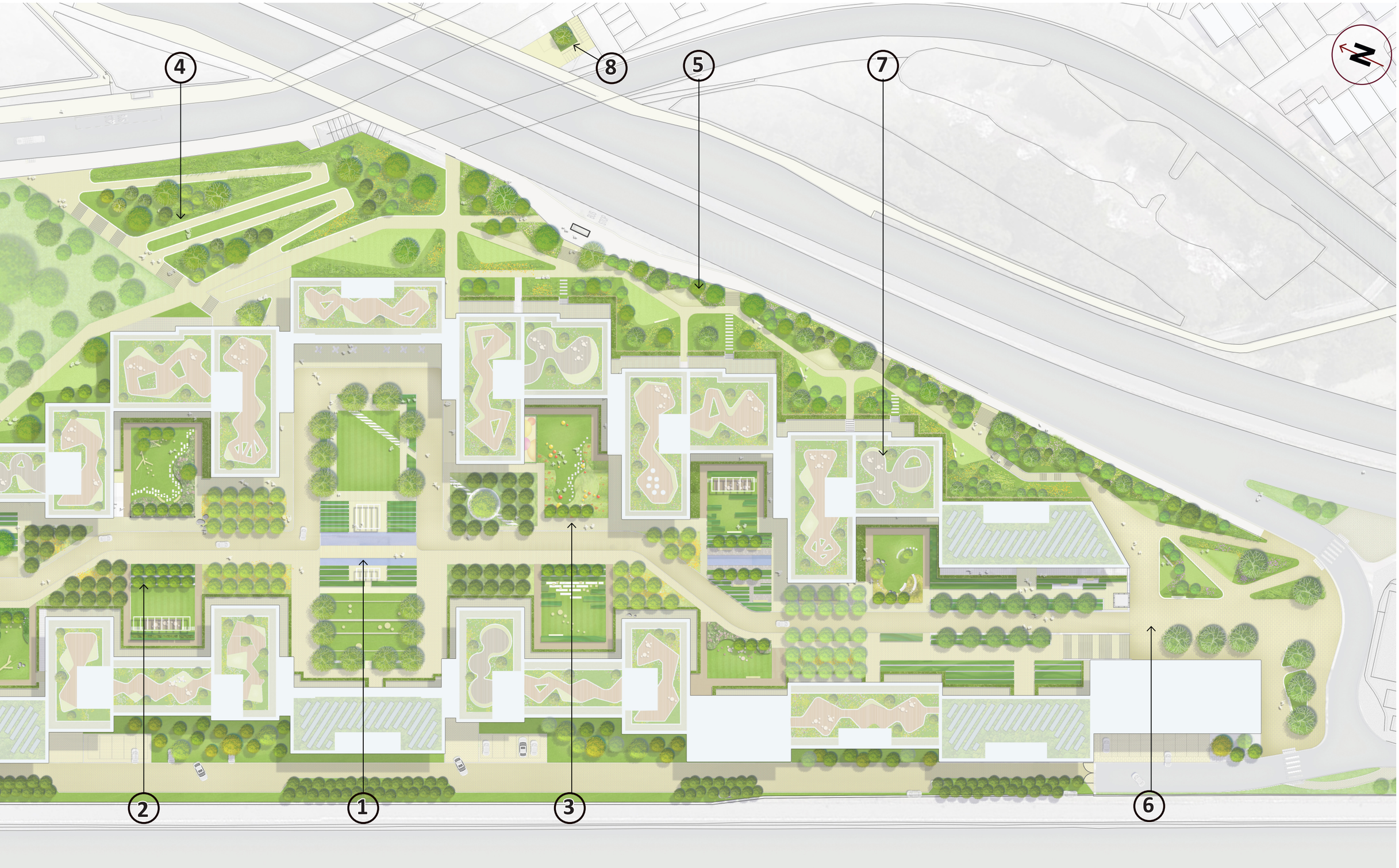
6. Entrance piazza:
The South Piazza will provide a great sense of arrival for both the residents and the wider community.

7. Roof Gardens:
High level communal gardens for residents to enjoy socialising or contemplating in a sunny but tranquil setting.

8. A1 Lift and staircase:
Landscape area with a festure tree with a new staircase and lift provision to access southbound bus services

These spaces will be described in more detail in the following pages, in terms of their activity, character and materiality.

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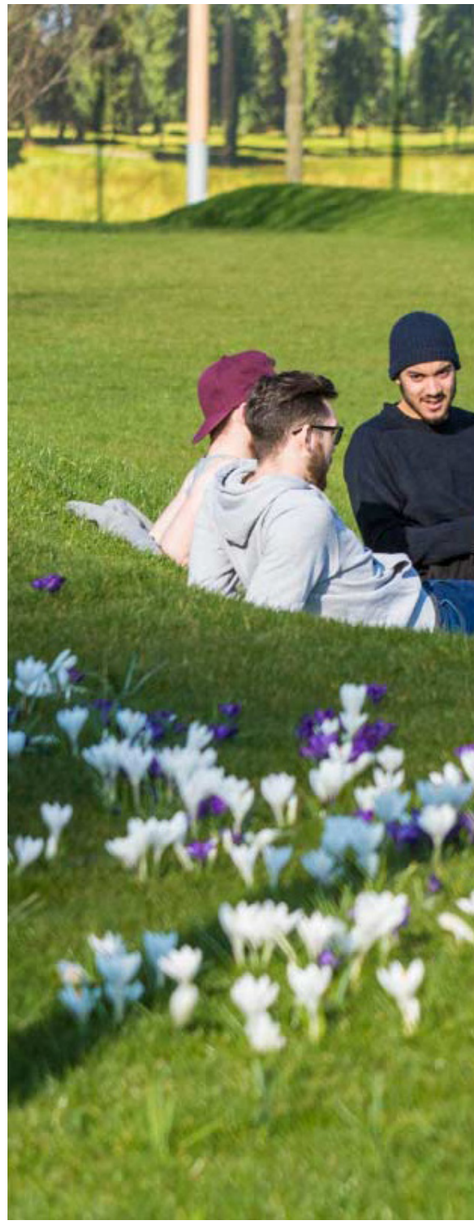
6.3.4 LANDSCAPE MASTERPLAN: A RANGE OF LANDSCAPE EXPERIENCES SUPPORTING PEOPLE AND NATURE











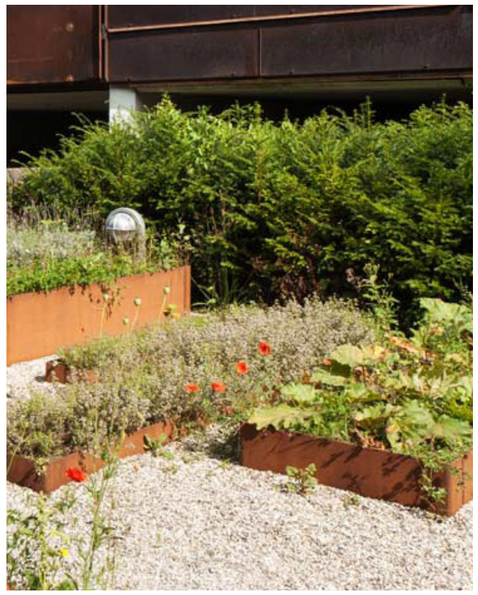


Village Green

Communal Gardens













Roof terraces

Village Street

Watford Way frontage

6.4.1 VILLAGE GREEN

The Village Green is the central hub of the scheme. It will provide a vibrant series of overlapping spaces that serve residents and visitors to the site. This combination of spaces work together to create a vibrant community hub.

The design is inspired by the Georgian style circus, offering a formal perimeter and lawn which will provide a flexible, robust ‘canvas’ on which residents can rest, relax, play and socialise. The Lawn itself will be raised and articulated to allow meaningful planting depths for shrubs and trees and open space for play.

A water feature cuts through the central square flanked on both sides by decking for people to sit, relax and enjoy the water. Lines of planting will act as attractive buffer between the lawn and the water feature.

The adjacent play area is suited for all age groups and includes a striking rubberised play surface, sculptural play equipment, and an articulated deck with foot holds.
Seating will be provided for parents to watch over their children however the courtyard will be gated and secure from the public realm. The lawn offers informal play for all ages.

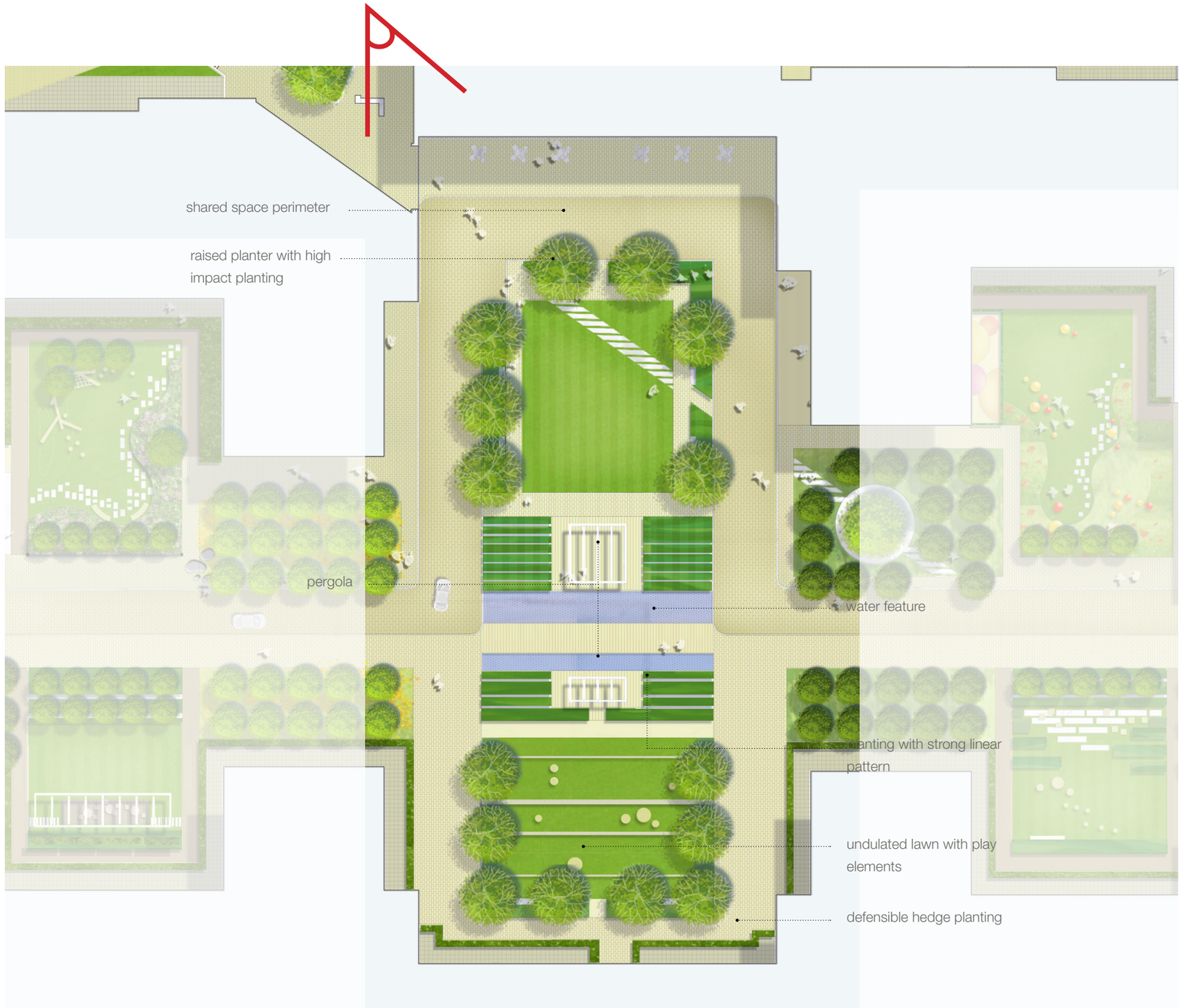
1. Shared space perimeter
A shared space offering active spill out space for cafes, shops and businesses. Circular route for pedestrians, cyclists and occasional vehicles.

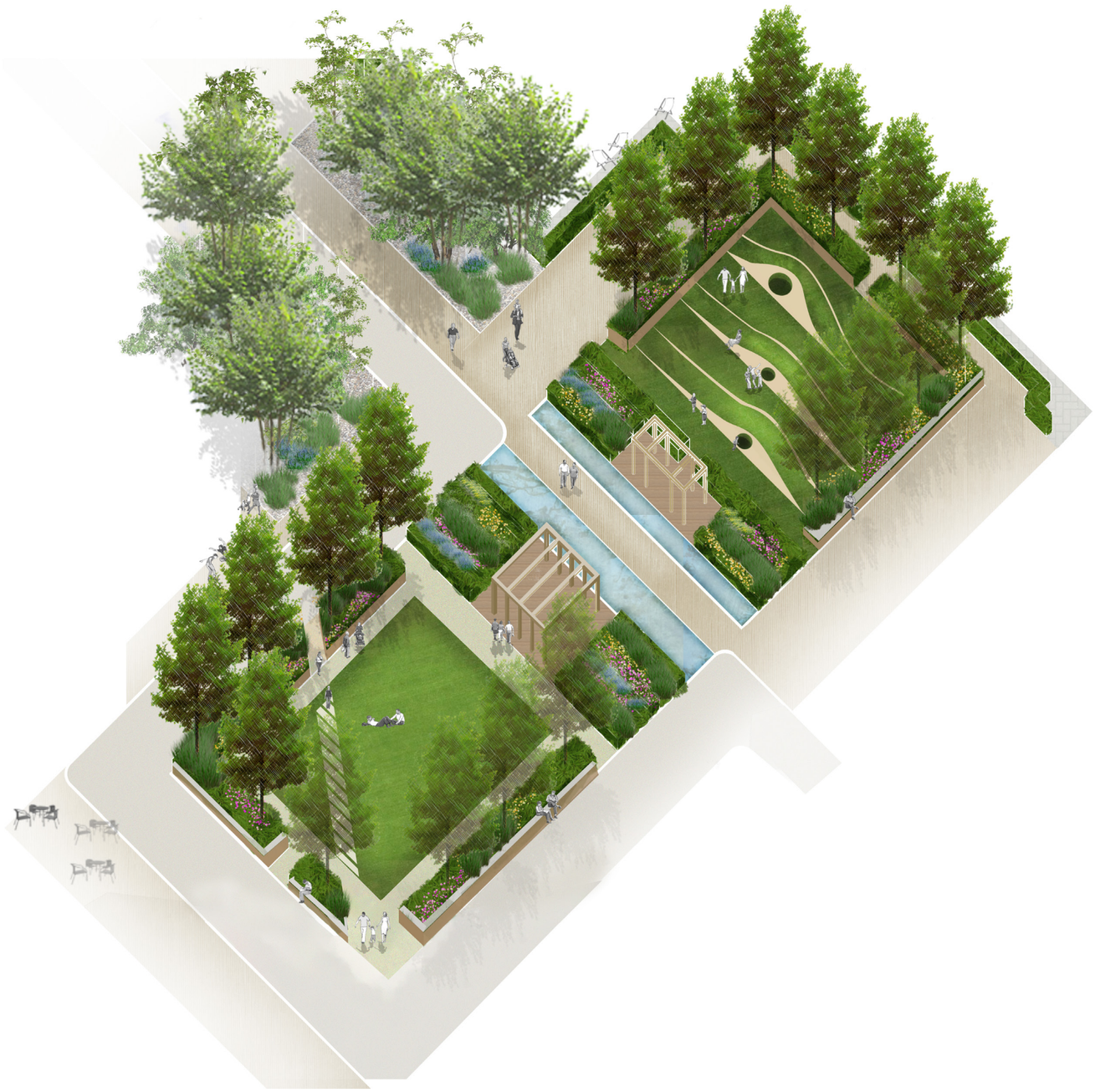
2. Water feature
An attractive linear water feature with accessible by a decked area and flanked by biodiverse planting and wildlife species.

3. Central Deck
A vibrant raised deck with informal seating and a pergola to provide some shade and privacy.

4. Formal Lawn
A large formal grass lawn for recreation, play and socialising

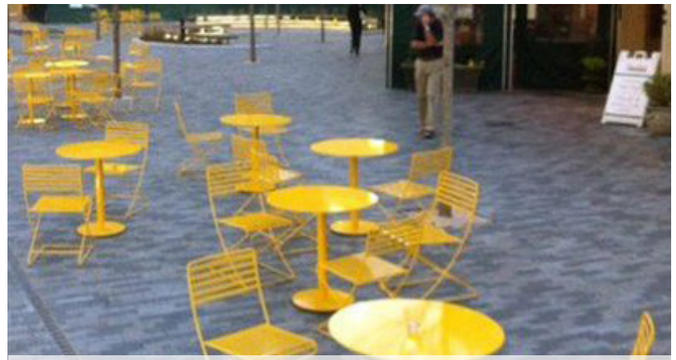
5. Play Area
A large designated play area with engaging non-prescriptive play elements. Surrounded by formal hedge and mixed species shrub and herbaceous planting.






linear planting and informal seating


pergola creating shade and privacy


active spill out space for cafes, shops and businesses


water feature for calm and serenity


cooling water feature


planting with strong linear pattern

6.4.2 COMMUNAL GARDENS

VARYING IN COMPOSITION AND CHARACTER BUT EACH PROVIDING AMENITY FOR ALL AGE GROUPS

Each of the residential blocks will have direct access to a communal garden.

These spaces will offer a garden for relaxation, play and socialisation. So together they offer residents of all age groups an opportunity to meander through and enjoy each garden with their range of amenities. Research into the quality and social sustainability of recent residential developments sets out that the presence of children in spaces creates a generally more active and animated neighbourhood. By allowing older children to access the gardens of other blocks, they are more likley to meet their friends to play, and this in turn encourages younger siblings to use the spaces.

Furhermore the character of the gardens will change throughout the day and evening according to the path of the sun, so we have located both play and socialisation features in both east and west facing gardens throughout the neighbourhood.

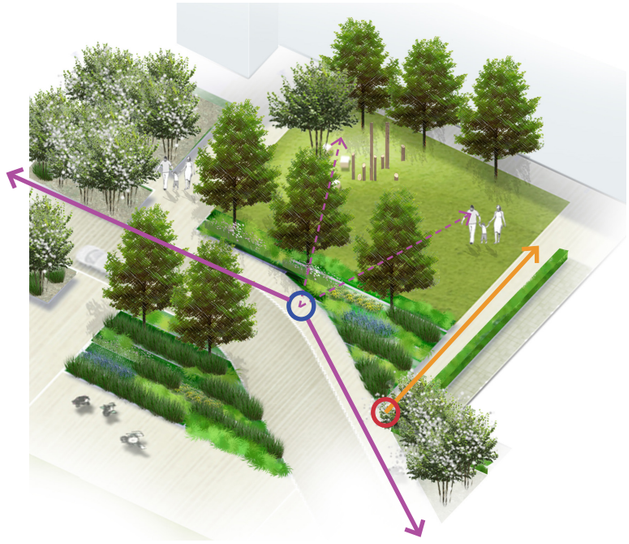
Whilst the general public will walk through the central spine of the neighbourhood and appreciate views into each of the gardens, we are discouraging physical access into the communal gardens through the combination of a narrowed entrance through planting and signage

Each of the gardens will have a heavily planted perimeter to create a lush and comfortable space that softens the impact of the overlooking buildings.

Play elements for various age groups will be dotted through the gardens, but each with door step play for toddlers. 5 - 11 year olds will benefit from more challenging elements in some of the gardens.

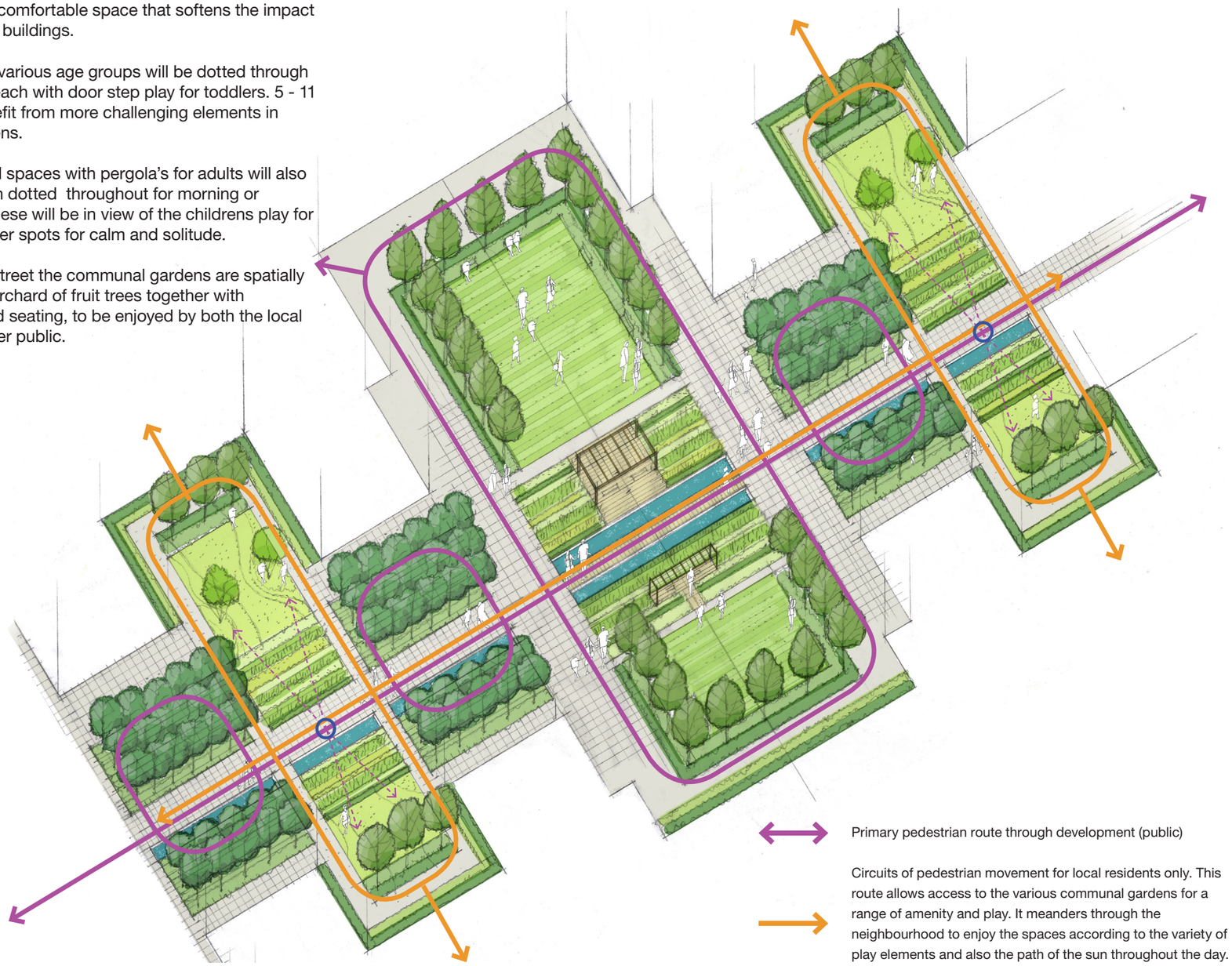
Seating and social spaces with pergola's for adults will also be provided, agian dotted throughout for morning or afternoon sun. These will be in view of the childrens play for parents or in quieter spots for calm and solitude.

Along the village street the communal gardens are spatially separated by an orchard of fruit trees together with incidental play and seating, to be enjoyed by both the local residents and wider public.



Views of communal gardens to be enjoyed by the public walking through the devlopment

Physical access into the gardens is to be intended to be for residents only, with the general public discouraged. This is achieved with low level planting along the garden perimeter to allow views over into the garden, with a narrow path opening and sign saying residents only.



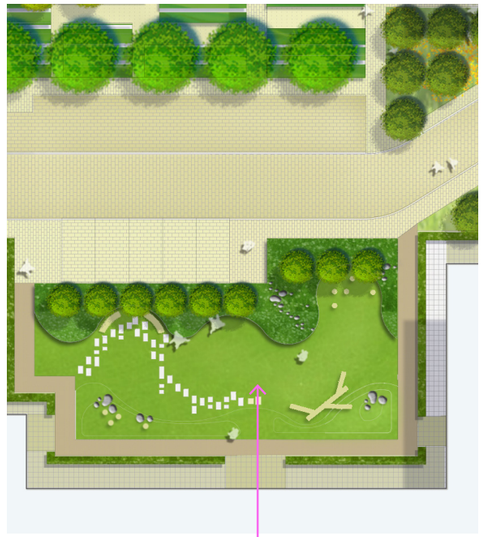
Primary pedestrian route through development (public)

Circuits of pedestrian movement for local residents only. This route allows access to the various communal gardens for a range of amenity and play. It meanders through the neighbourhood to enjoy the spaces according to the variety of play elements and also the path of the sun throughout the day.

Views of communal gardens to be enjoyed by the public walking through the development (whilst access is not encouraged)

This diagram is a plan illustrating the variety of communal gardens throughout the proposed neighbourhood. Each will have a contrasting range of play equipment for different aged children, whilst socialisation spaces for either morning or afternoon sun are located along the central spine.

These individual gardens are described in more detail within the following pages, setting out their own character and activity, whilst combining to form a cohesive neighbourhood experience.



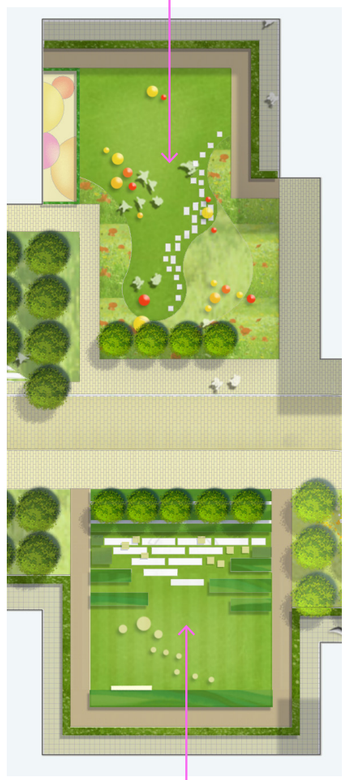
Woodland play garden (morning sun)

Prairie play garden (afternoon sun)



Socialisation space with morning sun

Colour sphere play garden (afternoon sun)



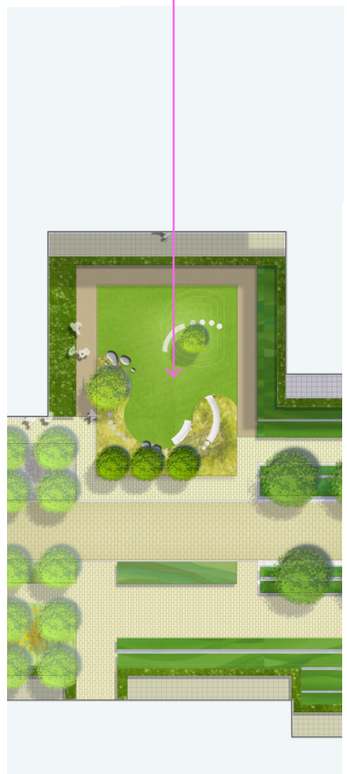
Stepping stone play garden (morning sun)

Socialisation space with workspace garden (afternoon sun)



Childrens picnic garden (morning sun)

Mounded play garden (afternoon sun)



6.4.2 COMMUNAL GARDENS

MOUNDED PLAY GARDEN

Role:
Play for toddlers and 5-11 year olds with seating for adults

Character:
Combined formal and sculptural with undulating mounds

Aspect:
West facing: afternoon and evening sun

Amenity:
Range of play opportunities, with open lawn for flexible games, boulders and slides adjacent to grass mounds.

Planting:
Formal with defensible shrub planting around building perimeters and trees along the park frontage. Swathes of ornamental grasses form the understorey planting into which the boulders and stepping stone routes are located.







A garden created with structural planting and mounding



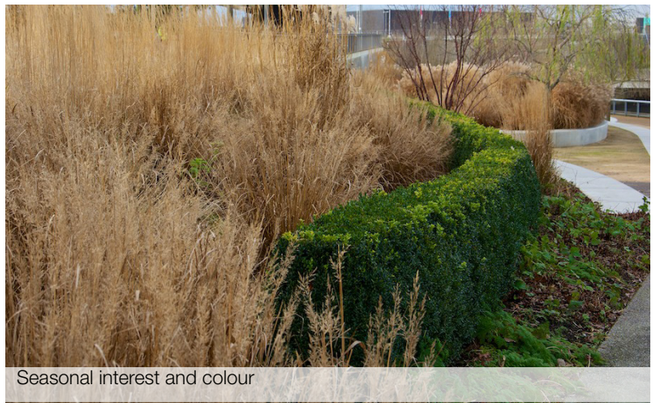
Mounding to run up and down



Combined with slide elements



Informal paths through drfifts of ornamental grasses



Seasonal interest and colour

6.4.2 COMMUNAL GARDENS

CHILDRENS PICNIC GARDEN AND SOCIALISATION SPACE

Role:
Picnic lawn for toddlers and 5-11 year olds, informal seating for the Workspace occupiers and a socialisation space for adults

Character:
Stylised formal gardenesque

Aspect:
East facing childrens' garden, south facing Workspace garden and west facing socialisation space.

Amenity:
The children's garden includes an open lawn for flexible games and picnic tables and a bench for adults; seating nodes within ornamental planting strips for the Workspace occupiers; and a Pergola seating niche within the Socialisation Space.

Planting:
Formal with defensible shrub planting around building perimeters and trees along the park frontage. Lush ornamental groundcovers and perennials form the understorey, ranging in species according to the aspect and availability of the sun path. More colourful species are chosen for the Childrens Garden





Pergola feature with seating for socialisation





Structural planting creating pockets of seating for Workplace occupiers together with residents and the public walking through the park



Seating niches within planting for children to explore with parents



Childrens vegetable growing garden



Toddlers picnic tables



Informal planting in serpentine beds

6.4.2 COMMUNAL GARDENS

STEPPING STONE GARDEN AND BUBBLE PLAY GARDEN

Role:
Interactive play for toddlers and 5-6 year olds with informal seating for adults. Outdoor garden for the nursery.

Character:
Stylised gardenesque, with angularity in the east facing garden and serpentine forms in the west facing element.

Aspect:
East facing stepping stone garden, and west facing bubble play garden.

Amenity:
Within the stepping stone garden sculptural planks create opportunities toddlers to interact and challenge themselves with an open lawn for flexible games. The bubble play garden offers a series of colourful globes to climb on and jump off, all within an open lawn and planting.

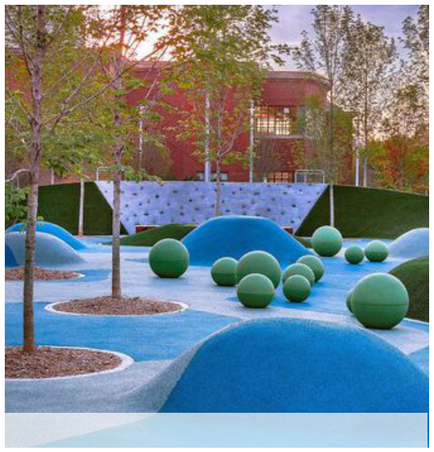
Planting:
Formal with defensible shrub planting around building perimeters and trees along the park frontage. Structural evergreen dominated hedges and groundcovers form the basis of the stepping stone garden, whilst more colourful species of perennials and groundcovers are chosen for the bubble play garden.







A combination of stepping stones and colourful balls providing interactive play

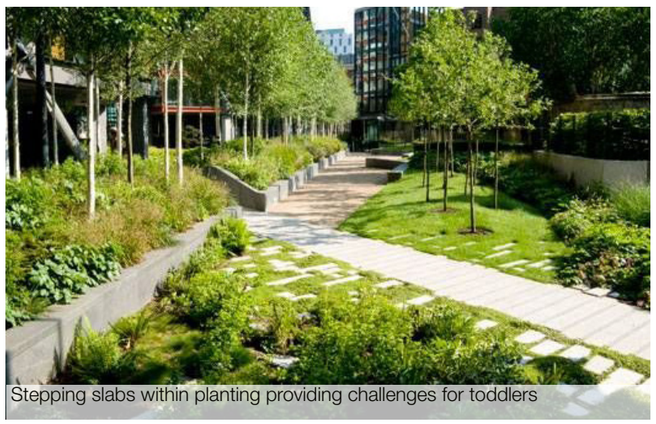




Swathes of colourful groundcovers within the west facing garden place



Lush evergrren and perennials within the east facing garden



Stepping slabs within planting providing challenges for toddlers



6.4.2 COMMUNAL GARDENS

SOCIALISATION SPACE AND PRAIRIE PLAY GARDEN

Role:
Socilaisation space for adults and an adenture playground for toddlers and 5-11 year olds.

Character:
Stylised gardenesque with formal tree planting and organic forms of understorey planting.

Aspect:
East facing socialisation space with west facing childrens play garden.

Amenity:
A pergola seating niche overlooking a formal lawn within the Socialisation Space. The play garden includes an open lawn for flexible games and a range of play equipment for 5-11 year olds to climb.

Planting:
Formal with defensible shrub planting around building perimeters and trees along the park frontage. Within the south and west facing play garden swathes of drought tolerant colourful groundcovers and perennials form understorey planting.



midday



Pergola feature with seating for socialisation

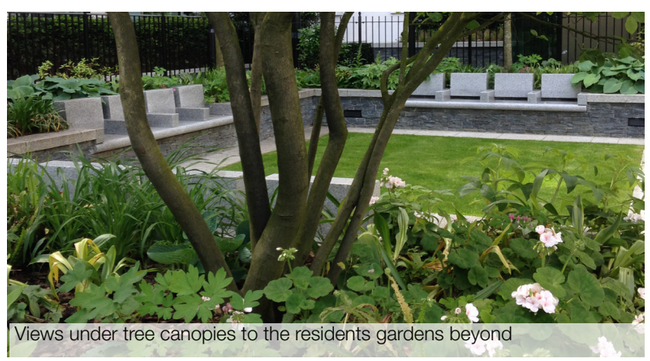


Naturalistic play elements located within open lawns



Challenging adventure play features for 5-11 year olds





Views under tree canopies to the residents gardens beyond



Open lawn glades



Ornamental grasses in the west facing garden

6.4.2 COMMUNAL GARDENS

WOODLAND PLAY GARDEN AND INFORMAL SEATING GARDEN

Role:
Socilaisation space for adults and an adenture playground for toddlers and 5-11 year olds.

Character:
Stylised gardenesque with formal tree planting and organic forms of understorey planting.

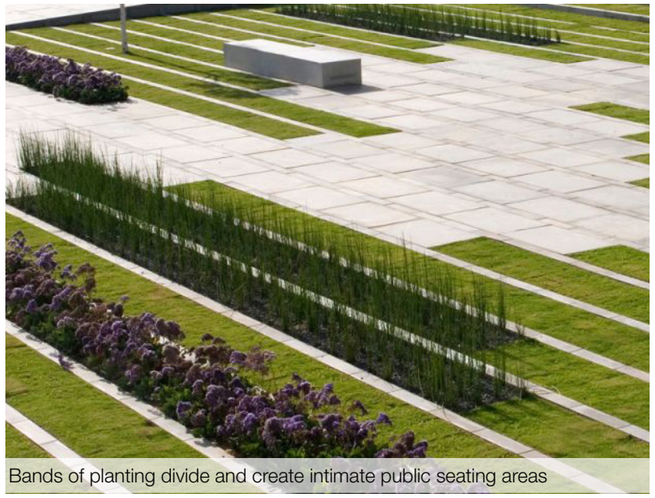
Aspect:
East facing socialisation space with west facing childrens play garden.

Amenity:
A pergola seating niche overlooking a formal lawn within the Socialisation Space. The play garden includes an open lawn for flexible games and a range of play equipment for 5-11 year olds to climb.

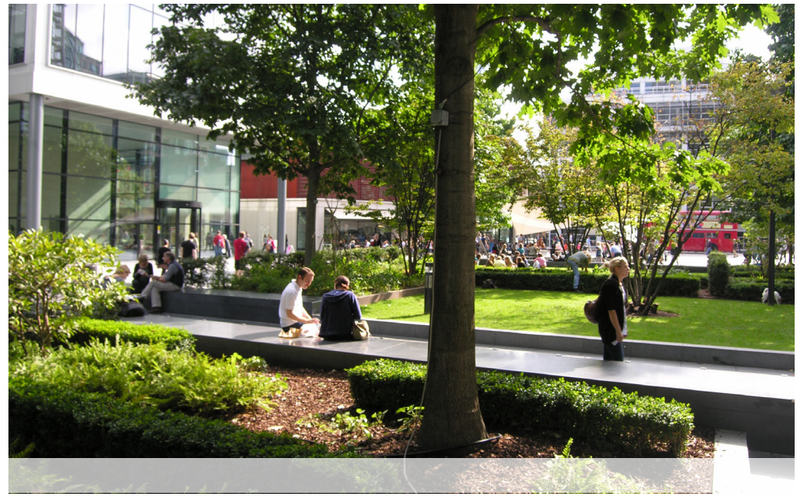
Planting:
Formal with defensible shrub planting around building perimeters and trees along the park frontage. Within the south and west facing play garden swathes of drought tolerant colourful groundcovers and perennials form understorey planting.







Bands of planting divide and create intimate public seating areas





Lush perennials and ornamental grasses form the carpet of planting





Stepping stones and wobble platforms for toddlers play



Naturalistic adventure play equipment for 5-11 year olds

6.4.3 VILLAGE STREET

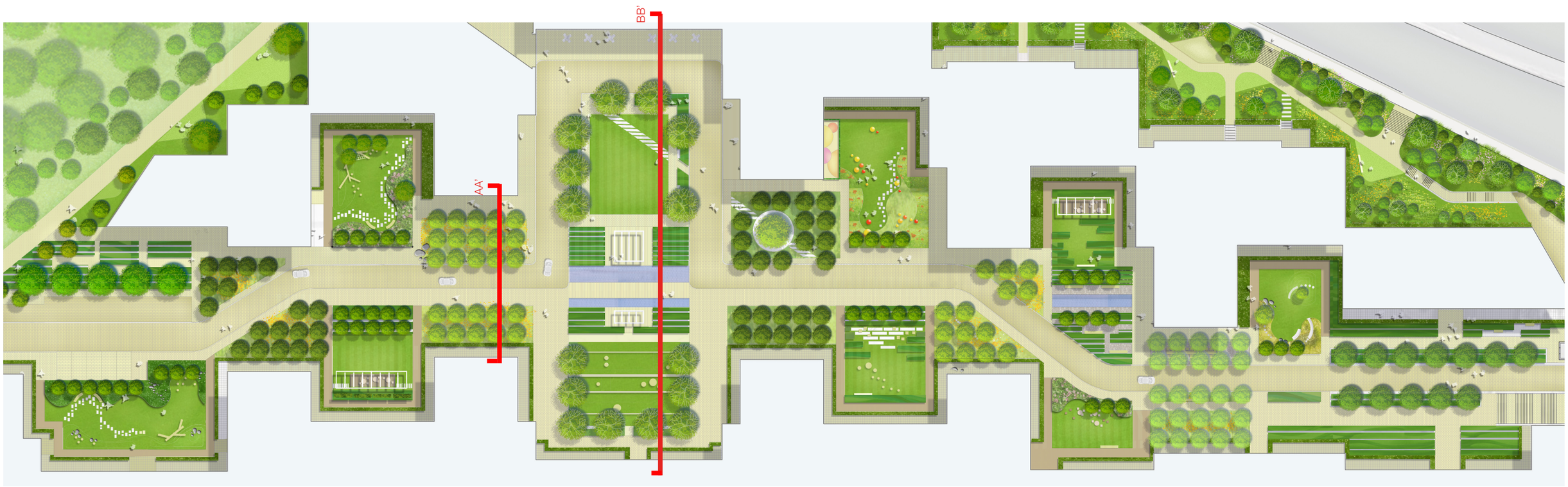
The Village Street is the main entrance route into and through the development. This important axis will provide an exciting range of experiences for residents and the wider community walking along its route.

It addresses a level change that is navigable by a ramped shared space for vehicles and pedestrians or a platform lift for those with limited mobility. From the car parking area it slopes up to meet the building ground floor level and then flattens out on approach to the Village Green.

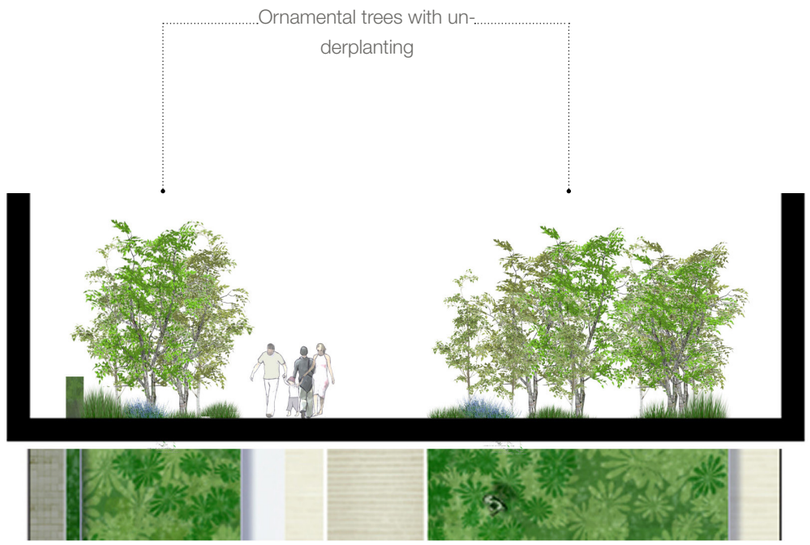
The ramped approach is flanked either side by a cascading landscape of raised planters with tree and understorey planting. The tree canopies will be visible from above offering shade, shelter and a softening aesthetic.

Throughout the street will be attractive and animated landscape features, providing'play on the way' for children and seating niches for all age groups.

Thus the main path will appear to meander through a range of gardens, each separated by orchard copses.



6.4.3 VILLAGE STREET



Section AA



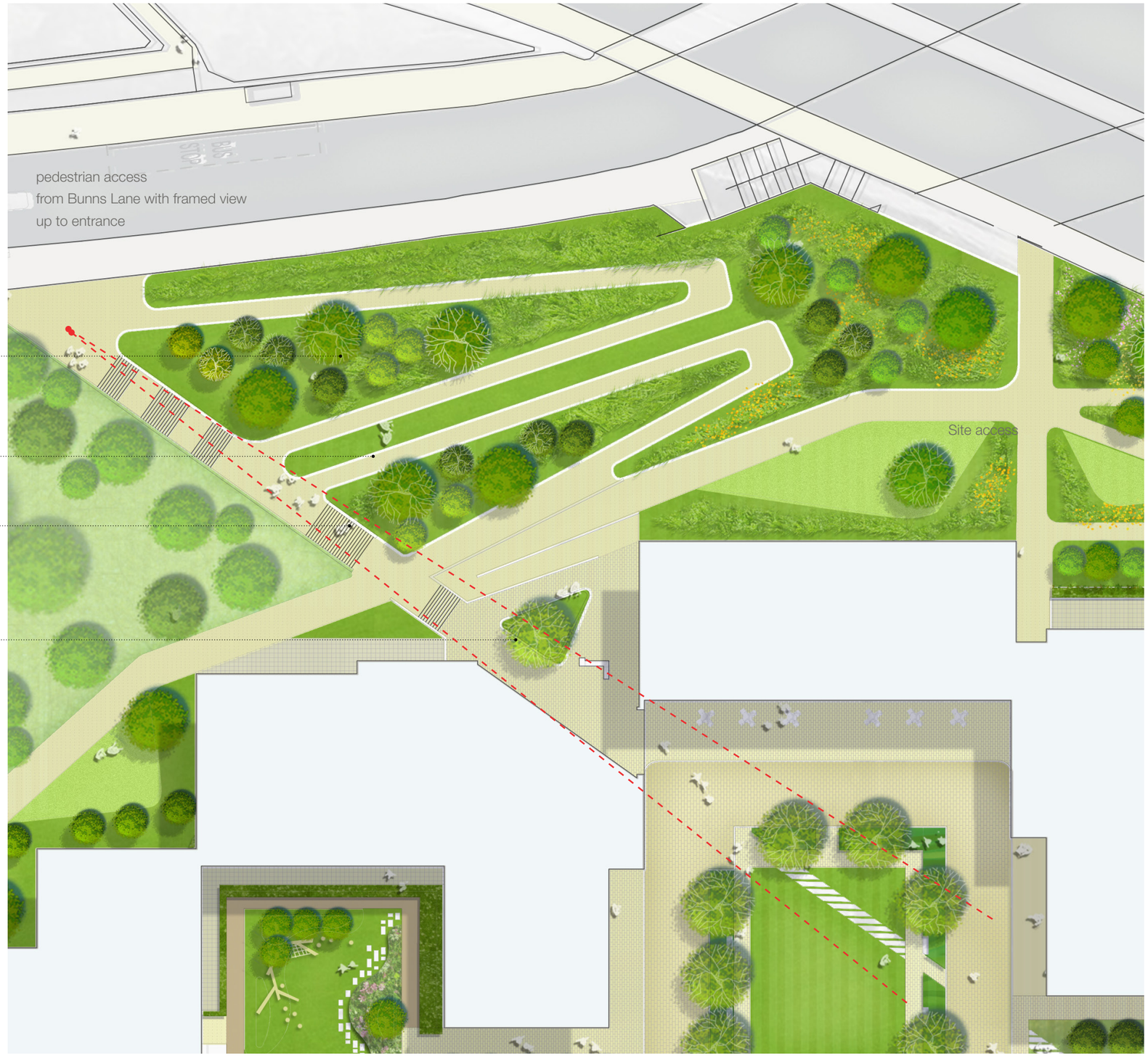
Section BB'

6.4.4 BUNNS LANE PEDESTRIAN LINK

We have created a DDA compliant pedestrian route linking Bunns Lane with the development. This includes a 1:21 gradient ramp that zig-zags up the embankment with more direct stepped access either side. The route will be landscaped with trees and groundcovers to balance surveillnace with a buffering from the Watford Way overhead.

This route links up to new entrances into the development and also the new bus stop on the A1. It will offer a variety of paths with a variety of experiences.

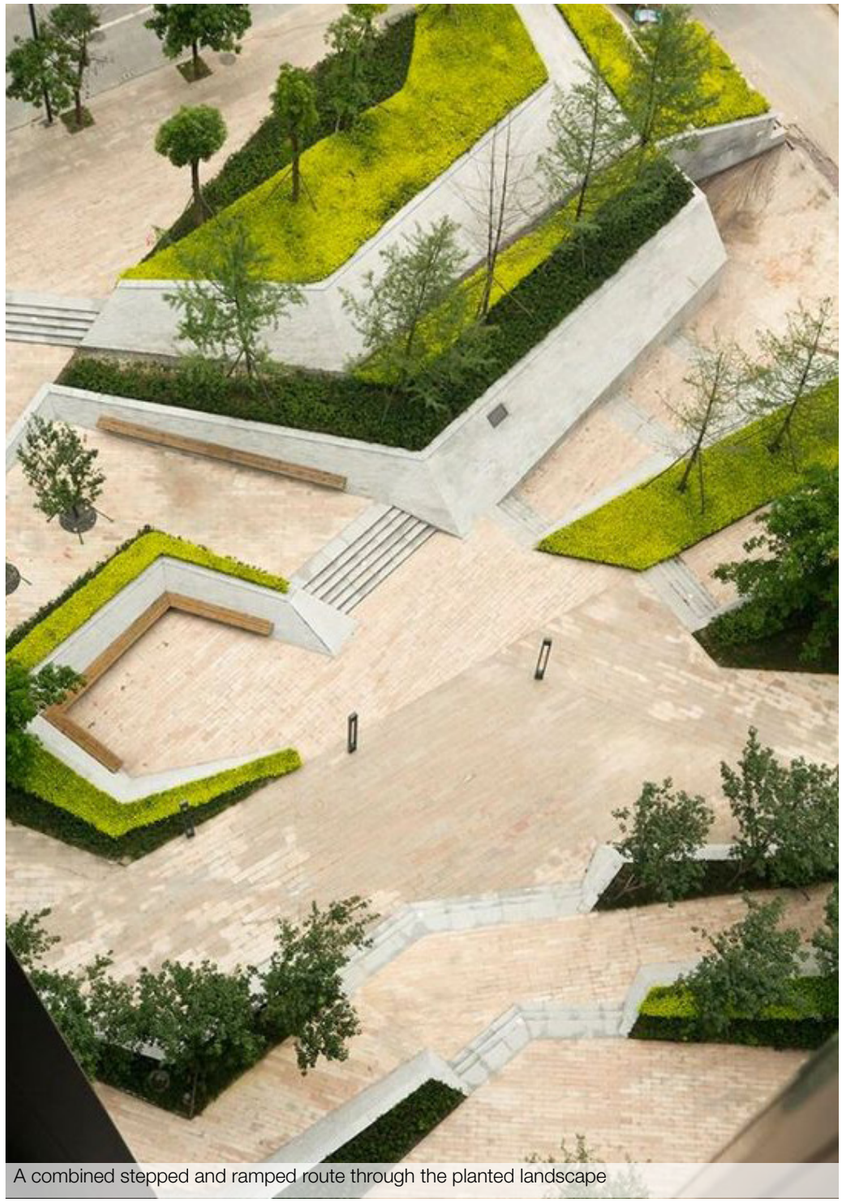
The landscape treatment between the ramps is naturalistic with trees, shrubs and meadow planting to significantly bolster the value of bio-diversity in the area.





6.4.4 BUNNS LANE PEDESTRIAN LINK (ADJACENT TO A1) CONTD.

These images illustrate the landscape proposals to create a DDA compliant route up the embankment from Bunns Lane and into the central Village Square within the heart of the development.



A combined stepped and ramped route through the planted landscape



Specimen tree with seating at the entrance gateway



6.4.4 BUNNS LANE PEDESTRIAN LINK (ADJACENT TO M1)

The plan illustrates the proposal to create additional linkage between the development and the area to the north via Bunns Lane leading to Mill Hill Broadway station.

This new route will be 3m wide and combine a pedestrian path and cycle way with a highly landscaped area.

Similarly we expect this to become popular for both the new residents within the devlopment and the existing local community, linking the other routes described.

Key:

1. DDA compliant shared cycle/pedetrian route
2. Level access into the central park through the development



6.4.5 WATFORD WAY LINEAR PARK

The landscape proposals create an attractive linear park along the Watford Way frontage. The benefits of this landscape include:

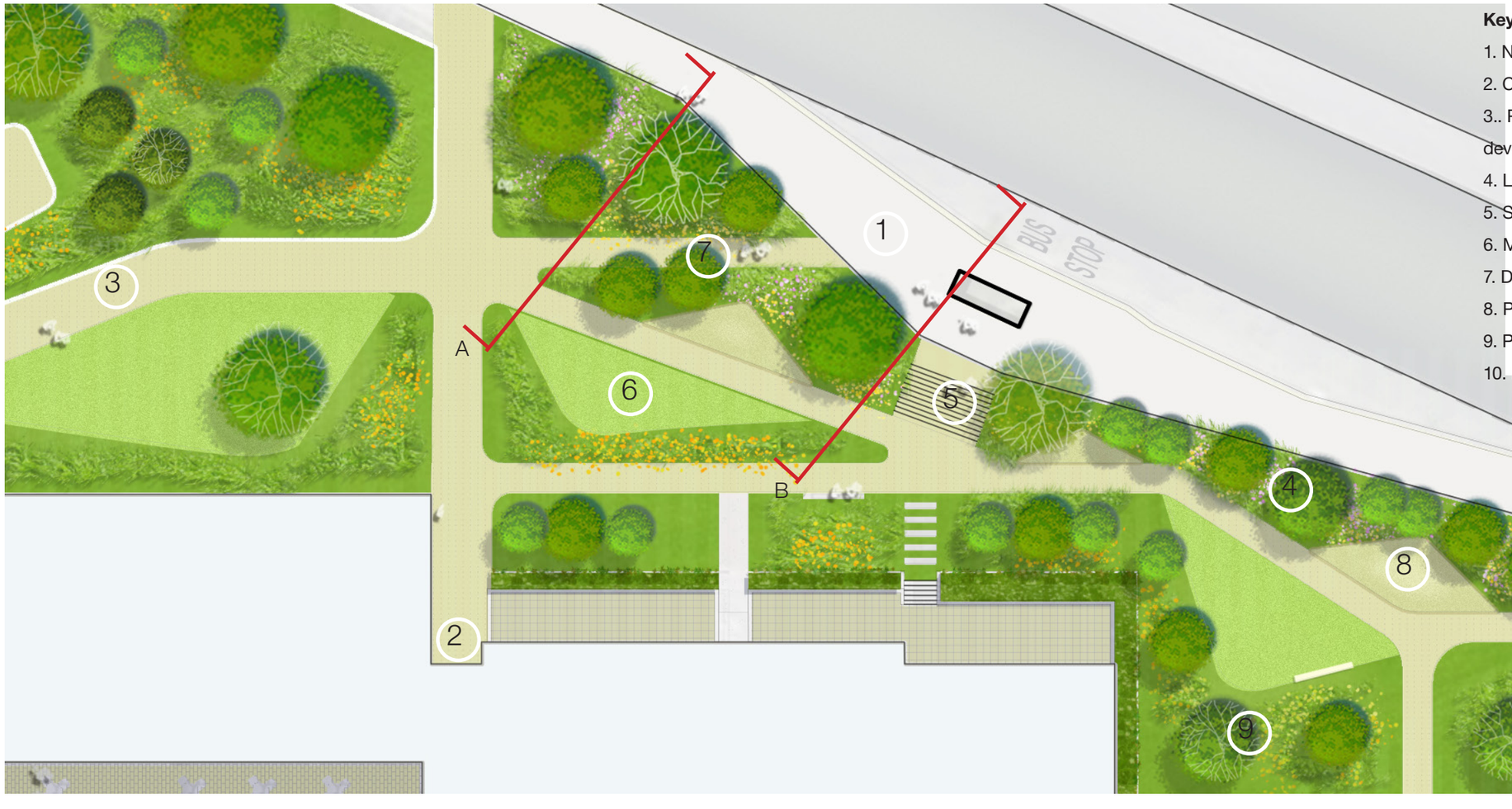
- Connectivity for residents to the development from the Watford Way pavement, with a series of gateway entrances;

- A band of trees that will help ameliorate the sound and air pollution of the main road whilst allowing framed views of the development and maintain visual surveillance in this area.

The specification of more upright tree species such as columnar hornbeam along the Watford Way embankment to prevent any overgrowth of canopy over the carriageway.

Furthermore along the building facade there is active frontage at ‘park level’ to animate the landscape.

Pioneer tree species



Key:

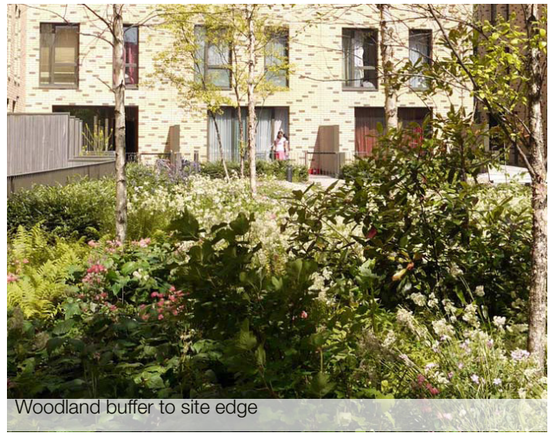
1. New proposed Bus Stop along Watford Way
2. Communal pedestrian entrance to development
3.. Path to DDA compliant ramp linking Bunns Lane with the development
4. Landscape perimeter to A1: dense tree planting with high clearstems
5. Stepped access through to inear park
6. Meadow lawn
7. DDA compliant shared pedetrian route through the linear park
8. Pockets of exercise equipment and toddlers play
9. Private terraces and dense defensible planting zone
10. Path link to Entrance Piazza



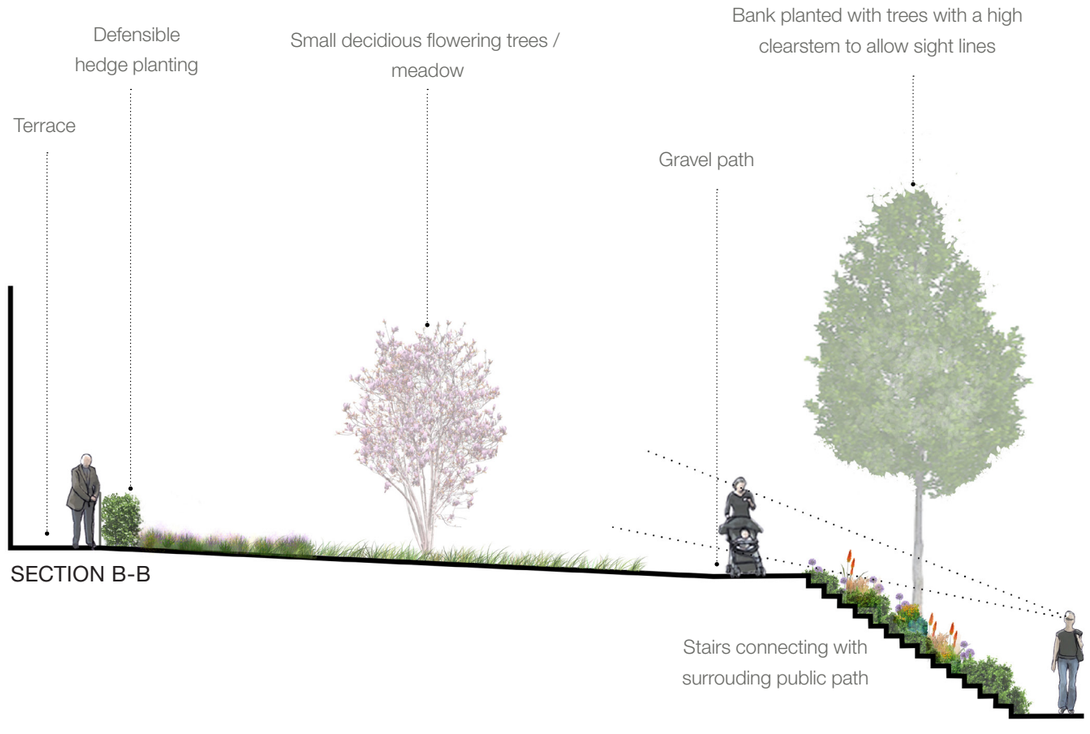
SECTION A-A



Treelined pavement with steps up to linear park



Woodland buffer to site edge



SECTION B-B



Incidental play on the way



Outdoor gym equipment



Informal medow planting

6.4.6 ENTRANCE PIAZZA

The landscape proposals form a key entrance space for the devlopment. It is situated in a pivotal area where the wider public will visit the retail unit off Watford Way. Hence its welcoming and active character will encourage visitors to enter the overall scheme and enjoy the development as a whole.

Indeed we have created a piazza that will provide a great sense of arrival for both the residents and the wider community. It facilitates pedestrian desire lines through to the central park; to the retail store and the residential concierge; and to the route up to the iinear park adjacent to Watford Way beyond.

Its layout and character has an appropriate balance between hard paving and soft planting; catering for such desire lines and buffering to the traffic on Watford Way respectively.

The treatment respresents the landcape elements within and around the development but highly formalised to celebrate the civic quality of the entrance piazza.

Sculptural seating and lighting is placed throughout the piazza to encourage social interaction throughout the day and early evening.



Key:

1. Open piazza space linking up to routes through central park (via steps, ramp or lift)
2. Route up to Watford Way linear park.

3 Sculptural seating elements for residents and wider community

4. Planting beds with herbaceous planting under specimen Pin Oaks
5. Retail unit facing on to piazza
6. Enhanced public realm link towards underpass across Watford Way









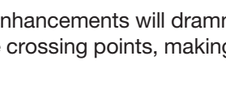
6.4.6 ENTRANCE PIAZZA: ENHANCING THE PUBLIC REALM LINKING TO THE THE M1 AND A1 CROSSINGS

As discussed the landscape masterplan looks to enhance connectivity to the wider townscape and community.

A major element within this project is the proposed environmental improvements to the public realm to the south, to both the underpass crossing under the A1 Watford Way and the pedestrian footbridge over the M1 Motorway.

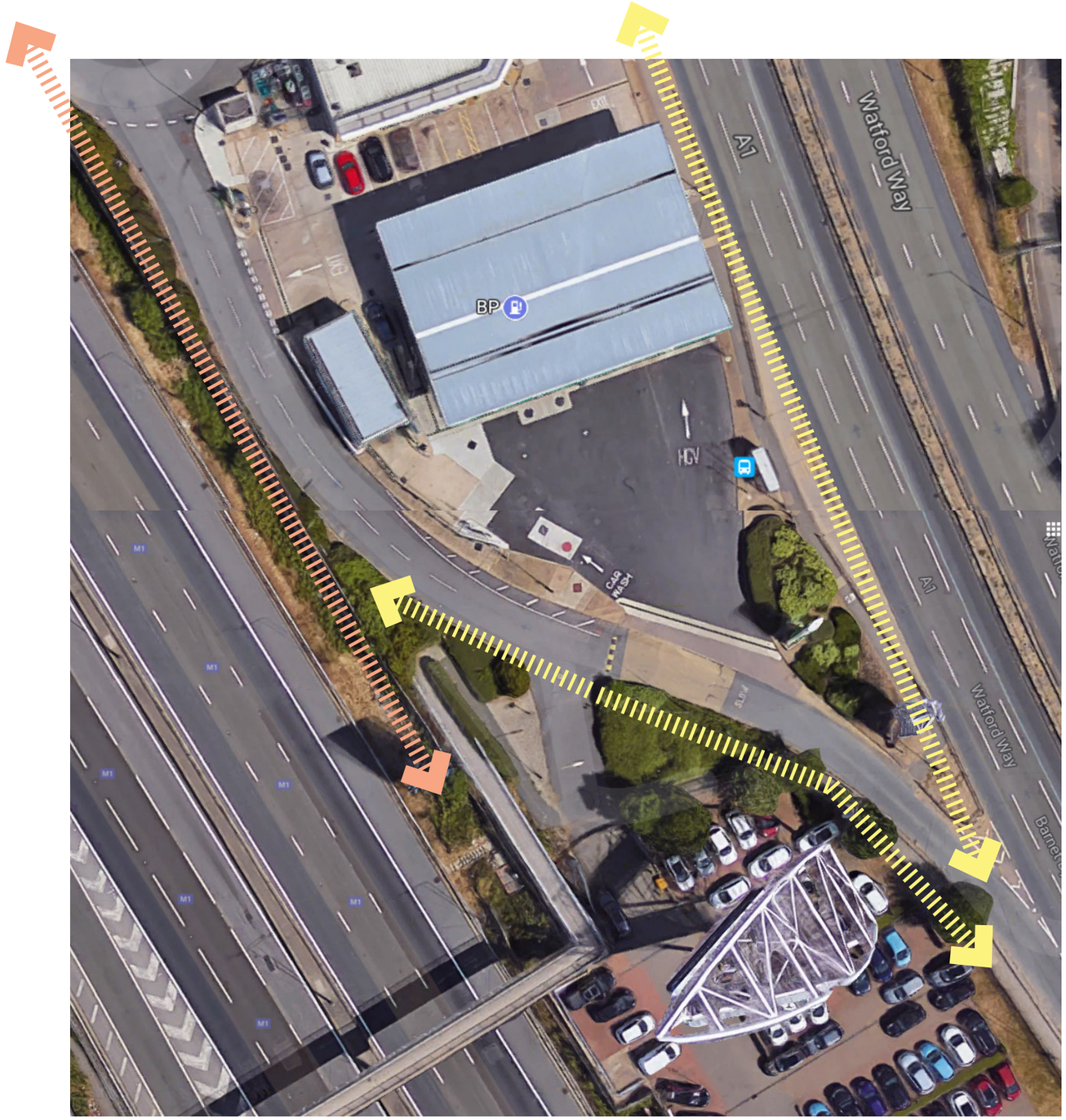
These enhancements will dramnaticalkly improve the attractiveness of these crossing points, making them safer and more enjoyable to use.

This will benefit the lives of both the new residents within the development and also the existing local communities who will be able to walk and cycle throughout this part of Mill Hill.



Enhanced public realm linking the route to/from the bridge over the M1

Enhanced public realm linking the route to/from the subway under the A1



Aerial photograph of existing fragmented townscape between the site and the Watford Way underpass and M1footbridge

The plan and photographs on this page illustrate the two key routes that we are proposing to enhance.

The first route, to the subway under the A1, actually comprises two sections of enhancement to the public realm. Firstly the pavement along the Watford Way carriageway which we are committed to extending and taking across the slip road into the front of the development. This will create the most direct link.

The other section of enhancement to the A1 underpass connection is along the road adjacent to the petrol filling station. There is presently an absence of pedestrian footpath here. We are proposing to create one within the planted verge, creating a safe pedestrian connection between the underpass and both our development and the footbridge across the M1.

The second route, connecting the development to the M1 footbridge, will involve substantial landscape improvements, including the creation of a new footpath together with attractive and robust planting adjacent to this path and around the bridge ramp.

These combined enhancements will ensure that these present key routes across the major infrastructures will become more popular and attract regular usage. This in turn will provide a feeling of greater safety and security through surveillance.



Key:

1. Improvements to the pavement adjacent to Watford Way and a new pedestrian crossing point across the slip road
2. Creation of a new pavement linking the underpass, encouraging pedestrian connectivity to the site and the bridge across the M1
3. New pedestrian route created between the site and the M1 bridge



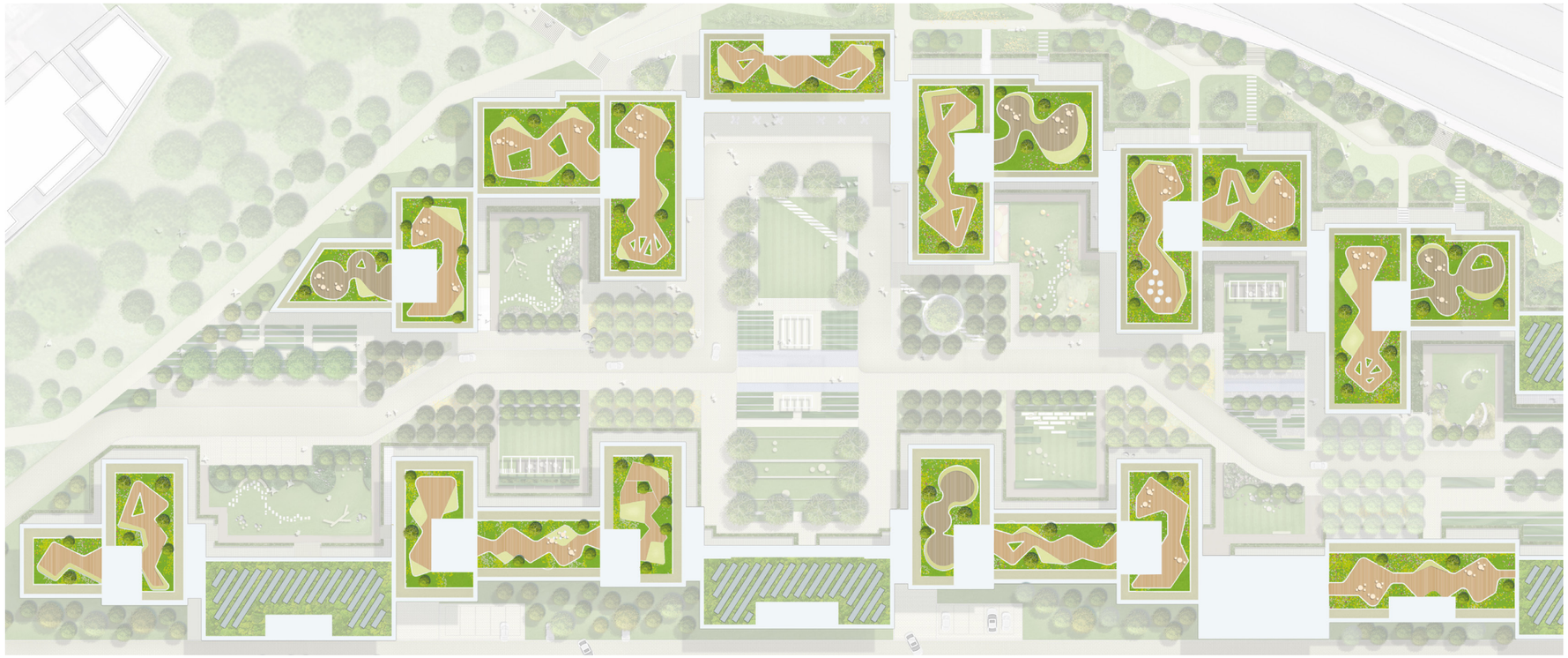


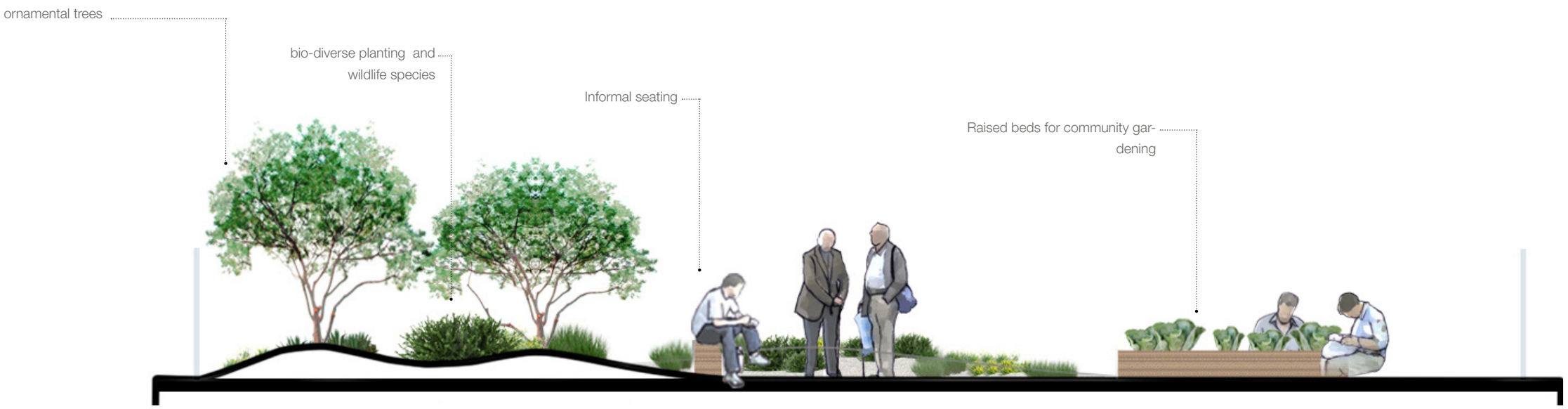
6.4.7 ROOFTERRACES

Whilst the communal gardens provide an enclosed and intimate amenity space for the residents, further gardens are provided at the upper roof levels. These have very similar landscape elements within them, but their location on the roofs make them more open to both great views and the sun. In this respect we can promote other activities such as growing vegetables (and potentially bee hives) to create a better community experience where residents can meet on a regular basis. With the roof gardens at a similar level throughout the new neighbourhood, there is the added benefit of well-being and connectivity with residents of the various blocks being able to see across to each other and have eye contact.

The roof gardens also provide an opportunity for the wildlife community, with a range of niches for fauna and flora including herbaceous beds and wildflower turf. Similar connectivity can take place here, with birds, bees, bugs, butterflies and pollinating seed heads drifting from one garden across to another.

It is at this level that we can really maximise the ‘human-nature’ approach with people meeting, playing and nurturing together, whilst bio-diversity thrives in a harmonious and symbiotic environment.









Horticultural planters with multi stem trees and dense understory



Horticultural planters



Raised vegetable planters for community gardening



Seasonal colour

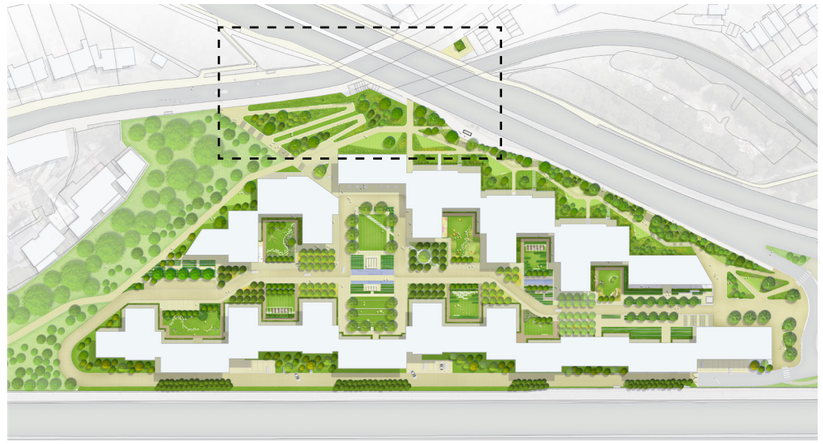


Decking with seating areas and lush planting

6.4.8 LIFT AND STAIRCASE

The scheme provides a DDA compliant lift and staircase on the eastside of the A1 to access the bus services.

Access to southbound bus stops is available via two routes. Pedestrians can head north on the western footway of the A1 and take steps down onto Bunns Lane, walk under the A1 and up steps on the eastern side to gain access to the footpath adjacent southbound traffic. It is noted that an 11-minute walk is required to access the southbound bus stop from the centre of the retail park.







Existing stair East from A1



Example lift in Hackney Wick Station, London



Example lift in Guipuzcoa, Spain



Example lift in Lund, Swedan

6.5.1 PLAY STRATEGY

Whilst providing a fun, exciting and safe area for children to play within the podium gardens, we have taken a ‘naturalistic’ approach to the design and selection of play equipment.

Rather than have a dedicated play area, we propose to site play facilities throughout the various communal gardens with access open for children to explore and meet their friends. Every garden will have an element of informal play activity. Interactive pieces of play equipment, that are both fun and educational, have been designed into the garden. They allow children to explore creative playing and team games.

It is our intention that the communal gardens will be ‘self policed’ through the natural surveillance provided by the surrounding residential overlooking the spaces.

The play area within landscaped gardens alone consist of 1152m2, not including any incidental play or socialisation spaces.

Activities within the space:

Activities within the play spaces will be informal play for toddlers and 5-11 year olds, under the supervision of adults. Informal play will range from exploring naturalistic elements, team games to using the play equipment provided. For 0-5 year olds we would provide small climbable objects including changes of levels and seating for carers around them. For 5-11 year olds equipment that allows children to swing, slide and climb. And for 12+ years old space for informal sport or recreation activity, including elements like exercise trails and outdoor exercise equipment.

The experience of the space:

Children can play throughout the day within the play spaces under the supervision of adults. They can explore the landscape, have fun by using the naturalistic play features and create team games with their friends. Children are not confined to only these spaces; they also have freedom to use the whole garden and we encourage them to use the growing gardens to learn about food production and learn to ride their tricycle/bicycles on the footpaths. The essence of the play spaces are to have fun and explore in a safe and friendly environment.

Appearance of the gardens:

In the creation of the play spaces, we have followed playground design guidance, established by Play England. This includes the use of natural elements such as timber and boulders.

Playspace policy requirement:

Age Profile	No. Children	Playspace Required (sqm)	Typology (distance*)
Under 5 years	52	520	Doorstep Playable Space (max. 100m)
5-11 years	23	230	Local Playable Space (max. 400m)
12-18 years	12	120	Neighbourhood Playable Space (max. 800m)
Total	**87**	**870**	



PLAY ON THE WAY
(TODDLERS)







VILLAGE GREEN
(INFORMAL GAMES FOR ALL AGE GROUPS)

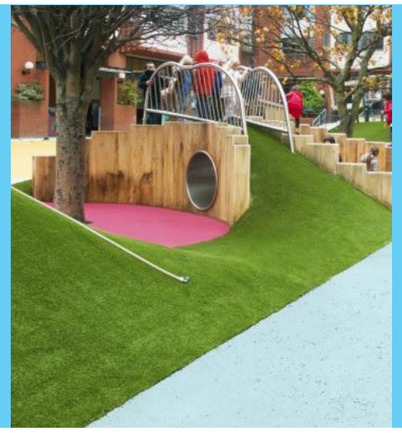


RESIDENTIAL COMMUNAL GARDENS
(TODDLERS AND 5-11 YEAR OLDS)













SOCIALISATION SPACE WITH INFORMAL PLAY
(ADULTS AND TODDLERS)





LINEAR PARK EXERCISE HUBS
(ALL AGE GROUPS INCLUDING SENIORS)







6.5.2 PAVING MATERIAL STRATEGY

The hard landscaping scheme has been designed to be high quality robust and hard wearing. The colours, sizes and material have been selected to compliment each other whilst providing a clear and legible hierarchy of spaces.

Materials will be used in such a way to help reinforce the design concept, create distinct spaces and support the interdependence of the character areas. The textures and colours chosen will help to create the unique spatial character of each area.

Wherever possible materials used on site will have a recycled content of at least 50%.

1. High quality concrete paving - Silver grey colour

2. High quality concrete paving - Mid grey colour

3. High quality concrete paving - Charcoal grey colour

4. Flush kerb (20mm upstand)

5 Light brown gravel

6. Composite decking - Light brown colour

7. Timber horticultural planters

8. Gabion wall

9. Resin bound gravel - Buff colour

10. Timber bench

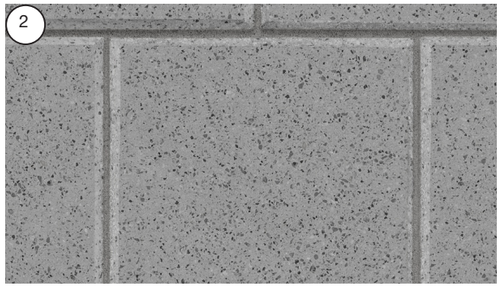
11. Decorative pergola with climbing plants

12. Stepping stones

13. Raised corten steel planters

14. Water feature

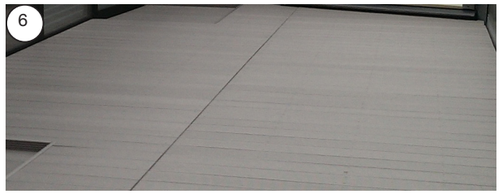




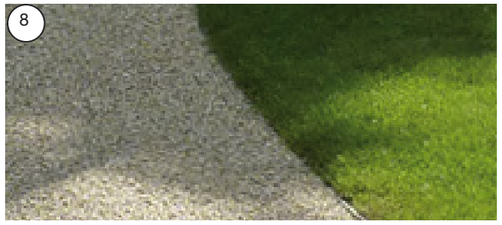




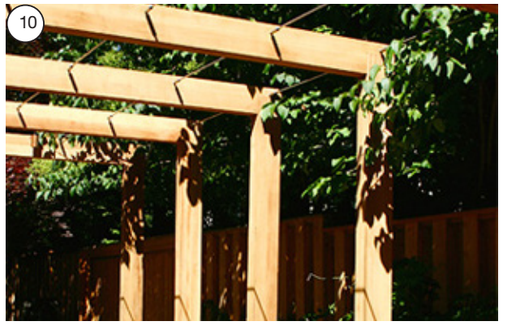










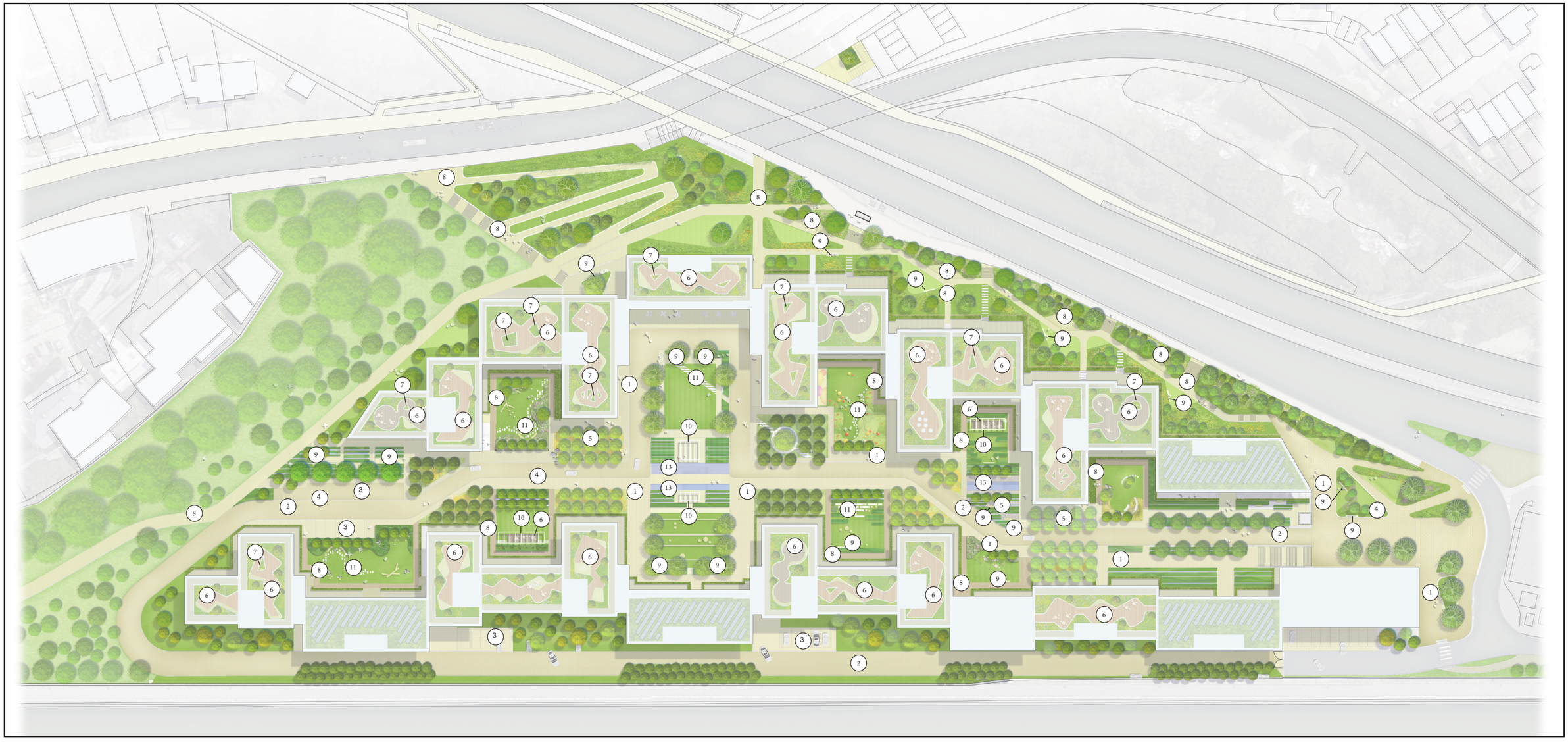








6.5.2 HARD MATERIAL STRATEGY



6.5.3 TREE PLANTING STRATEGY

Whilst all the landscape elements including paving materials, furniture and planting are all part of the masterplan layout and form, it is really the planting strategy that defines the character of the neighbourhood.

We are proposing to use a simple palette of trees, shrubs and perennials across the entire masterplan but arrange them in a composition according to their category: whether in the informal/naturalistic, semi-formal/sculptural or formal/civic group.

The tree planting strategy helps to reinforce the spatial hierarchy throughout the site.

Avenue trees are planted at regular spacings to add a formal appearance and offer shade and shelter.

The woodland trees are planted in a more informal arrangement to provide a more natural and varied habitat.

Smaller specimen shrubs in raised planters offer vibrant colour and elegance, working with the colours and forms of the surrounding planting beds.

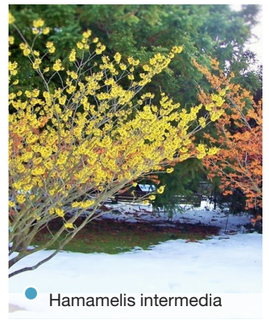
LINEAR PARK


Acer campestre


Aesculus x carnea


Sorbus ‘Eastern Promise’


Prunus ‘Kanzan’

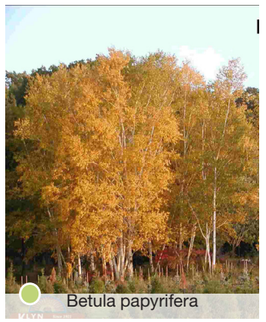

Hamamelis intermedia


Rhus typhina

PERIMETER BUFFER


Quercus palustris


Betula nigra

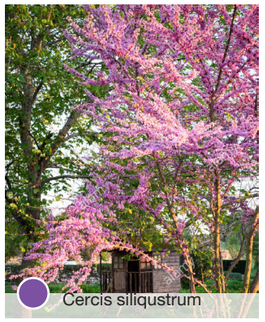

Betula papyrifera

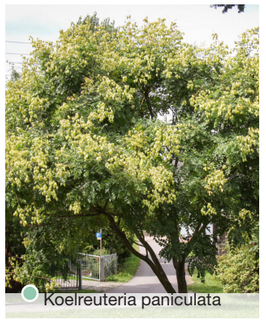

Betula utilis


Corylus avellana


Crataegus prunifolia

COURTYARDS


Cercis siliqustrum


Koelreuteria paniculata


Amelanchier lamarckii


Cornus kousa


Magnolia stellata

PUBLIC REALM/ SPINE


Pyrus calleryana ‘chanticleer’


Liquidambar styraciflua


Liriodendron tulipifera

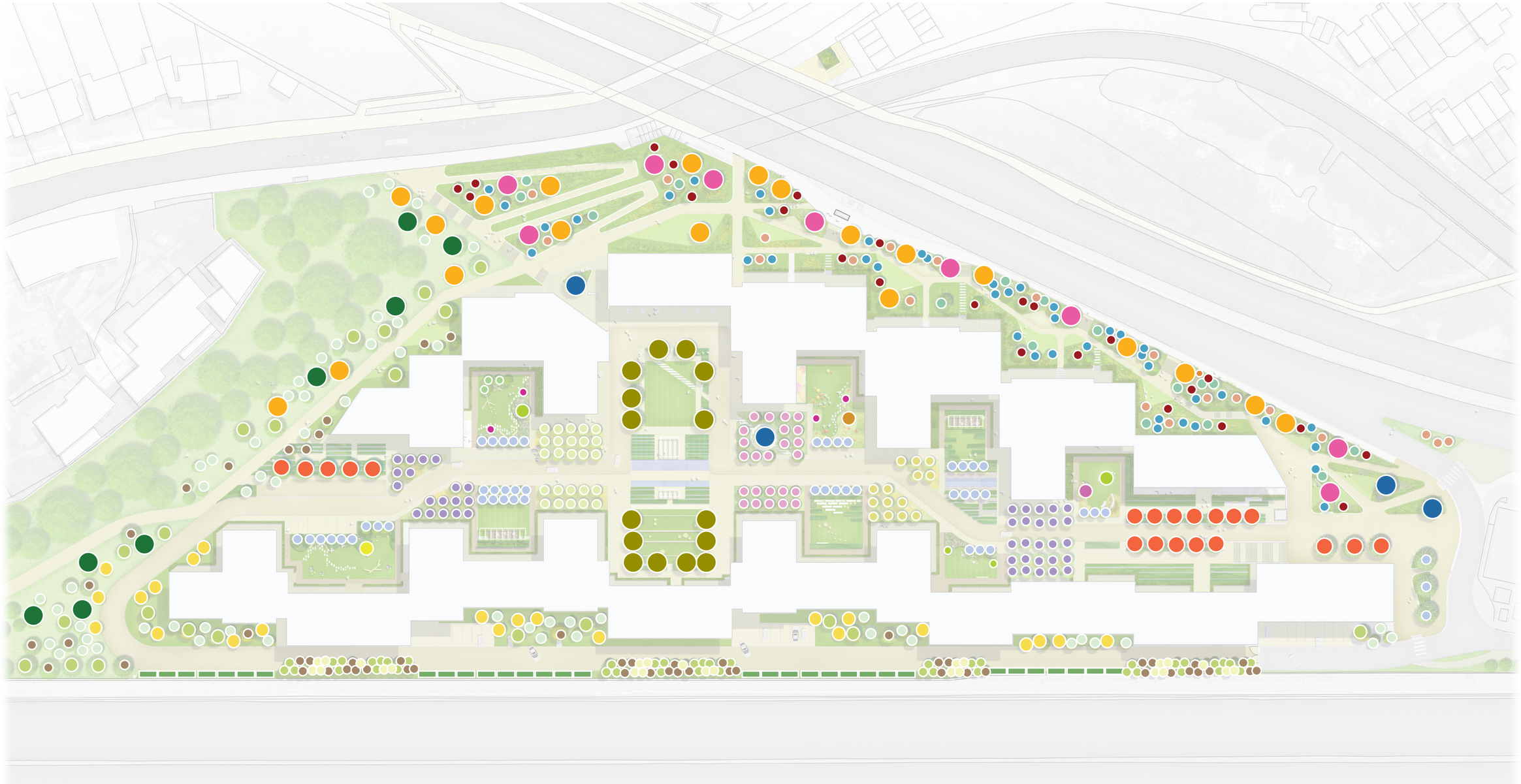

Quercus Ilex

ORCHARDS


Malus Elstar


Malus Golden Hornet


Pyrus Beurre Hardy



- Acer campestre
- Aesculus x carnea
- Sorbus ‘Eastern Promise’
- Prunus ‘Kanzan’
- Rhus typhina
- Quercus palustris
- Betula nigra
- Betula papyrifera
- Corylus avellana
- Crataegus prunifolia
- Magnolia stellata
- Cercis siliqustrum
- Amelanchier lamarckii
- Cornus kousa
- Liquidambar styraciflua
- Liriodendron tulipifera
- Hamamelis intermedia
- Betula utilis
- Koelreuteria paniculata
- Quercus Ilex
- Malus Elstar
- Malus Golden Hornet
- Pyrus Beurre Hardy
- Pyrus calleryana ‘chanticleer’

6.5.4 SOFT LANDSCAPE MATERIAL PALETTE

The plants selected will include predominantly indigenous species to both reinforce the local character and identity whilst maximizing the ecological and wildlife value of the development for future generations to enjoy.

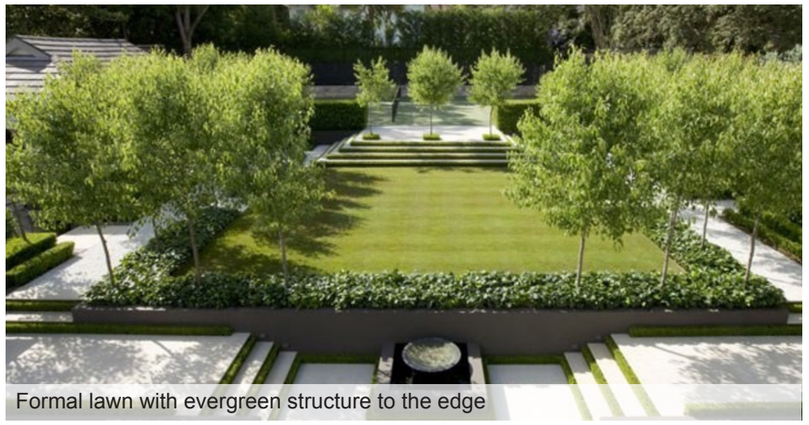
We have given particular attention to species that flower in the spring and have foliage of a spectacular hue in the autumn, together with evergreen hedges and groundcover for winter cover.

Native species by themselves only offer a certain level of colour and interest throughout the year, so our palette is reinforced with non-native exotic species to provide additional flowering, foliage and texture. This will both enhance the visual amenity and also the ecological value of the landscape with particular support for birds, bats and invertebrates.

We have worked to identify a range of species to maximize the offer to both the human and wildlife community.

The specific plants chosen will respond to their setting and in particular their aspect. The communal gardens through the centre of the development are essentially divided into east and west facing gardens with morning and afternoon sun respectively. The planting will thus reflect these two aspects.

The linear park along Watford Way is a more potenially hostile environment, thus the plants selected will be tolerant of air pollution whilst enhancing the environment for those using the park.



Formal lawn with evergreen structure to the edge



Evergreen structure to the edge

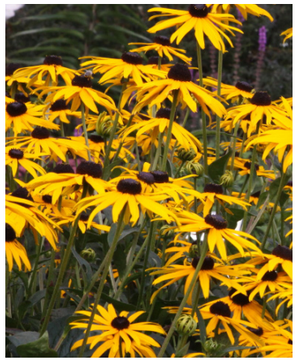


Seasonal interest

















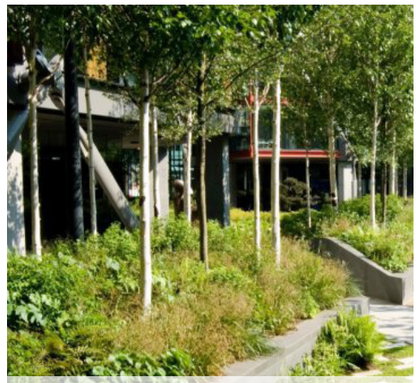


Varied texture

6.5.4 SOFT LANDSCAPE MATERIAL PALETTE


Layered planting


Stepping planters with simple palette


Sense of discovery

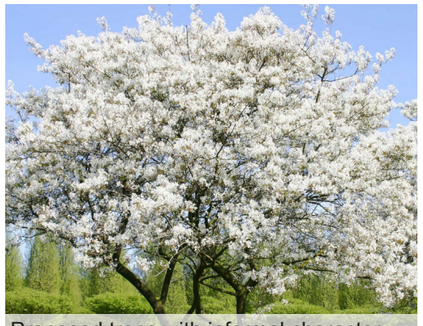


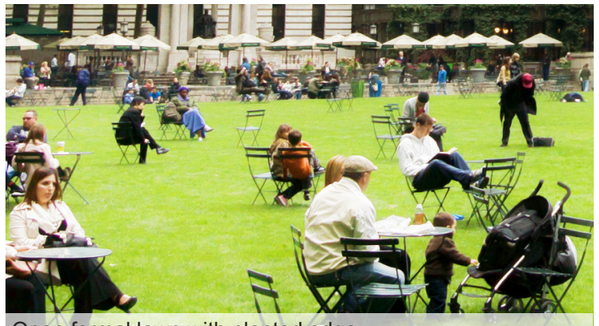









Proposed trees with informal character


Open formal lawn with planted edge





6.5.5 BOUNDARY TREATMENT STRATEGY

The busy roadways to the east and west of the site will demand a robust but sensitive approach to the boundary treatments.

A combination of timber panel acoustic fencing and a woven willow screen fence will help to significantly alleviate noise pollution whilst offering a gentle and natural aesthetic.

Combined with planting and the ‘Woodland Edge’ this will form an effective boundary solution to these two sides of the site.

The boundary treatments provide a softening aesthetic and year round interest with planting that changes with the seasons. This combination of willow fencing and the woodland edge will help to alleviate the noise and visual impact from the busy roadway.



Acoustic timber panel fencing



Woven willow living fencing

6.5.5 BOUNDARY TREATMENT STRATEGY



6.5.6 MAINTENANCE

Hard landscape materials, sizes and laying patterns have been carefully considered in order to maximise longevity and integrity of the wearing course. This is essential for buildings that expect relatively high footfall due to the nature of the development . The materials have been chosen for their robust nature, while not compromising their visual quality. By exploring the wider landscape, opportunities have arisen for promoting a consistent landscape palette of materials across neighbouring developments.

The landscape contractor will be provided with multiple water supply points. If required, watering of the generous soft landscape will be supplemented by an intelligent automated irrigation system.
As with any investment in landscape comes the adage that, ‘it is not what it is today, but what it becomes tomorrow’. A maintenance specification will be produced and incorporated into the planting specification.

A maintenance specification will address issues such as tree crown development and irrigation requirements to ensure the trees in particular are properly established and shaped in accordance with the design aims.



CLIPPING HEDGES TO MAINTAIN A FORMAL SHAPE/APPEARANCE



ROUTINE SOFT LANDSCAPE MAINTENANCE



LITTER PICKING ON A REGULAR BASIS



WATERING DURING ESTABLISHMENT

Bats
Bats boxes (e.g. Schwegler woodcrete 2FS, 2F, 2FF, FN 1FW bat boxes) can be installed on new buildings and over time on trees (if required). Ideally artificial roosts should be located on or close to existing bat flight-lines, in order to maximise the chances of bats finding and using them. This will be monitored over time.

Birds and Bugs
Bird and bug boxes/units will be located throughout the neighbourhood, on posts, buildings or set within the planting. These will be in accordance with RSPB standards.

Green roofs
We will implement green/brown roofs to the upper exposed levels of the building. For more information, please refer to the architects specification.

Sustainability
Wherever possible materials used on site will have a recycled content. The majority of the block paving specified will have a recycled content of at least 50%.

Not only do the materials specified add to sustainability, but by creating spaces and new residents to be involved with the up-keep of the landscape, we create a sustainable community.







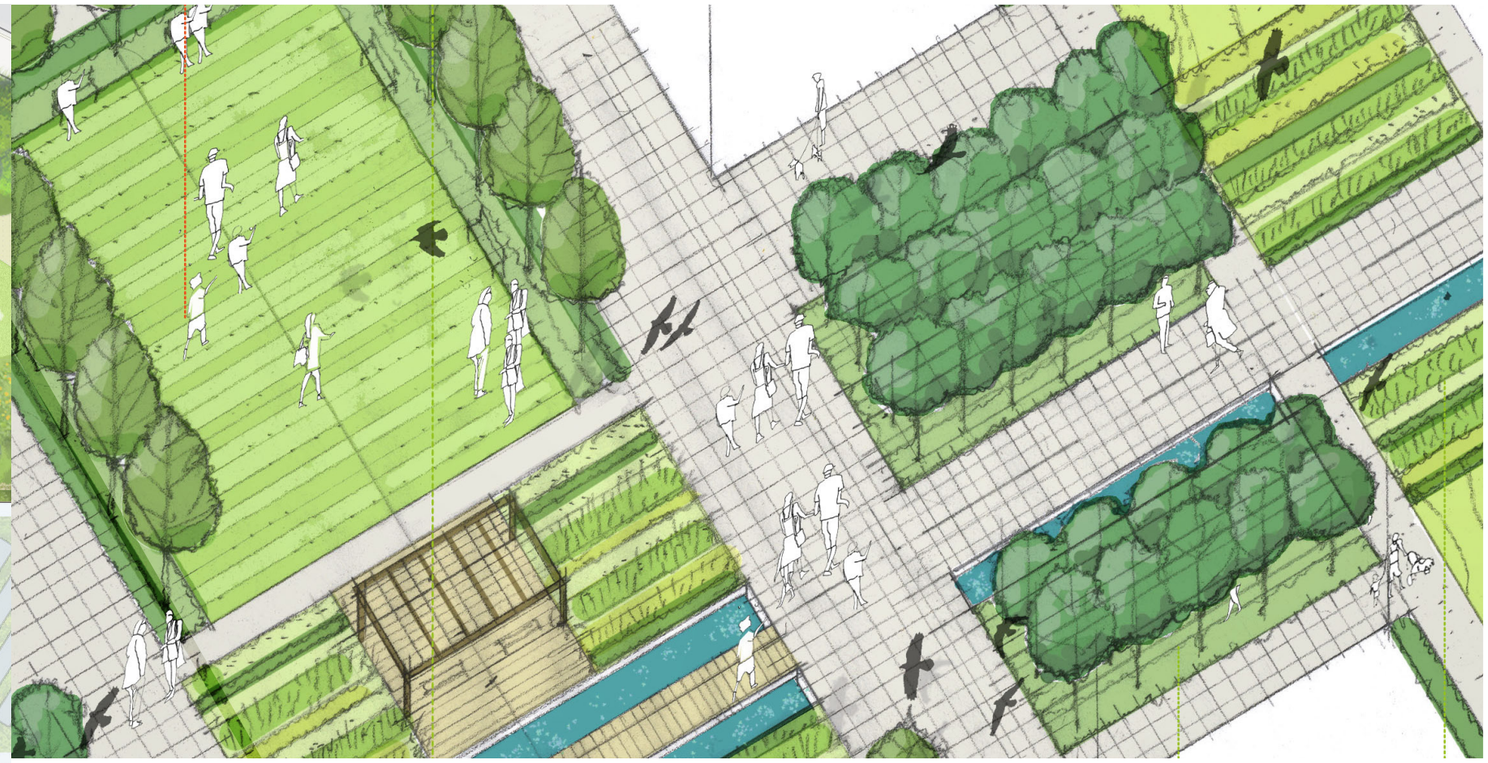


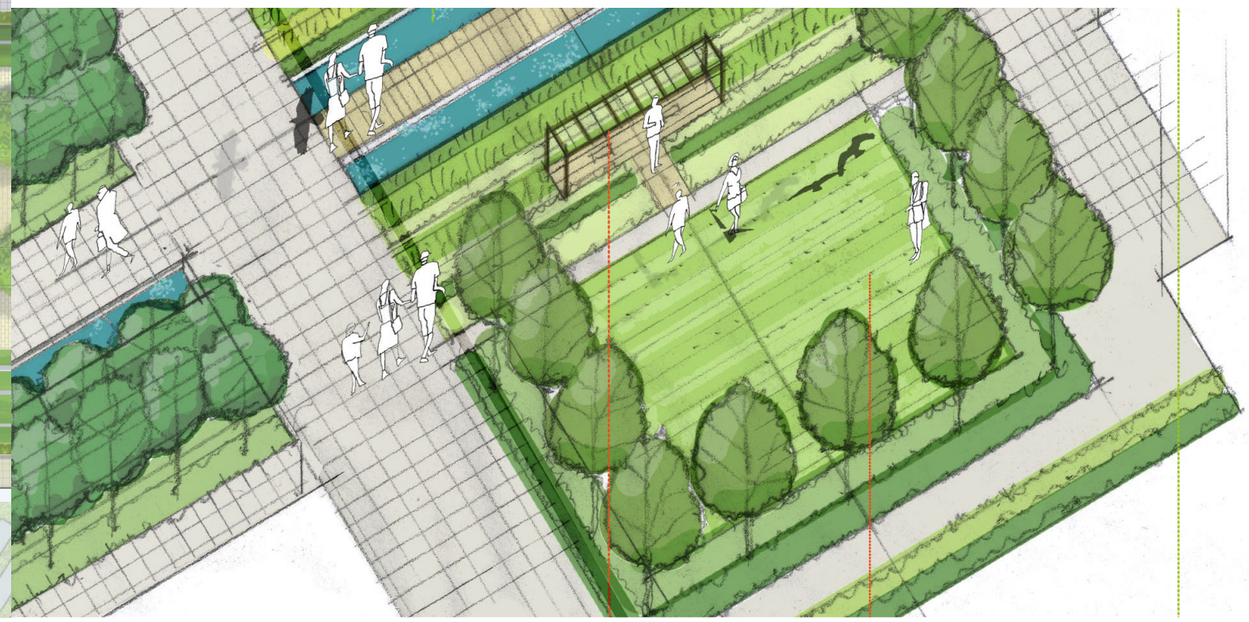





HUMAN
NATURE









7.1 Daylight and Sunlight and Percentage of Daylight Hours

Delva Patman Redler LLP have been instructed to assess the effect the proposed development may have on the neighbouring residential properties in daylight, sunlight and overshadowing terms. As well as considering the light levels to the new habitable rooms and amenity within the proposed scheme.

The study has been carried out in accordance with the recommendations of the Building Research Establishment report “Site Layout Planning for Daylight & Sunlight 2011”. This is the standard specifically identified in the London Borough of Barnet planning policy by which daylight, sunlight and overshadowing should be assessed. The BRE Report advises that daylight levels should be assessed for the main habitable rooms of neighbouring residential properties. Habitable rooms in residential properties are defined as kitchens, living rooms and dining rooms. Bedrooms are less important as they are mainly occupied at night time.

The guidance is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the guide should not be seen as an instrument of planning policy, it’s aim is to help rather than constrain the designer.

The daylight, sunlight and overshadowing assessment indicates that the relevant neighbouring residential properties are situated quite far away from the development site and are likely to comply with the relevant daylight, sunlight and overshadowing target values outlined in the BRE. Based on the proposed massing provided by the design team in August 2016, the proposed scheme will only have a negligible impact to the relevant neighbouring properties in daylight, sunlight and overshadowing terms.

The BRE advises that amenity spaces such as gardens, parks and children’s playgrounds should be considered for overshadowing assessments. It recommends that at least half of the amenity areas should receive at least two hours of direct sunlight on 21st March. Drawing SHD/515 shows the areas within the proposed scheme considered for assessment, overall the proposed scheme will fully comply with the BRE target values in overshadowing terms.

The design team have revised the massing to ensure that acceptable levels of daylight and sunlight will be achieved to the relevant habitable rooms where possible, while providing private amenity space to each individual apartment.

CONCLUSIONS

The site is currently used as a retail park with the main bulk of the massing situated to the north of the development site, with the southern part used for car parking.

The site is bound by the M1 to the west and the A1 to the east, as a result of this, there are limited residential properties and amenity area situated close to the development site.

To assess the potential impact of the Development on daylight and sunlight on neighbouring properties a baseline assessment was undertaken. Overall the neighbouring daylight analysis illustrates that despite 9 isolated infringements of daylight in daylight distribution (No Sky Line) analysis, generally the quality, quantity and distribution of light within the neighbouring rooms will remain fully BRE compliant.

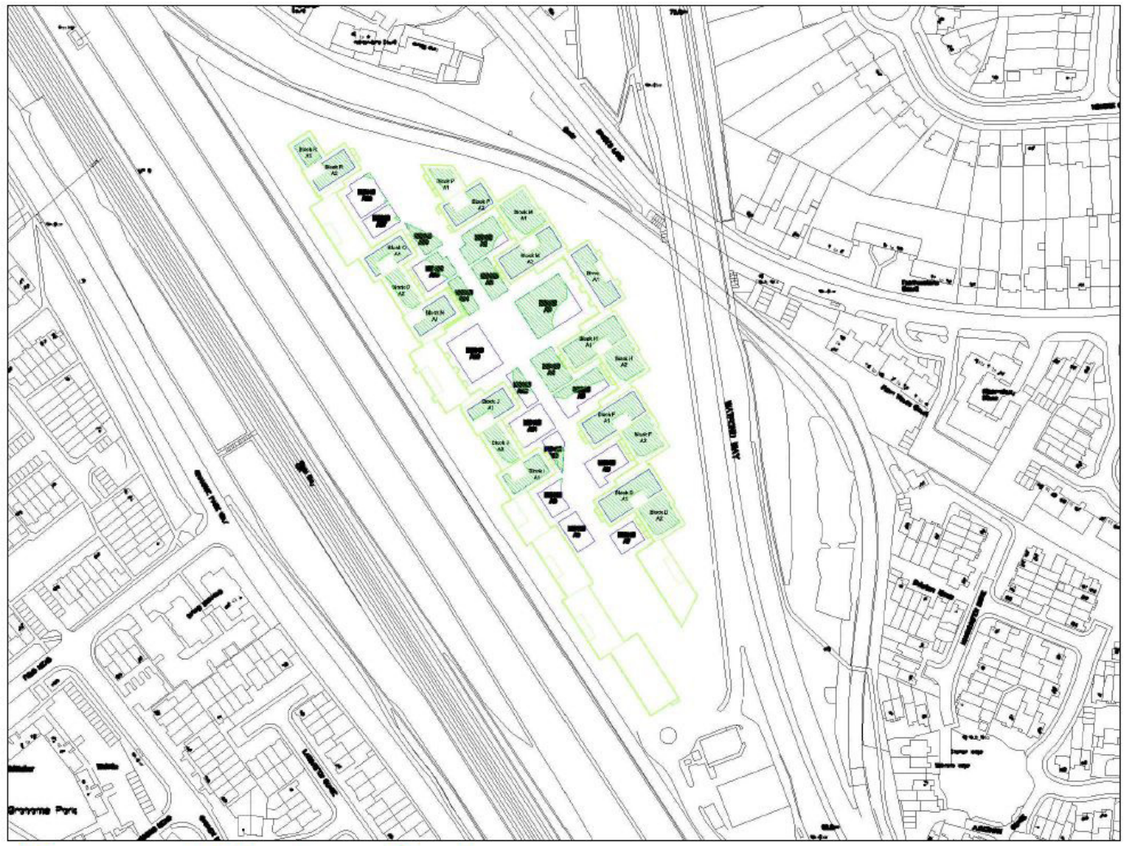
The sunlight analysis demonstrates that overall the amount of sunlight received by the neighbouring properties will remain fully BRE compliant. The internal daylight adequacy analysis of the scheme demonstrates that 70.8% of all rooms within the ground and first floor levels of the 18 blocks will comply with the BRE target values.

The overshadowing results show that the proposed amenity areas will comply with the guidance outlined in the BRE.

Overall, the analysis undertaken demonstrates that given the approach recommended by the BRE guidelines, that the proposed development will have a negligible impact on the residential amenity

Amenity Area (m²)		BRE Recommendations (At least 50□ of Amenity Area)	Proposed Area	Proposed □age of Area
Mill Hill/Ground/A1	270.82	135.41	245.29	91□
Mill Hill/Ground/A2	160.96	80.48	160.96	100□
Mill Hill/Ground/A3	496.50	248.25	379.98	77□
Mill Hill/Ground/A4	209.55	104.77	209.55	100□
Mill Hill/Ground/A5	265.89	132.95	112.26	42□
Mill Hill/Ground/A6	197.88	98.94	0.00	0□
Mill Hill/Ground/A7	131.67	65.84	0.00	0□
Mill Hill/Ground/A8	155.56	77.78	0.00	0□
Mill Hill/Ground/A9	134.40	67.20	1.60	1□
Mill Hill/Ground/A10	105.49	52.75	31.18	30□
Mill Hill/Ground/A11	235.22	117.61	0.00	0□
Mill Hill/Ground/A12	115.30	57.65	47.02	41□
Mill Hill/Ground/A13	377.56	188.78	0.00	0□
Mill Hill/Ground/A14	108.12	54.06	108.06	100□
Mill Hill/Ground/A16	98.07	49.54	97.71	99□
Mill Hill/Ground/A15	205.62	102.81	85.41	42□
Mill Hill/Ground/A17	143.97	71.98	3.11	2□
Mill Hill/Ground/A18	222.62	111.31	6.66	3□
Block F/Roof/A1	130.15	65.08	64.72	50□
Block P/Roof/A2	178.63	89.31	178.39	100□
Block M/Roof/A1	266.69	133.35	231.20	87□
Block M/Roof/A2	271.27	135.64	268.49	99□
Block K/Roof/A1	235.15	117.57	234.64	100□
Block H/Roof/A1	272.24	136.12	269.14	99□
Block H/Roof/A2	227.12	113.56	212.82	94□
Block F/Roof/A1	271.99	135.99	269.94	99□
Block F/Roof/A2	227.12	113.56	211.75	93□
Block D/Roof/A1	272.22	136.11	270.08	99□
Block D/Roof/A2	227.12	113.56	213.60	94□
Block I/Roof/A1	150.31	75.15	150.23	100□
Block J/Roof/A2	163.17	81.58	137.36	84□
Block J/Roof/A1	158.00	79.00	155.64	98□
Block N/Roof/A1	163.00	81.50	163.00	100□
Block O/Roof/A2	163.17	81.58	136.83	84□
Block O/Roof/A1	148.97	74.48	146.34	98□

SHADOW ANALYSIS



8.0 SECURE BY DESIGN CONSULTATION

8.1 Secure-by-Design Consultation

A secure by design meeting were held on 13th November 2017 with the London Borough of Barnet Secure-by-Design officer to review the principles of the new masterplan.

Previous meetings were held in 2016, the first on the 29th April and the more recent on the 23rd of August, on the previous scheme which the basic principles remain the same for the new masterplan.

The table on the opposite page was issued following this meeting to summarise the issues discussed and to note the Secure-by-Design principles integrated into the proposals. A further meeting we held to make sure all issues have been incorporated in the design.

There are three general desires of any design out crime officer (DOCO) when looking at any development and they are to:-

1. Reduce Permeability. No route between buildings, associated car parks and roof spaces/gardens or multiple ways in to a development that reduce activity making them isolated and vulnerable.

2. Increase Surveillance. Where possible utilise both natural and formal surveillance (CCTV), with uniform levels of lighting and flat unobstructed landscaping to increase levels of surveillance, where at all possible.

3. Increase Territoriality. Providing a perimeter treatment around aspects of the development to project out from the building line and define use of the land. Design well balanced access control systems to empower the legitimate user and frustrate the uninvited guest.

The notes below highlight some of the issues that were raised and have been considered include:

- Public space lighting to be designed to enable view of approaching faces.
- Entrance lobbies to be designed to be separated from stair/lift core by a secure door.
- If no secondary doors to corridors are installed at upper levels of lift cores, CCTV to be installed in lifts and lift lobbies.
- Ground floor windows and doors to be designed to secure by design standards.
- Stacked and offset balconies to be designed to avoid climbable elements. Placement of balconies on higher level making it difficult to climb.
- Residential windows to overlook any amenity space for passive surveillance.
- Bin stores to include secure by design doors at entrance to core.
- Access to/from carpark to be controlled to ensure access is only given to identified users.
- CCTV required at each core in basement and at bicycle store.
- Bicycle racks to ensure bikes can be locked at both wheels and frame in units of 10 bikes.
- Vehicular and pedestrian gates to car park to ensure no gap between the opening and gate that would allow a person to climb over and into the car park.
- Defensible planting to be installed to all ground floor facades with windows facing onto public realm.

No.	ITEM	RESPONSE	Conformity
1.0	Reduce crime / anti-social behaviour	Reduce permeability - no route between buildings, associated car parks and roof spaces/ garden	Yes
		Increase surveillance - utilise CCTV, uniform lighting & flat unobstructed land	Yes
		Increase territoriality - Providing railings around aspects of the development to define use of land. Design well balanced access control systems to empower the legitimate user	Yes
2.0	Refer to Secure by Design New Homes 2016 Design Guide for detailed requirements of the SBD scheme	Recessed or undercroft areas should be minimised to prevent loitering, with vertical surfaces resistant to attack or graffiti, for example vertical planting	Yes
		Lower ground car parking should have secure Security certificated doors/gates/roller shutters fitted (LPS 1175 sr2 a minimum) to the building envelope. Access to this level should only be by encrypted fob, with no visual/audio entry panel. The car parks are to be further compartmentalised in to smaller sections with a clearly marked routes in and out. CCTV and uniform levels of lighting will assist to deter criminal activity further	Yes
		Cycle storage should be located in a secure area with surveillance and constructed incorporating LPS 1175 products. Accessed with a encrypted fob with doors that are self locking and closing, with a capacity of no more that 25 bikes per store.	Yes
		Pedestrian walk ways to be clear, wide and unobstructed with legible signage indicating residential and commercial aspects with flooring treatment to emphasize the change of use.	Yes
		Uniform levels of lighting as per BS 5489 with No bollard lighting. LED lamp post with down lighter and wall lighting is preferred. All exterior light fittings to be fitted with a commando style power socket to assist with sighting of microwave CCTV cameras when/if ever needed.	Yes
		All Duplex units on the ground floor were possible are to be offered with a garden/defensible space, with 1.2 m railings and gate. Each entrance would also have added lighting covering the front door.	Yes
		Active Play area should be defined. For example if it is used as a skate board park, then the skateboarders should be consulted as to what design is most appropriate. Likewise if this space is intended for family use then the same rule would apply.	Yes
		All doors of the building envelope will be to an acceptable security certification.	Yes
		All opening and accessible windows will be to a security certification as above with laminated glass to P1a standard.	Yes
		Perimeter around the development should be to a height of at least 1.8m high, where not protected by the raised podium construction of the site.	Yes
		Asset rooms/ commercial units. These are units/rooms within the development which will require higher levels of security. This will be achieved by fitting of a security certificated door.	Yes
		Stud partition will be supported with 9mm plywood or expanded metal mesh. Then a security cabinet to LPS 1175 will be fitted to store assets within this unit or room.	Yes
		CCTV if used will be registered and comply with the information commissioners office guidelines and areas of capture should include: Main pedestrian routes in and out of the development, all communal lobbies, bin rooms, cycles storage and car park access control points	Yes
		Communal Reception areas on Deck level must have audio/visual access control system with encrypted fobs and data storage facility. A secondary security certificated access controlled door will be fitted to provide a secure location for mail delivery (air lock/draft lobby).	Yes
		All lifts are to be access/ fob controlled (Entrotec style system)	Yes
		All communal doors leading to stair cores must be to an acceptable security certification. Controlled on the exit aspect by a green mushroom fire button (fire route out) and on entry to a floor from the stair well these must be fob access controlled.	Yes

SECURE BY DESIGN MATRIX

9.1 Introduction

The proposals will transform Pentavia Retail Park into a thriving and sustainable neighbourhood with green public parks and local amenities; a destination for people to live, work and enjoy. It will help to address Barnet's housing need by delivering high quality Build to Rent, Private Sale and Affordable residential units, which will be offset at various rent levels homes.

The proposals will unlock this constrained site with new pedestrian routes and cycle links. This will create economic benefits to the local area as the development will help to increase footfall and spending on Mill Hill Broadway.

Highway Network Description

Based on site visit observations and discussions with Highway Officers in Barnet, the roads likely to be impacted by the development are the following:

i. A1 Watford Way / Great North Way;
ii. Bunns Lane;
iii. Flower Lane;
iv. Page Street; and
v. The Broadway.

9.2 Accessibility by Non-Car Modes

Walking

Pedestrian access to the site is possible from the western side of the A1 (Watford Way) via the existing footway. Connectivity to the west of the site is achieved via a pedestrian bridge over the M1, approximately 200m south of the site, and via a subway under the railway line at the southern end of the site.

There is no direct access to the site from Bunns Lane. Pedestrians that intend to approach the site from this point are required to walk up a staircase that connects to the western footway of the A1. The staircase is located approximately 230m north of the main access to the site, where Bunns Lane passes beneath the A1.

A pedestrian underpass links the western footway of the A1 to Tithe Walk, and is located approximately 350m south-east from the site. The underpass enables pedestrians to access bus stops for buses that are travelling southbound.

A new pedestrian link is proposed between the site and Bunns Lane that unlocks what was a barrier to the site. The link is proposed to have a positive impact on both the sites accessibility, permeability, and resident's ability to access key services located north of the development. It is intended that the link will open up access to bus routes 221 on Bunns Lane, and 113 on the A1, as well as significantly improve connections to Mill Hill Broadway station.

An accessible route linking Bunns Lane with the development is also proposed. This includes a 1:21 gradient ramp that zig-zags up the embankment with more direct stepped access either side. The route will be landscaped with trees and ground covers to balance surveillance with a buffering from surrounding traffic.

Dual core access is proposed to the blocks located on the east side of the site, adjacent the A1. This facilitates direct access / egress to the A1, and is provided in conjunction with some defensible space to the ground floor units by way of terraces.

The provision of access to the cores will activate this edge of the site and will assist in providing a further level of natural surveillance to the landscape buffer between the site and the A1. It is also proposed to allow access through the blocks on the east side of the site for those residents in blocks to the east. Thus removing the eastern buildings as a barrier to A1, and increasing permeability whilst reducing walking distance to the wider highway network.

Access, activation and surveillance of the A1 edge has been further enhanced by relocation of a site concierge / reception to face the A1 within Block H. Access between the A1 and the central area of the site will also be facilitated through a tunnel adjacent the concierge for both residents and visitors.

A linear park is proposed to provide a buffer between the site and the A1 which can also be used as a secondary route to connect to Bunns Lane rather than the footpath on the A1.

Access to the site for pedestrians and cyclists is proposed to be further improved by the provision of a footpath that connects directly to the bottom of the existing ramp to bridge over the M1 and access Grahame Park Way.

The proposed route connecting the development to the M1 footbridge will involve substantial landscape improvements, including the creation of the new footpath together with attractive and robust planting adjacent to this path and up to the connection to the bridge ramp.

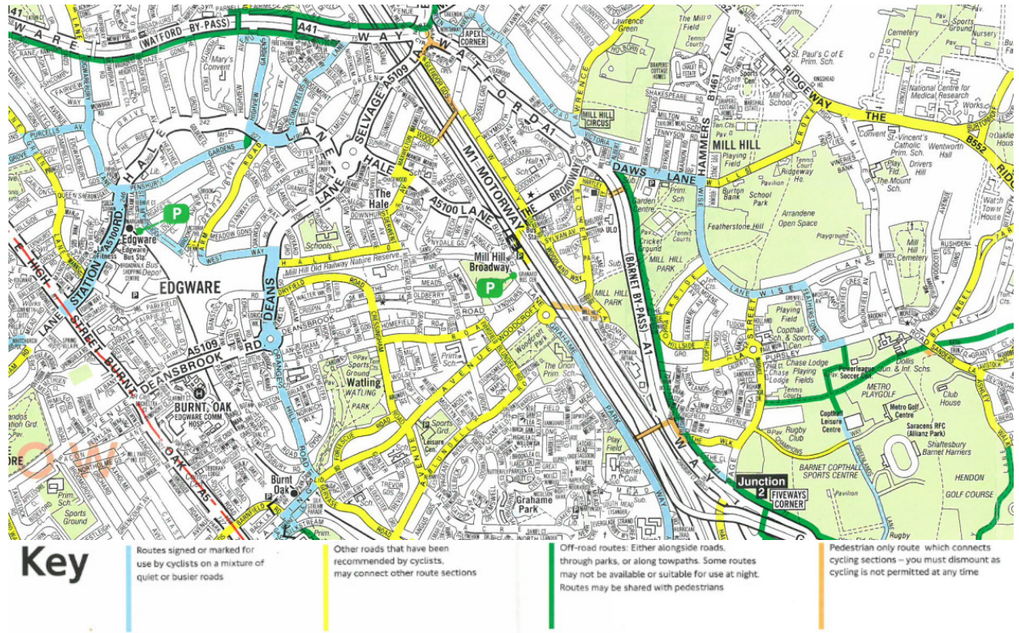
These combined enhancements will ensure that these present key routes across the major infrastructures will become more popular and attract regular usage. This in turn will provide a feeling of greater safety and security through surveillance.

The development will fund an improvement scheme to the railway underpass to Grahame Park Way inclusive of the M1 footbridge. It is understood that both of these assets are owned by third parties (e.g Highways England), and therefore it has been discussed and agreed with LBB that the exact nature and details of the improvements will be determined post determination and secured by planning condition.

Although the details of the improvements are not defined, it is proposed that they will broadly consist of stone and masonry refurbishment, improved landscaping, and additional lighting and surveillance.

Cycling

The diagram illustrates off-road cycle route extending south to Hendon and on to Brent Cross. Grahame Park Way that runs parallel to the M1 is also signed for cyclists.



LOCAL CYCLE MAP (OBTAINED FROM TFL CYCLE MAPS)



BUS STOPS SURROUNDING THE SITE

9.0 TRANSPORT AND PARKING

It is proposed to provide a new cycle route to Bunns Lane, which both connects to the site and the A1. The route is proposed as a shared cycle footpath (3.0m wide), to extend the existing shared cycle footpath on the A1 and provide a connection not currently available.

Interaction with vehicular traffic is minimised within the site for north-south movements due to the provision of the peripheral road located on the western side of the site which will cater for the majority of vehicle movements.

The surface treatment to the shared, traffic surfaces within the inner circus are less intrusive than the peripheral road and highlight that the space is for shared use by pedestrian and cyclists also. The route connects to both the north and the south and facilitates permeability across the site for both pedestrians and cyclists.

To further assist the connections across the site, a pedestrian / cycle route extends from 'Mill Hill Walk' across the southern entry square. This allows connection to the crossing point on the egress slip road to the A1, which gives access to the A1's footpath and bus stops for route 113; or to Grahame Park Way via the new connection to the base of the existing bridge over the M1.

A combination of all the proposed accessibility improvements assists in making the site highly permeable for both pedestrians and cyclists. The proposal creates new cycle links between the A1 and Bunns Lane which currently do not exist. The proposal also allows for varied route choice and route choice characteristics in order to make the new connection, which widens the appeal of the cycling connections to a wider cohort of cyclists with varying degrees of experience and confidence.

New connections are made to Bunns Lane (which currently do not exist other than via a very steep & narrow connection on the north side of Bunns Lane), which facilitates the opening up of access to Mill Hill Town Centre via either Flower Lane or Bunns Lane.

As with Mill Hill Town Centre, the new cycle connections facilitate access to Flower Lane & Mill Hill Park by creation of a new cycle link between the Site / A1 and Bunns Lane.

The proposed new 3.0m wide cycle connection to Bunns Lane adjacent the M1 / Rail Bridge facilitates access to the northern end of Grahame Park Way and its associate cycle lane. This is a new and direct (as direct as possible given the site is bound by the M1 and Rail lines to the west) access towards Collindale. Direct access to the ramps associated with the M1 bridge at the southern end of the site can also be gained by cyclists via the new proposed path which would otherwise require circulation around the east side of the BP Petrol Station (and associated crossing movements with the on & off slip roads). This connects to Grahame Park Way via the rail underpass which is subject to improvements as described in this Section of the TA.

Bus Routes

The closest bus stop to the site is on the northbound carriageway of the A1 adjacent the existing petrol station at the southern end of the site and serves the northbound bus route. The bus stop is located within a five-minute walking distance from the centre of Pentavia Retail Park.

Access to southbound bus stops is available via two routes. Pedestrians can head north on the western footway of the A1 and take steps down onto Bunns Lane, walk under the A1 and up steps on the eastern side to gain access to the footpath adjacent southbound traffic. It is noted that an 11-minute walk is required to access the southbound bus stop from the centre of the retail park.

Alternatively, pedestrians can walk south on the western side of the A1 to access an underpass which links to Tithe Walk to the east, and bus stop just south of this point. The bus stops are served by bus route 113 which provides services between Edgware and Marble Arch. This would require an eight-minute walk from the site.

Bus route 221 operates frequent service between Edgware and Turnpike Lane and provides a direct service from the Site to Mill Hill Station. Bus stops are located on Bunns Lane and are accessed via the steps on the A1.
More bus services are available within the residential streets to the west of the M1, (303,302, 251, 114, and 186) and are accessible via the existing subway / footbridge (mention moving the bus stops on Bunns Lane and A1).

To further enhance the accessibility of public transport services to the site, and rationalise existing spacing of bus stops on Bunns Lane, it is proposed to relocate existing east and westbound bus stops currently located to the west of the A1's bridge over Bunns Lane.

Bus Stops are currently located to the eastern extents of Bunns Lane, near its junction with Page Street. These are approximately 320m east of the bus stops located to the east of the A1 bridge over Bunns lane. The next pair of bus stops on route 221 are located approximately 600m further north-west on Flower Lane. As a result there is scope to rationalise the spacing of these stops such that the space between all stops is more consistent; approximately 450m.

The proposed relocation would reduce the connection to the bus stops by approximately 165m (2 minute walking time), and offers the opportunity to integrate the bus stop infrastructure directly with the developments connection to Bunns Lane. It is anticipated that the design and treatment of this area will promote the use of the bus service due to both its actual and perceived ease of access.

In response to a request from TfL, the development will commit funding of £95k per year for a period of 5 years (a total of £475k) to add a return journey to bus route 221. It is recognised that the increased frequency in conjunction with the relocation and direct connection to Bunns Lane offers an excellent and convenient connection to the public transport network.

As a further enhancement to public transport infrastructure and connectivity it is proposed to relocated the existing bus stop of route 113, currently located just north of the A1's bridge over Bunns Lane, to a position immediately adjacent the site.

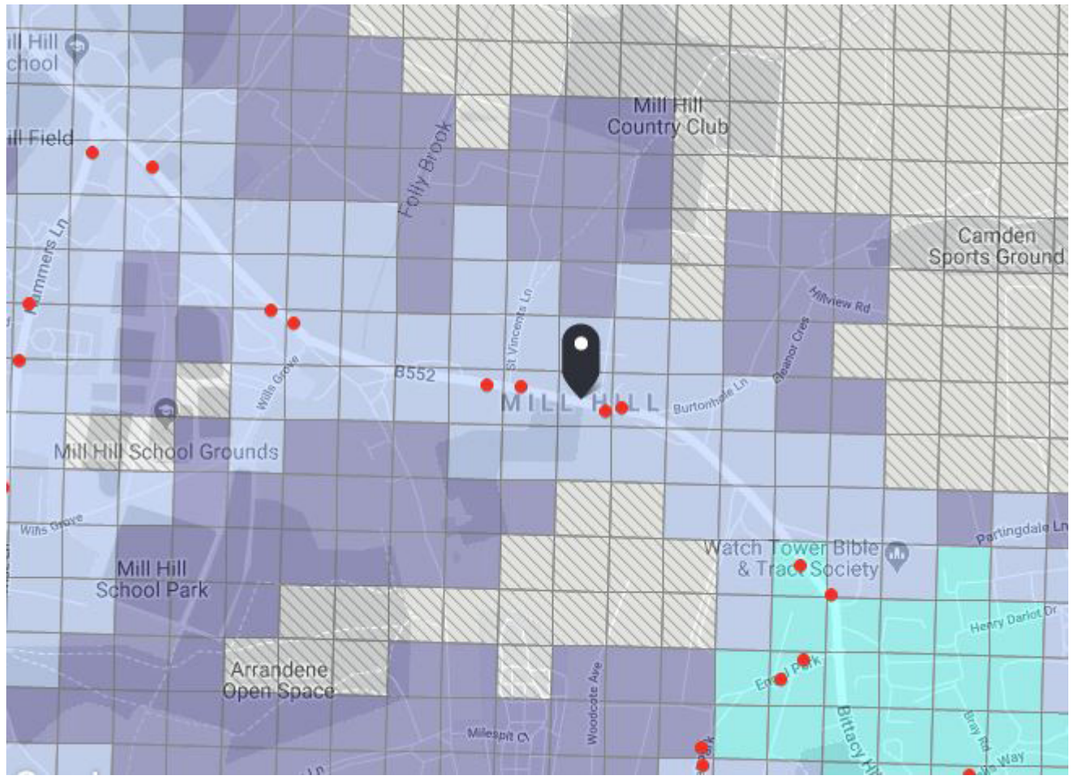
Rail/Underground

The nearest railway station is Mill Hill Broadway, located approximately 750m north-west to the site and within a 17-minute walking distance. It is served by First Capital Connect running Thameslink services. The typical daytime service from the station is four trains per hour to central London, Wimbledon and Sutton, of which two terminate at St Albans and two at Luton.

The nearest underground station is Burnt Oak, located 1.6km west to the site and within a 29-minute walking distance. The station is served by the Northern Line.

Existing PTAL

The site specific PTAL assessment shows that the majority of the site scores PTAL 1b with a small portion of the site scoring PTAL 2 near a break in the site boundary which provides access to the footpath on the A1.



EXISTING PTAL

Further investigation into the PTAL across the site has been undertaken to provide further insight into the sites access to public transport services. It demonstrates that large parts of the site are very close to scoring a PTAL of 2, which is not unsurprising giving that a portion of the site currently meets this score.

It is recognised that the PTAL methodology is a tool to better understand accessibility to services, but is limited in its ability to allow interpretation of actual accessibility of a site that is located on the periphery of the parameters set.

The impact of the proposed amendments to bus service frequency, stop locations, and in conjunction with the accessible design adopted, has been assessed to determine the improvement from the site being predominantly 1b, with a small are of 1a and 2.

A site specific PTAL assessment has been undertake based on the proposed access improvements, bus stop relocations, and increase in frequency of route 221. A total of 25 Points of Interest (POI's) have been established across the site, predominantly at door thresholds into the various building blocks. The assessment demonstrates that in combination, the proposals to improve connectivity to public transport services has significantly increased areas of PTAL 3 and 2 across the site. There is also no longer any part of the site that scores PTAL 1a.

Summary

The site has a good level of accessibility by public transport with numerous well serviced bus stops located in the wider area. The presence of a local London Underground and Railway Stations indicates a good level of accessibility.

The findings indicate that the footways within the area are wide in relation to pedestrian flow levels. The area is also well lit and provides a high number of crossing facilities that improve pedestrian permeability. The presence of a local cycle network indicates that the site can be reached by cyclists with relative ease.

Residents Parking

It is proposed to provide a total of 366 car parking spaces for the use of residents within a lower ground level car park, 85 of which will be available for disabled users. A further 10 visitor parking spaces, and five car club vehicle spaces will be accessible on the ground floor level. Across the 366 residential spaces proposed 20% (74) of spaces will have electrical charging facilities, with a further 80% (207) being future proofed by way of passive provision.

There will be an allocation of 1,544 cycle spaces provided in relation to the residential use, 8 cycles spaces will enable parking for visitors. Cycle parking is located on the lower ground floor in secure stores and also within external areas. Residential cycle storage areas have been designed with additional capacity to enable further parking to be installed and to enable oversized cycle storage.

It is proposed to provide 9 car parking spaces for activity associated with the retail and community uses. The parking will be located at the southern end of the site, immediately accessible from the A1. This enables control of the site to prevent vehicle movements occurring internally within the site to facilitate a more permeable environment for pedestrian and cyclists. The spaces provided will be Pay & Display to ensure that long stay parking is discouraged and that there is a turn-over of parking spaces

A further 21 cycle parking spaces will be provided in relation to the retail and community uses.

Delivery and Servicing Access

It is proposed that access to the site will be achieved from the A1 access. Entry control measures will be in place to prevent unauthorised access but a trade button will allow contact to a site management representative to facilitate access to the site.

Refuse collection will take place from various designated collection points where the on-site management team will consolidate refuse from the development for collection.

Emergency Access

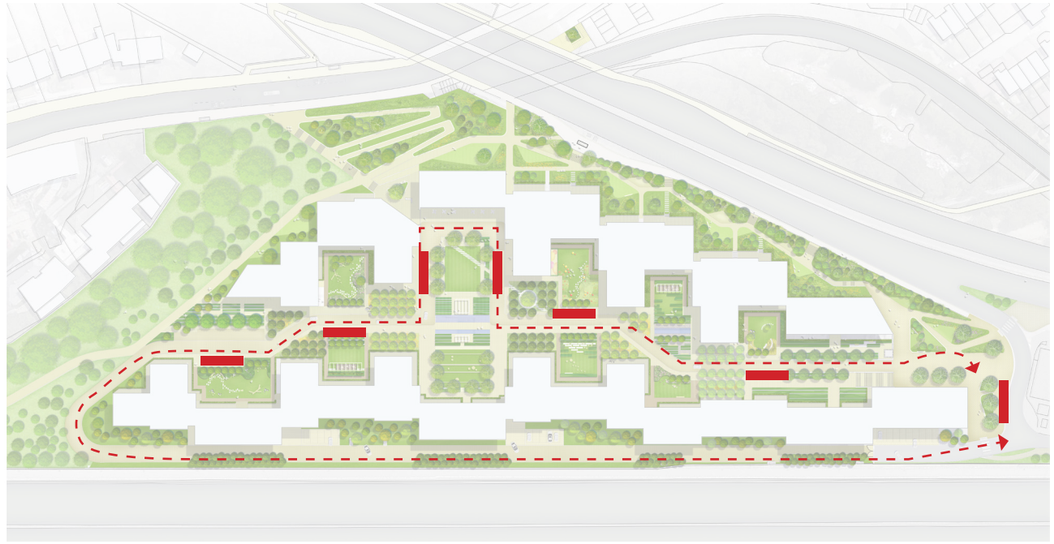
Emergency access is will be achieved throughout the development, via the A1, the internal periphery road, and also internally within the inner central courtyard of the site.

Improving Access to Transport Services

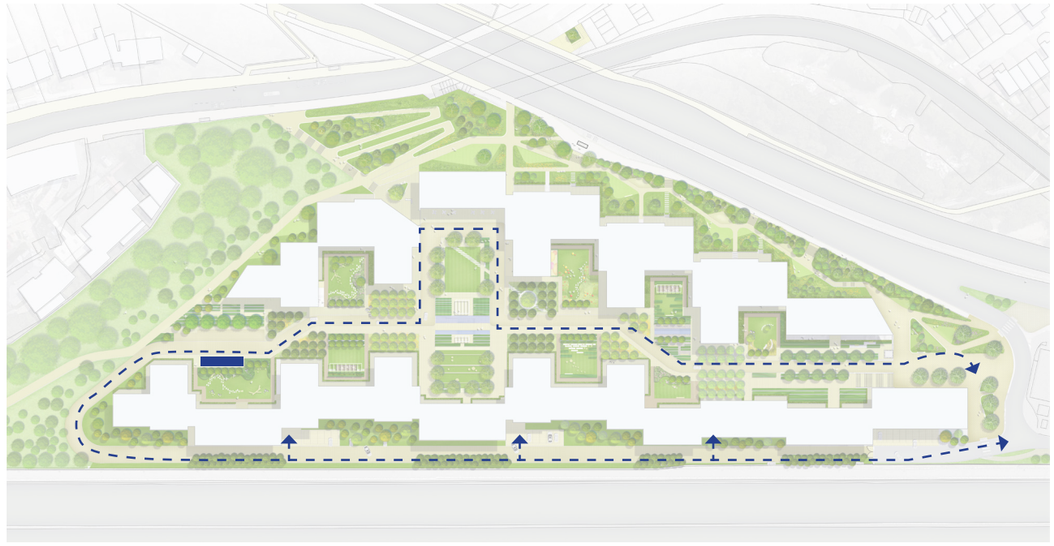
It is proposed to dedicated shuttle bus services to and from desirable connections to public transport.

The service will be of significant benefit for the mobility impaired residents, and for those who do not own a car. It is intended that the service will also be of benefit given the current PTAL rating of the site is low.

By provision of the access to Bunns Lane, the shortest route to access either rail or underground services is achieved at Mill Hill Broadway and Burnt Oak stations.



DELIVERY / SERVING / DROP OFFS



MAIN SERVING AND CAR PARK ACCESS

10.0 REFUSE AND WASTE STRATEGY

10.1 Refuse and Servicing Strategy

Overview

The Waste Management Strategy has been complied in consultation with the Collection Services at the London Borough of Barnet and in accordance with the best practice guidance requirements set out within the documents listed below.

Demolition and Construction Phase

The developer is committed to the minimisation of waste and will employ methods such as the acquisition of a Site Waste Inventory prior to the site clearance which will identify any hazardous wastes and the opportunity for the recycling of materials within the construction process.

A Waste Management Strategy will include an Outline Construction Waste Management Plan which will require:

- Management of the construction site in order to provide opportunities to segregate materials for ease of reuse and recycling in order to minimise waste to landfill;
- Where possible, material to be processed at sites as close as possible the scheme site; and
- The use of resources such as water, diesel and timber will be recorded and managed in a sustainable manner.

The scheme itself has been considered in a manner to design out waste (material optimisation) and the design team has embedded resource efficiency within the overall scheme design with specific reference to WRAP's Designing out Waste principles.

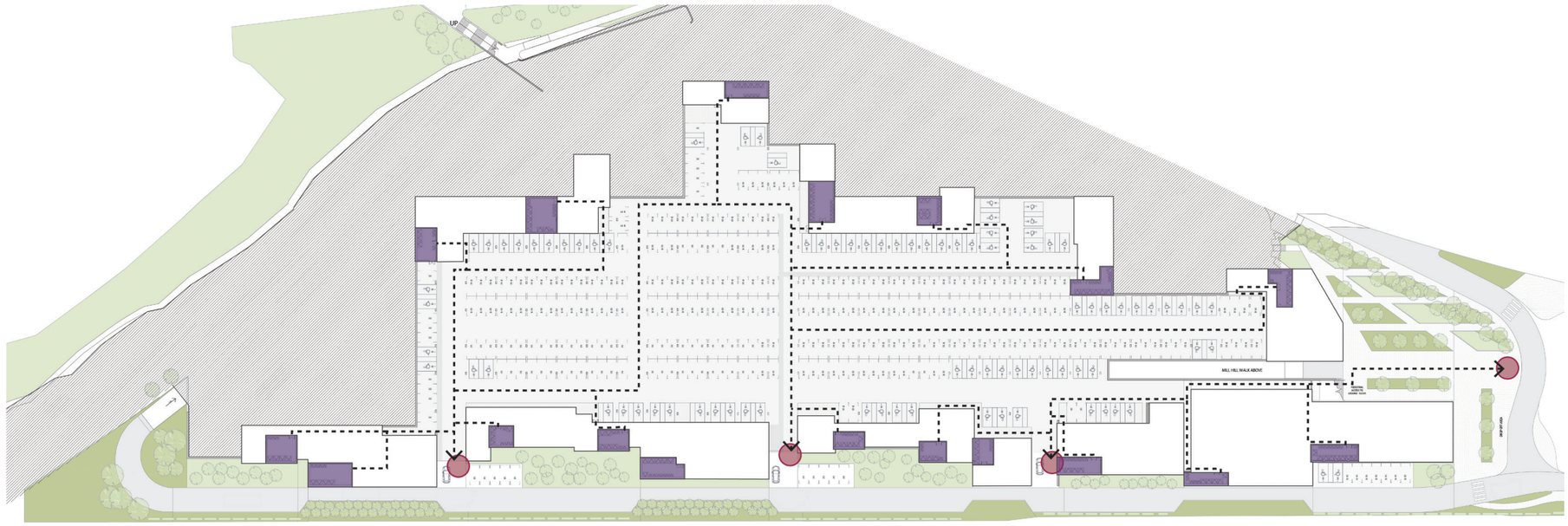
Operational Waste Management Phase

The scheme has been designed to adhere, in the first instance, with the capacity requirements set out with the Building Regulations Drainage and Waste Disposal Approved Document H6. This requires that adequate provision shall be made for the storage of solid waste and that adequate access shall be provided:

- For people in the building to the place of storage; and
- From the place of storage to a collection point.

The management scheme also takes account of the requirements set out by the London Borough of Barnet within it's 'Information for developers and architects – 'Provision of Household Waste & Recycling Service' guidance.

The above documents and those set out below, were taken into account within the development of the final operational waste management strategy which is currently being consulted upon.



WASTE MANAGEMENT STRATEGY

Proposed Operational Management Strategy – Domestic Dwellings

The following elements are proposed within the current operational waste management strategy which has been development based upon the current guidance and initial consultation with London Borough of Barnet. It sets out the parameters of a pilot study utilising bin storage capacities not currently in operation, combined with management systems accepted in other parts of the borough. This includes the provision of:

- A minimum internal storage capacity of 60 litres per dwelling, which can accommodate containers for the temporary storage of materials to be recycled. Materials will then be transferred to external containers for collection;
- Lower ground storage areas will be provided to accommodate an agreed number of 1110 litre bins.
- An agreed portion of these (approx. ¾) will be for the storage of recyclable waste which will be moved to the agreed collection point on the appropriate day;
- An agreed portion of these (approx. ¼) will be for the storage of non-recyclable waste which will be compacted on site (at the developer's expense) and collected twice a week by Barnet Waste Collection services.
- A Management Company will be set up at the developer's expense, which will facilitate the following:
  - -The movement of waste material from landings to basement storage areas;
  - -The movement of 1110 litre bins to the agreed collection location; and
  - -The compaction and preparation for collection of non-recyclable waste;

Proposed Operational Management Strategy – Non-Domestic Dwellings

In line with the requirements of Barnet's SDC SPD, any non-domestic site uses will be associated with the following waste storage:

- A minimum of 10m² designated waste storage space for materials for recycling; and
- Appropriately designed facilities for the collection, reuse or recycling of the waste generated.

Commercial waste will be collected every 2 days by a private waste contractor.

11.1 Acoustics and Noise

The site borders the M1 to west and the A1 to the east. It is not surprising that the existing site is characterised by high levels of road traffic noise.

Whilst it is possible to provide high levels of sound insulation to dwellings to control noise intrusion from external sources, it is equally important for the occupants of those properties to have access to relatively quiet amenity space. Access to such space is endorsed in national planning practice guidance. The creation of good quality amenity space has therefore been a primary design objective for the Pentavia scheme.

To minimise noise ingress into the main communal amenity space at the heart of development, 'barrier' blocks have been placed along both the M1 and A1 sides of the site, with the block on the A1 side of the side articulating westwards, to further close the site areas towards Bunns Lane.

The site is further protected by living "Green Walls" along the M1 and A1 boundaries of the site.

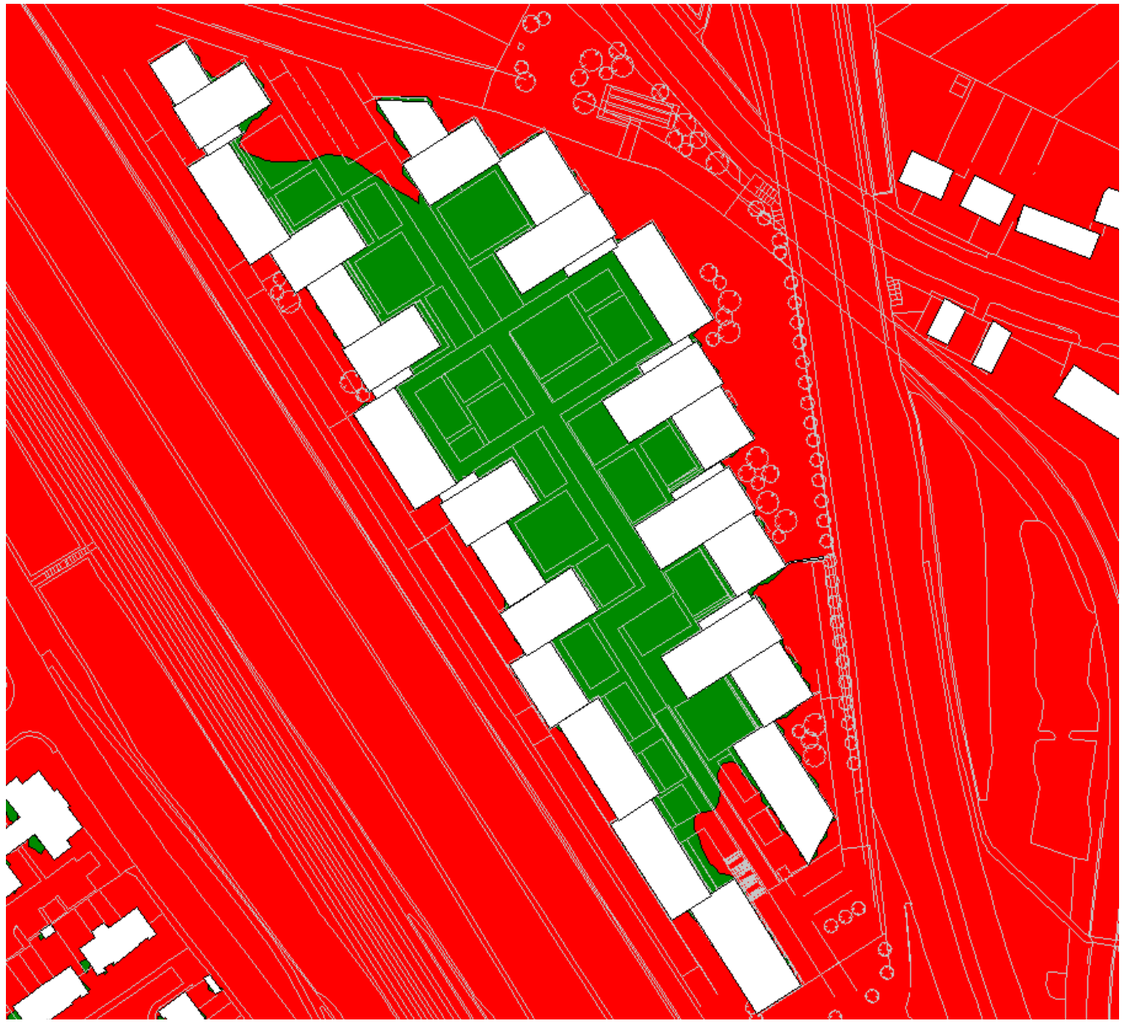
The massing and design of the buildings help create an extensive area of relatively quiet communal amenity space, compliant with the objectives on national planning policy and providing spaces compliant with the World Health Organisation's outdoor amenity guideline value of 55dB(A).

Additional communal amenity areas will also be provided at roof level. The areas will be acoustically protected by 2m high glazed screens around the perimeter of each roof space.

Individual dwellings will also benefit from private amenity spaces (balconies). Noise levels on balconies will be reduced to the lowest practicable level. This is achieved by generally locating balconies on the "quiet" side of each building (i.e. overlooking the "internal" courtyard and amenity spaces) to avoid direct noise from the adjoining motorway and dual carriageway. Where balconies are exposed to higher levels of noise, additional mitigation will be provided in the form of "solid" ballustrades and acoustically absorptive treatments (for projecting balconies) and the creation of winter gardens where balconies are inset.

Noise intrusion into the proposed flats will be controlled through the use of a carefully designed sound insulation scheme. This will include:

- The use of pre-cast concrete panels with internal metal stud wall lining system to optimise the sound insulation of solid wall elements.
- High performance "acoustic" glazing
- The use of whole house mechanical ventilation systems (MVHR) to provide alternative means of ventilation and thermal control without the need for occupants to open windows.



ACOUSTIC MODEL FOR PROPOSED DESIGN

12.0 AIR QUALITY

12.1 Air Quality

The Pentavia site is located between the heavily trafficked M1 and A1 Watford Way. Therefore, air quality is of concern at the site and in particular for the heath and amenity of new residents. As a result, the protection of future residents has been a primary driver within the design of the buildings and external layout (refer to Figure 1 – Baseline Site Air Quality Pre-Development).

From the outset, the scheme layout was required to incorporate shielding elements in order to protect central amenity areas for future residents, from both noise and air pollution. This was primarily secured by the articulated wall, which protects internal areas from pollution from the M1. Protection from the A1 Watford Way was afforded by the positioning of the deep central courtyard, an internal protected space. Further protection has been provided by the positioning of Block type 2, which face the central courtyard.

Detailed air quality dispersion modelling has then been undertaken to examine the effect of the design and this has indeed demonstrated that the scheme layout results in an demonstrable improvement in external air quality so that ground and balcony levels are well within the health guidelines provided within the UK Air Quality Strategy Regulations (refer to Figure 2 – Anticipated Site Air Quality Post Development).

The detailed modelling has also confirmed that air quality on the facades facing the internal spaces is acceptable for the positioning of the Mechanical Ventilation and Heat Recovery (MVHR) inlets. These are required in order to protect residents from poor external air quality incident on the facades adjacent to the M1 and A1 Watford Way.

With regards to building emissions, it should be noted that the borough of Barnet as a whole has been declared an Air Quality Management Area. As a result of this and the requirements of the London Plan, all building emissions have been designed to conform to the requirements of the London Sustainable Design and Construction SPG. This is being achieved by the incorporation of sustainable technologies which incorporate efficient power consumption and lowest practical emissions.

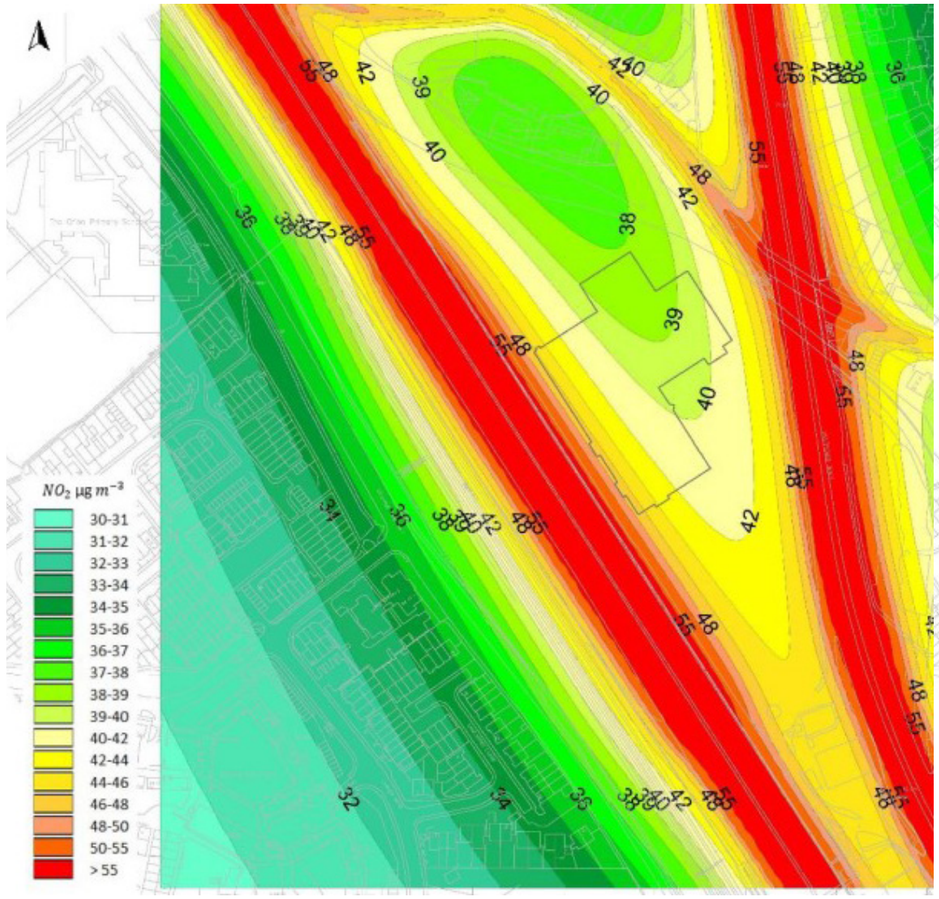


FIGURE 1 – BASELINE SITE AIR QUALITY PRE-DEVELOPMENT

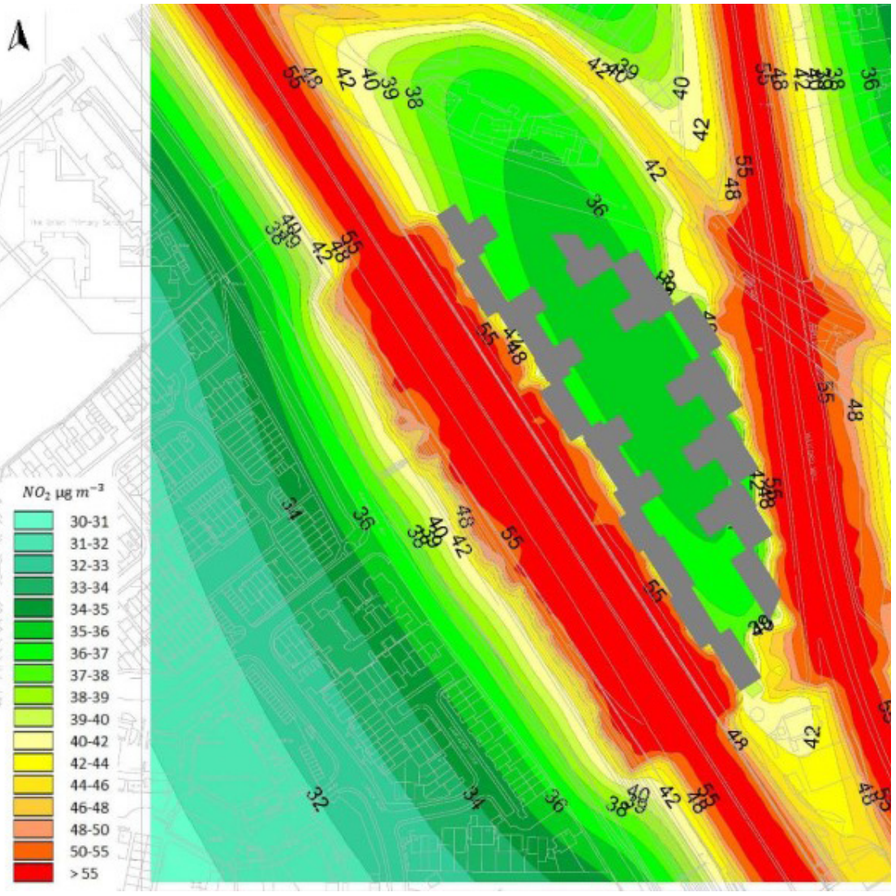


FIGURE 2 – ANTICIPATED SITE AIR QUALITY POST DEVELOPMENT

13.1 Energy Strategy

This Energy Statement has been prepared by ChapmanBDSP to support the planning application for the Pentavia, Mill Hill development in Barnet.

The energy strategy for this mixed-use development focuses on providing high quality dwellings and non-domestic spaces that are comfortable throughout the year, but with minimal energy consumption and carbon emissions. The design approach for Pentavia, Mill Hill follows the energy hierarchy i.e. being 'lean, clean and green' to achieve the following targets:
- 35% reduction in regulated carbon emissions against Part L 2013;
- Building emissions compliant with Part L 2013 with demand reduction/ energy efficiency measures alone (at 'be lean' stage of the energy hierarchy);

These targets are in line with the GLA's Sustainable Design and Construction SPG, Barnet's SPD on Sustainable Design and Construction, Barnet;s Development Plan Document as well as the London Plan 2015 and the London Borough of Barnet Core Strategy.

The design approach for Pentavia, Mill Hill has targeted demand reduction measures first, giving priority to the optimisation of the building fabric in order to reduce the need for both heating and cooling. The objective was to have a building as energy efficient (i.e. 'lean') as possible and not relying on overly complicated systems or technologies to deliver a low carbon performance. The aim was to achieve a low-energy building without relying on carbon offsetting technologies only.

The design of the buildings together with the MEP systems and sustainability features have been optimised so that demand for energy was minimised. High level of envelope insulation and optimised solid-to-glazing ratios are applied to the façade design to ensure heating demand is minimised and in response to the site's surroundings; whilst window and door openings are provided for passive ventilation to reduce the need for cooling. Efficient low energy lighting (with LED lighting where appropriate) and mechanical ventilation with high rate of heat recovery are implemented throughout to further reduce energy demand.

In the absence of district energy networks in close proximity to Pentavia, Mill Hill's site, the current centralised water-based servicing strategy also allows for future connection to district heating scheme by providing a space for heat exchanger in the communal plantroom and a single capped of pipework connection point should one become available.

The development will include a low carbon highly efficient communal heating network serving all domestic and non-domestic areas. A single energy centre will be comprised of communal gas-fired cogeneration scheme with back-up natural gas fired boilers for space heating and domestic hot water. A PV array located on unshaded roofs will further reduce the scheme's electricity demand.

The design of Mill Hill was primarily focused on reducing energy demand ("be lean") and implementation of very low carbon energy generation ("be clean") that includes the use of a good quality CHP that is based on high and stable domestic hot water demand all year round to operate for most of the year and generate significant carbon savings.

Reduced demand achieved by a 'fabric first' approach, with good performing fabric combined with efficient and low carbon system has ensured that the development achieves the target carbon emission reduction against Part L 2013 of 35%.

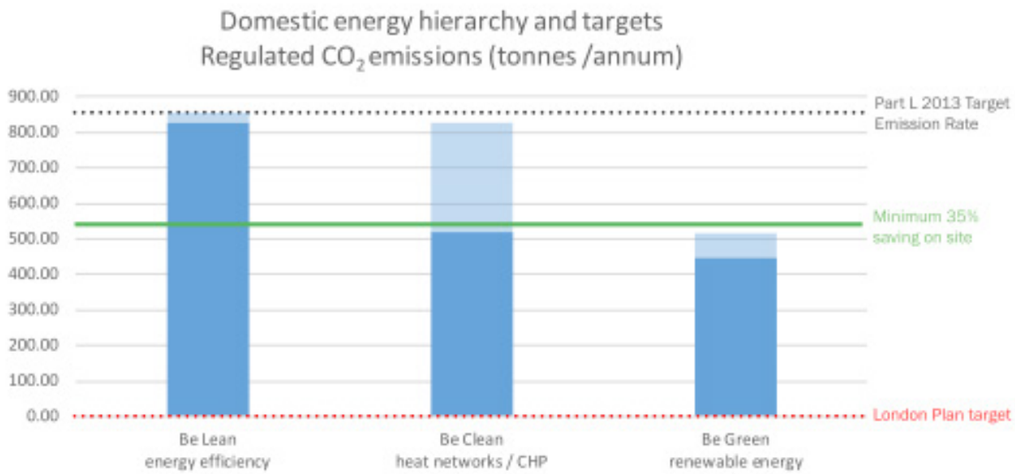


Figure 1 - Regulated CO_2 emissions for the Domestic Energy Hierarchy

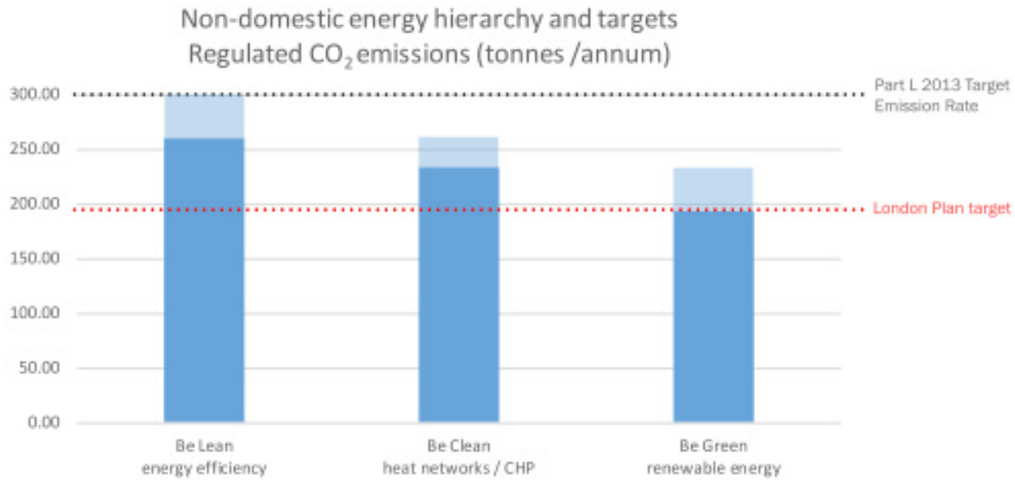


Figure 2 - Regulated CO_2 emissions for the Non-Domestic Energy Hierarchy

14.1 Sustainability Strategy

The BREEAM New Construction 2014 Assessment tool and the London Borough of Barnet SPD – Sustainable Design and Construction have been reviewed and used to optimise the environmental strategy of the development and to demonstrate the sustainability credentials of the scheme. This is in line with the London Borough of Barnet SPD on Sustainable Design and Construction Section 2.20 and Barnet - Development Management Plan (2012) Policy DM-02.

Each of the BREEAM and Barnet's SPD – Sustainable Design and Construction criteria was fully discussed at a Sustainability workshop led by a BREEAM Assessor/Accredited Professional within ChapmanBDSP environmental team and attended by the project team on 12 July 2016 and 19 August 2016. These meetings have ensured that all members of the development team have a full understanding of the successful integration of the SPD requirements and BREEAM credits and process into their design. An additional workshop was held on 7 November 2017 and 12 March 2019 to review aforementioned documents in line with design changes.

The pre-assessment shows that a BREEAM 'Excellent' rating is robustly targeted for the retail and for the 'D1 use' part of the scheme.

A formal assessment will take place once the tender Documentation is produced and will require submission of a full evidence bundle from the client and the design team to show compliance with the credits. The BREEAM assessor has been and will continue to form an integral part of the design team and a consistent point for reference, review and questions. This approach is proven through experience to offer the surest route to successful BREEAM certification and holistic sustainable design.

The Sustainability Statement for Mill Hill development demonstrates that the design will holistically incorporate sustainable principles into the full range of sustainability aspects covered by BREEAM and the London Borough of Barnet SPD on Sustainable Design and Construction: Energy, Climate Change, Water, Flood Risk & Drainage, Transport, Materials, Waste & Recycling, Pollution, Landscaping & Ecology.

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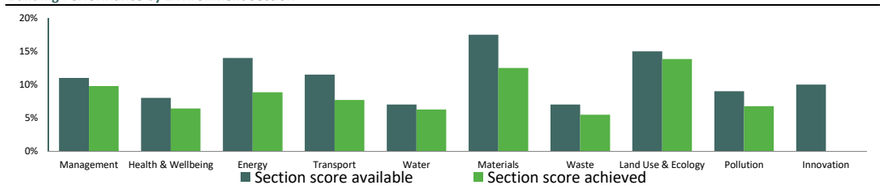
BREEAM UK New Construction 2018 Assessment Report: Rating & Key Performance Indicators

Overall Building Performance

Building name	Pentavia, Mill Hill (Other Buildings)
BREEAM rating	Excellent
Total Score	77.40%
Min. standards level achieved	Excellent level

Building Performance by Environment Section



Environmental Section	No. credits available	No. credits Achieved	% credits achieved	Section Weighting	Section Score
Management	18	16	88.89%	11.00%	9.77%
Health & Wellbeing	10	8	80.00%	8.00%	6.40%
Energy	19	12	63.16%	14.00%	8.84%
Transport	12	8	66.67%	11.50%	7.66%
Water	9	8	88.89%	7.00%	6.22%
Materials	14	10	71.43%	17.50%	12.50%
Waste	9	7	77.78%	7.00%	5.44%
Land Use & Ecology	13	12	92.31%	15.00%	13.84%
Pollution	12	9	75.00%	9.00%	6.75%
Innovation	10	0	0.00%	10.00%	0.00%

Pre-assessment scoring tool (Other Buildings)

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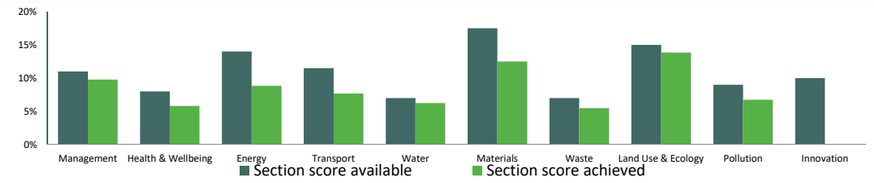
BREEAM UK New Construction 2018 Assessment Report: Rating & Key Performance Indicators

Overall Building Performance

Building name	Pentavia, Mill Hill (Retail)
BREEAM rating	Excellent
Total Score	76.80%
Min. standards level achieved	Excellent level

Building Performance by Environment Section



Environmental Section	No. credits available	No. credits Achieved	% credits achieved	Section Weighting	Section Score
Management	18	16	88.89%	11.00%	9.77%
Health & Wellbeing	11	8	72.73%	8.00%	5.81%
Energy	19	12	63.16%	14.00%	8.84%
Transport	12	8	66.67%	11.50%	7.66%
Water	9	8	88.89%	7.00%	6.22%
Materials	14	10	71.43%	17.50%	12.50%
Waste	9	7	77.78%	7.00%	5.44%
Land Use & Ecology	13	12	92.31%	15.00%	13.84%
Pollution	12	9	75.00%	9.00%	6.75%
Innovation	10	0	0.00%	10.00%	0.00%

Pre-assessment scoring tool (Retail)

15.1 Services Strategy

Common Area Riser Strategy

- On a typical floor the following risers will be provided:
- Communications riser;
- Landlord and tenant electrical riser;
- Heating riser;
- Cold water services riser;
- AOV smoke extract shaft;
- Commercial riser where applicable;
- Flue riser for the energy centre.

Dedicated risers within each core will rise through the building. Pipework and electrical containment will branch from the riser onto each floor and run within the ceiling void.

Common Area Space Heating

The common areas will be unheated.

Common Area Ventilation

It is proposed that the smoke clearance system ventilation shaft necessary for protecting the means of escape within the high-rise buildings, be utilised to provide all or part of this low level of ventilation. It may be necessary to provide a dedicated route for make-up air onto the common areas to prevent unbalanced air pressures between zones.

The lower ground floor car park will be provided with a combination of natural and mechanical ventilation for both exhaust fume control and smoke control.

Common Area Lighting & Small Power Services

Luminaries with common areas will be vandal resistant and be complete with LED light sources.

Common Area Door Entry System

A door entry and access control system will be provided to each building core. The system is specified as two stage with main entrance panels, landing panels and interfacing with the lifts. The proposed door entry system will be audio and visual.

Apartment Metering

Energy consumption from the district heating network will be calculated by a heat meter arrangement within the Heat Interface Unit (HIU) to allow accurate individual billing information to be provided to the occupants. Electric and water meters will be provided in the main common area risers.

Apartments

With the exception of the affordable units, which will have radiators, heating will be via an underfloor heating system.

For underfloor heating systems the zone control requirements of the Building Regulations will be met by installing a programmable thermostat within the living area and wall mounted thermostats within all other rooms which are wired, via a wiring centre, to actuators installed on each circuit to provide individual room temperature control. Radiator heating systems will be designed with 2 circuits to separate the living and sleeping zones each with a programmer. Temperature control within each room will be via thermostatic radiator valves.

Apartment Ventilation

The system will consist of a whole house ventilation with heat recovery. Where identified within the acoustic report apartments on noise affected facades will be provided with additional purge fans to accommodate additional ventilation, without the need to open windows.

Apartment Cold Water

Potable cold water will be provided to each apartment via packaged booster pumps connected to a bulk storage tank at lower ground floor level.

Apartment Fire Alarms

Detectors/Sounders will be mains operated with integral battery. A dedicated circuit will be provided in the consumer unit for the fire detector mains circuit.

Apartment TV System

Quad TV outlets with facilities for TV/Audio/Sat1/Sat 2 connected to the IRS TV system infrastructure will be provided in each living room and each bedroom.

Apartment Door Entry System

Each apartment will be equipped with a door entry system handset/ apartment unit to allow the resident to hold a two way conversation and view the visitor at the block main entrance panel and landing panel and to remotely open the main entrance/landing door.

16.1 Wind Strategy

This chapter was prepared by BMT and assesses the likely significant effects of the Development on the local wind microclimate within and around the Site. In particular, it considers the potential effects of wind upon pedestrian comfort as well as the potential for occasional strong winds to be generated. The assessment is based upon the findings of wind tunnel assessments undertaken by BMT.

The design of the Development considered the likely wind environment for pedestrians. The Development includes a comprehensive landscape strategy which would act as inherent mitigation and provide shelter for pedestrians. As discussed in Section 11.3.18, the wind tunnel model for the Development was tested with the proposed landscaping (i.e. Configuration 3), which is presented in graphical format in Figure 11.13.

Safety

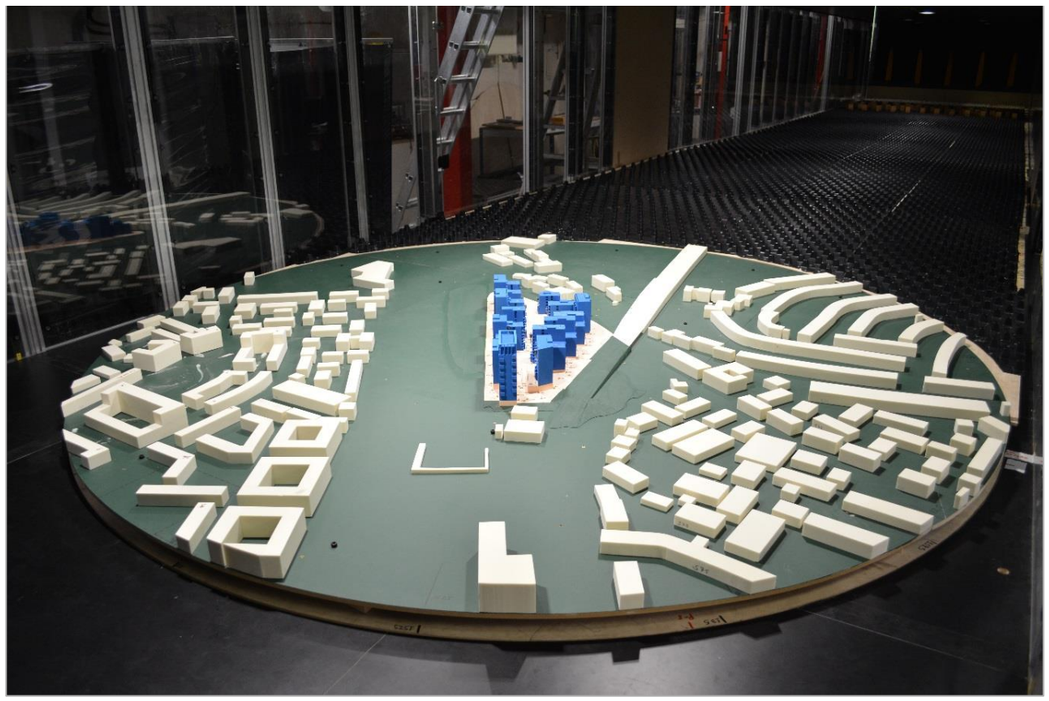
With the introduction of the proposed soft landscaping and rooftop terrace mitigation options, wind conditions are suitable, both in term of pedestrian safety and comfort, within the Development and in the wider surrounding area.

Comfort - Thoroughfares
With the introduction of the proposed soft landscaping, wind conditions at all thoroughfare locations are rated as suitable, in terms of pedestrian comfort, for intended use. This represents a negligible residual effect.

Comfort - Entrances
With the introduction of the proposed soft landscaping, wind conditions at all entrances are rated as suitable, in terms of pedestrian comfort, for intended use. This represents a negligible residual effect. Wind conditions at waiting areas, i.e. bus stops, around the Development are rated as suitable, in terms of pedestrian comfort, for intended use. This represents a negligible residual effect.

Comfort – Recreational Spaces
Wind conditions at recreational and amenity spaces within the Development are rated as suitable, in terms of pedestrian comfort, for intended use. This represents a negligible residual effect.

Overall, inclusion of the cumulative schemes in the assessment was found not to result in any changes to the suitability of the assessed locations. The cumulative wind microclimate residual effects of the Development would therefore be unchanged from the residual effects outlined above for the Completed Development Assessment.



WIND TUNNEL ANALYSIS

Figure 11.13: Wind Microclimate Development + Existing Surrounds with Soft Landscaping – Upper Ground Level

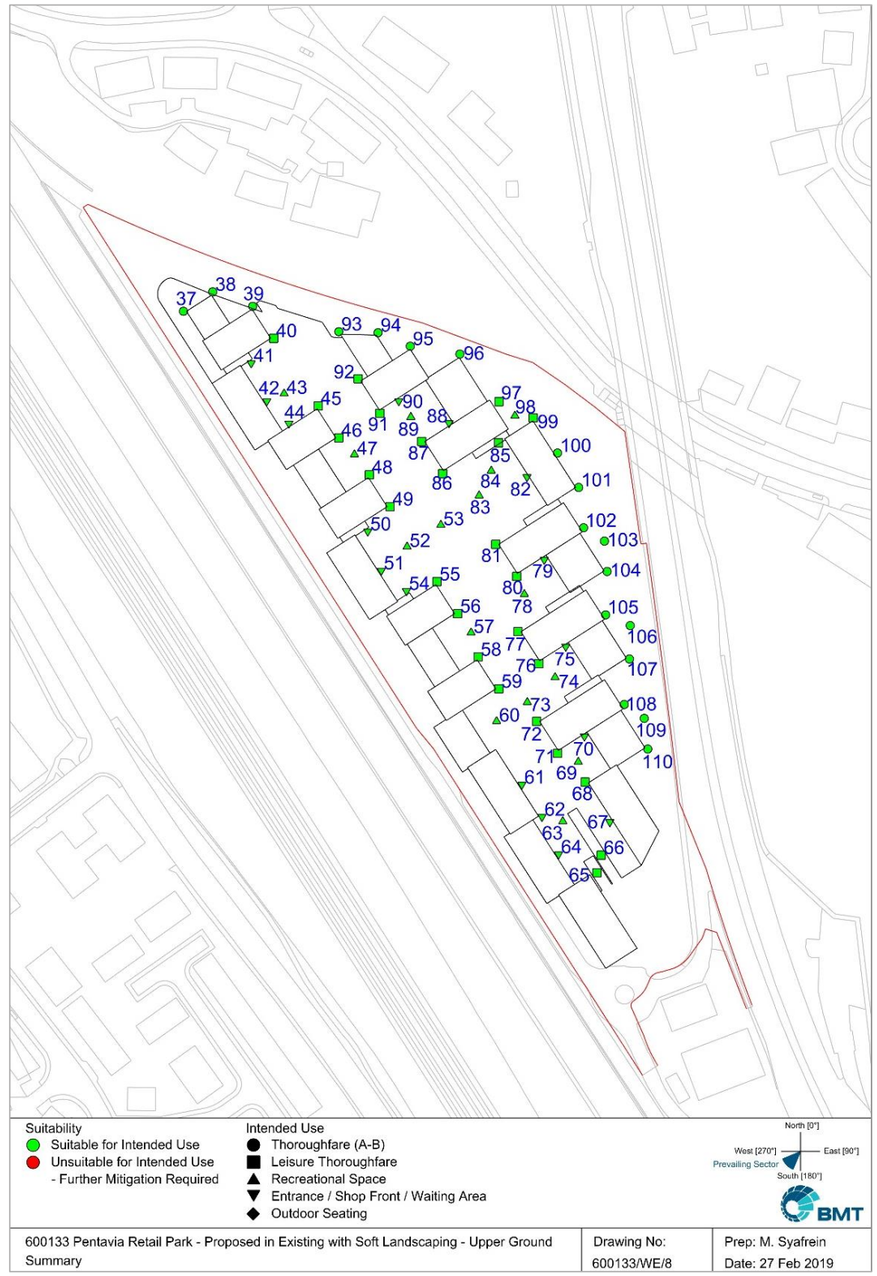


FIGURE 1

17.1 Introduction

This Access Statement was prepared by Peter Connell Associates at concept design stage. It satisfies the Town and County Planning (Development Management Procedure) (England) Order 2010, article 8.and The Planning (Listed Buildings and Conservation areas) Regulations 1990.

In addition this application takes full account of the Mayor of London's London Plan, in particular the Supplementary Planning Guidance (SPG) "Accessible London: Achieving an Inclusive Environment" April 2016.

The design philosophy for this development is to achieve an inclusive environment throughout. Issues relating to access and inclusion have been and will continue to be, considered throughout the design process.

The Access Strategy is based on a social model of inclusion. The design philosophy seeks to achieve an inclusive design that maximises access for all people. This satisfies the General Duty placed upon the London Borough of Barnet under the Equality Act 2010 and the London Plan to promote the interests of Disabled people.

The term "disability" has been viewed in its broadest sense and includes impaired mobility, sight, comprehension and hearing. This approach addresses not only the short-term compliance with the intent of the Equality Act together with the relevant planning policies but also the long-term implications of sustainability. The aim is therefore to provide an inclusive environment throughout.

The principles of an accessible environment contained within this document address the needs of the following user groups:

- Individuals with mobility, sight, comprehension or hearing impairment
- The ageing population
- People with temporary injuries
- People whose movement may be impaired or encumbered in any way i.e. pregnant women, people with young children, or people with baggage.

17.2 Inclusive Design Criteria - Standards

The Equality Act has been in force since October 2010, and replaces, amongst other legislation, the Disability Discrimination Act (DDA). However, the same underlying philosophy regarding discrimination on the grounds of disability applies, and the duties placed on the physical design of the built environment remain unchanged.
In summary, the Equality Act 2010 aims to protect the nine identified 'protected characteristics', of which one includes 'Disability'. With regards to Disability, the Equality Act provides legal rights for disabled people in the areas of:
• Employment;
• Education;
• Access to goods, services and facilities;
• Buying and renting land or property;
• Functions of public bodies.

The Equality Act, although not prescriptive, includes an intent to offer disabled people an accessible environment which does not discriminate against them because of their impairment. Statutory regulations and recommendations for the built environment provide parameters for how an accessible environment can be achieved. Compliance with these regulations and recommendations is not proof that Equality Act issues have been addressed. They do though go a long way to ensuring such issues are considered.

In the Act, the term 'disability' includes not only disabled people, but also people who have an association with a disabled person (e.g. carers and parents) and people who are perceived to be disabled.

In order to maximise access for disabled people the following guidance has been used. If there is a departure from the adopted guidance, there will be a reference to this effect in the Access report.

- The Building Regulations 2010
- Access to and Use of Buildings Approved Document Part M 2015 Edition incorporating 2016 amendments
- BS 8300: 2009 + A1:2010 (Design of Buildings and their approaches to meet the needs of disabled people).
- Department for Transport (DfT), 2005, "Inclusive Mobility" (A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure).
- BS 9999:2008 (Code of practice for fire safety in the design, management and use of buildings).
- Barnet Council Local Plan
- The London Plan (and London Plan SPG), Mayor of London, 2015.
- Consideration of Equality Act issues.

17.3 Consultation Review

Should there be any departures from the adopted performance indicators, the report will elaborate the reasons for this decision, the details of any adopted alternative, the rationale behind it and notation detailing when any such departure was taken.

To ensure the achievement of inclusive design the following actions have been adopted:

- All design team members have been made aware of inclusive design and understand the principles involved; All design members have been briefed on access/ inclusive design and understand its principles.
- Access will be an agenda item at design team meetings, reporting the reasoning behind any departures from adopted design guide(s) and the rationale behind any alternative adopted solution or compromise, together with the authority or evidence that supports such an approach..

17.4 Development Overview

The Design and Access Statement contains a full description of the scheme. Issues that have had an impact on access in the design of the development to date form part of this Access Statement.

Also included are the reasons for the constraint and any alternative solution adopted or proposed including any authority, research or advice that has influenced the decision.

The initial results of the Design review indicate that detriment to disabled people is unlikely or insignificant.

The arrangements for access described in this report reflect the current design. The descriptions in this report have been based on the drawings dated November 2017. Access arrangements will be addressed in further detail as the design develops.

This appraisal is presented as a design guide, which should be used as a reference document during design development. It will demonstrate the intent of the Equality Act and compliance with the statutory regulations, in particular, Approved Document M.

17.0 ACCESS

17.5 Site Wide Issues

Site

The site lies between the A1 Watford Way, which is a dual carriageway, and the M1 motorway. It is situated in the Mill Hill ward of the London Borough of Barnet. Due to acoustic considerations, the majority of the site will be raised 5m above Watford Way and the M1.

Although the site is large, a little under four hectares, the existing buildings are in a poor state of repair and offer limited employment opportunities.

Transport Links and Pedestrian Access

Vehicular access to the site is by means of Watford Way.

The development proposes a new ring road running from the existing roundabout, parallel to the M1 motorway and returning through the site. The ring road provides access to the private internal lower ground parking and the open air public parking to the west and south of the site.

With the exception of taxi and delivery drop off, parking will not be permitted anywhere else on the site. (Refer to the Transport Strategy). The ground level of the site is step free, level or gently sloping and located 5m above the surrounding topography.

Step free pedestrian access from Bunns Lane, to the north of the site, is by means of a series of landscaped walkways. The walkways will have a maximum gradient of 1:21 and will contain level rest areas every 10m.

The existing pavements on Bunns Lane are step free and provide dropped kerbs and tactile paving to assist access.

Step free access from the public car park, located in the south of the site, is by means of a lift on the northern side of Mill Hill Walk and a stair on the southern side of Mill Hill Walk.

The lift car has an internal dimension of 1100mm by 2100mm which is greater than the recommended minimum. The lifts are sized to accommodate family units as well as wheelchair users and will be designed to the recommendations set out in Approved Document M, BS8300 and to BS EN 81-70 and BS EN 81-1.

The stair will be designed to the recommendations set out in Approved Document Part M and K. The lift and stair also provide pedestrian access for residents to the Local Convenience store and bar/restaurant, located at Lower Ground Floor level.

The centre of the site is level and step free and will contain fully accessible dedicated play areas together with open grass areas and planted areas.

Access to the courtyards at podium level, is via a lift, accessible to Wheelchair users.

The development has also been provided with courtyards at podium level. Access to the courtyards is by means of wheelchair accessible lifts. Internally the lift cars will be designed to the recommendations set out in Approved Document M, BS8300 and to BS EN 81-70 and BS EN 81-1.

The area is well served by the London transport system, and is easily accessible from in and around London.

Bus stops are provided within walking distance of the site on Bunns Lane and are accessible to wheelchair users.

Mill Hill Broadway station lies on the Midland Main Line and is served by Thameslink on the cross-London route. The station is accessed by steps only and is therefore not accessible to wheelchair users.

Car Parking and Cycle Storage

Step free Residential/commercial car parking and cycle storage is provided internally at Lower Ground floor level. Additional external car parking is provided at lower Ground floor level, along Mill Hill Walk and to the south of the site serving the convenience store and bar/restaurant.

Access to the internal lower ground car parking, from the upper levels, is by means of wheelchair accessible lifts and stairs contained within each building core.

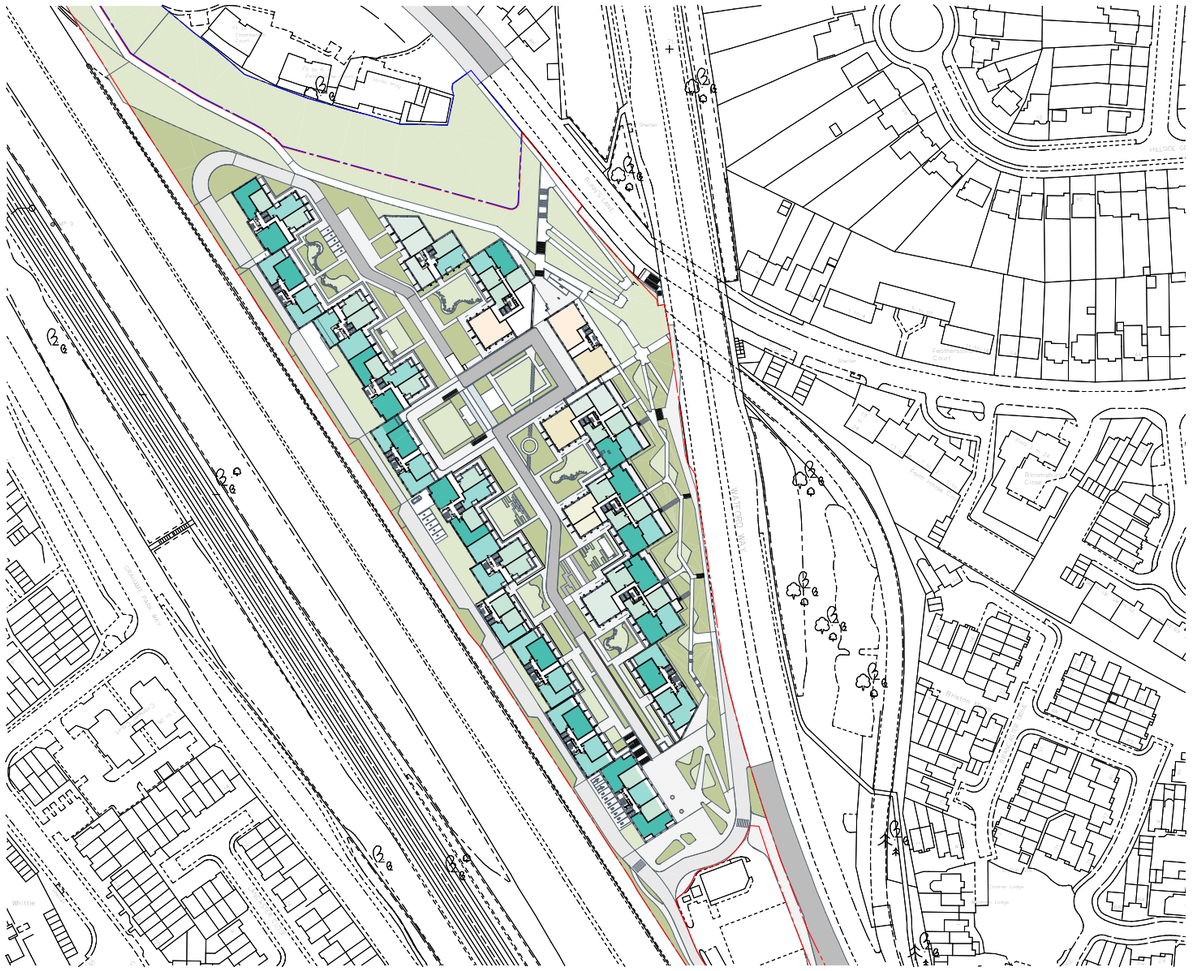
Car parking consists of 366 residential parking bays, 85 of which are designed as wheelchair accessible bays and 9 commercial car parking bays, 2 of which are designed as wheelchair accessible bays.

All residential wheelchair accessible parking bays are dimensioned to the requirements of Approved Document Part M Volume 2.

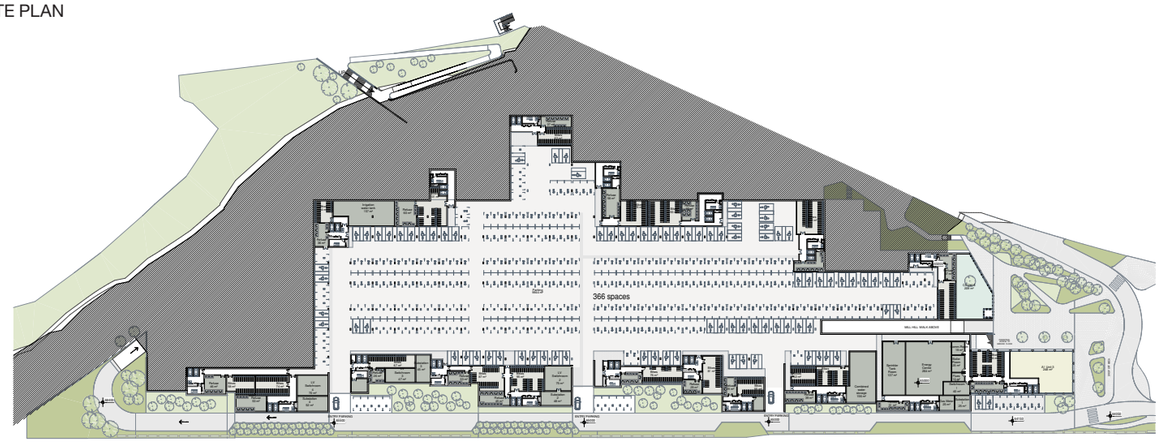
Pedestrian routes will be provided within the internal car park, which will be marked with a coloured surface and will be well lit. Routes will be 1200mm wide indicating a safe route towards the circulation cores.

Bicycle storage for 1603 cycles are also provided within the internal Lower Ground floor car park.

The bicycle storage is step free and accessible. Bicycle spaces for disabled cyclists will be provided as and when required.



SITE PLAN



LOWER GROUND FLOOR PLAN

Retail and Service Units

Retail and service units have been provided to the west and south of the development at ground and lower ground level. The retail and service units consist of a bar/restaurant, local convenience store, retail units, a fitness centre, work share hub, nursery, concierge, post office and security office.

All unit entrances are step free and accessed directly from the public realm.

Each unit will have fully glazed door sets. Each door will provide a minimum clear opening width of 1000mm, as recommended in Approved Document M and BS 8300.

Any glazed fronts will be required to have either low level applied manifestations or will be located on an upstand of between 200 mm and 400 mm high, dependant on the external ground condition. This distinct upstand or manifestation will provide a visible and physical indication of the spatial location of the glazing plane. The glazing can otherwise be generally left clear to suit the requirements of the retail tenants. Internally all units are step free throughout.

All units are designed as base build, which does not include internal fit out.

The floor finish inside the units will be determined by the tenant during fit-out to comply with the then current regulations and recommendations. After fit-out, all areas within the units should be accessible to all. This will be determined by the tenant to comply with the then current regulations.

Residential

90% of residential units are designed to Approved Document Part M Volume 1 M4(2) Category 2.

Bed Type	Studio	1 Bed	2 Bed	3 Bed	Total
Total Units Available	4	281	436	123	844
Wheelchair Accessible Units	4	52	33	3	92

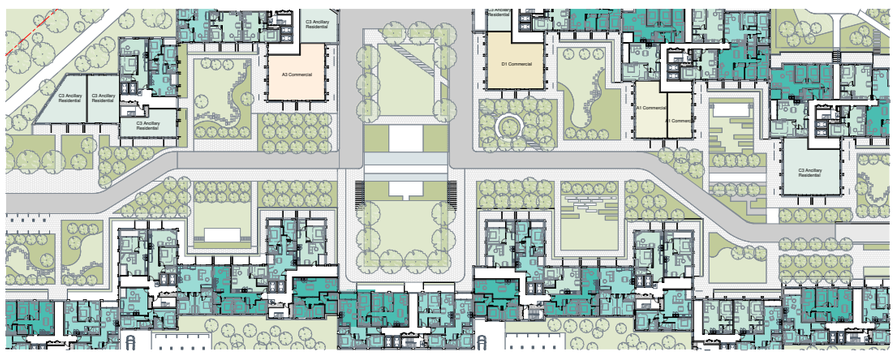
Additionally, 10% of residential units are designed to Approved Document Part M Volume 1 M4(3a) Category 3. These units are spatially designed to be wheelchair adaptable, although will not be fitted out as such. Designated wheelchair adaptable residential units are located so as to provide a variety of views and experiences.

All units will be accessed by means of circulation cores, from ground floor. Balcony areas will be provided for use by residents, and will be designed to be accessible with thresholds no greater than 15mm. Balconies are designed to the recommendations set out in Approved Document M Volume 1 and BS 8300.

The sanitary facilities within 90% of apartment types are designed to the recommendations set out in Approved Document Part M Volume 1 M4(2) Category 2.

The 10% of residences designed as wheelchair adaptable, have an accessible bathroom which contains a level entry shower. All wheelchair adaptable apartments are designed to the recommendations set out in Approved Document Part M Volume 1 M4(3a) Category 3.

Toiletry furniture will be located in prescribed positions for practical reasons and will not vary from the recommendations set out in Approved Document Part M Volume 1 M4(2) Category 2 and Approved Document Part M Volume 1 M4(3a) Category 3.



GROUND FLOOR PLAN

16.6 The Buildings

The proposed development provides 844 residential units, lower ground floor level car parking and an assortment of ground level commercial use units.

The residencies are arranged in x blocks ranging from x storeys to x storeys and provide step free access by means of the ground floor level and lower ground floor level.

Building Entrances

All external communal entrances and private internal/external entrances are level and step free. External communal entrances and accessed directly from the public realm.

Each communal entrance consists of a 2000mm wide glazed double door set. Each glazed door set will have visible and permanent manifestations applied to the surfaces. The entrances will have a slip resistant floor finish. Matwells have been provided at the entrances to aid the removal of moisture and soil upon entry; the surface of the mat will be level with the surface of the adjacent floor finish.

Each internal/external private entrance consists of a 850mm wide doorway with the required 300mm nib and appropriately dimensioned landing outside the door.

All entrances afford level access and have been designed to the recommendations set out in Approved Document M Volume 1 and BS8300.

Internal Access

Each floor within each building is level, and step free. Access between floors is achieved by means of accessible lifts and stairs.

Each lift has a clear internal dimension of 1100mm x 2100mm. This is above the recommended minimum clear dimension for use by a wheelchair user. A mirror will also be provided on the lift wall opposite the door to assist a wheelchair user to reverse out. The lifts have been designed to the recommendations set out in Approved Document Part M Volume 1, BS8300 and to BS EN 81-70 and BS EN 81-1.

Stairs are designed as access stairs and have been developed to the recommendations set out in Approved Document Part M Volume 2 and BS8300.

Access to the residential apartments, on each level, is by means of circulation corridors from the accessible lifts and stairs.

Levels containing only Category 2 apartments or Category 3 apartments, have a corridor width of 1500mm. Levels containing more than one Wheelchair accessible apartment have a corridor width of 1500mm with additional passing places of 1800mm x 1800mm where sight lines are obstructed.

Internal floor finishes are slip resistant, hard wearing, firm, level and easily maintained. The internal floor surfaces will not impede the movement of wheelchairs.

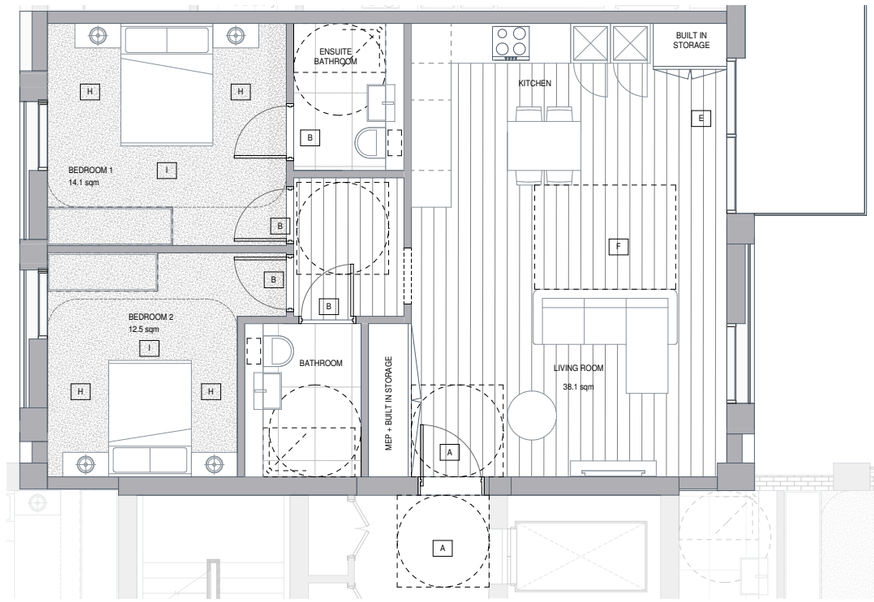
17.0 ACCESS

Typical M4(3) Unit Layouts (11.2% of all apartments)

A. ENTRANCE LEVEL DOOR 850mm CLEAR OPENING WIDTH WITH CIRCULATION ROUTE TO DOOR 1500mm
B. INTERNAL CIRCULATION DOORS IN UNITS MIN CLEAR WIDTH 850mm WITH 300mm NIBS
C. BATH 1700mm X 700mm (WITH 1000mm X 1000mm ACTIVITY SPACE FOR FURNITURE SHOWER PROVISION) & 400mm END TRANSFER SPACE
D. 1500mm X 1500mm TURNING CIRCLE IN MAIN BATH ROOM
E. SLIDING DOOR TO BALCONY 800mm MIN CLEAR OPENING WIDTH
F. 1700mm x 1100mm TRANSFER SPACE
G. 1800mm x 1500mm MANOEUVRING SPACE
H. 1200mm x 1200mm ACTIVITY SQUARES IN BEDROOMS
I. 1000mm TRANSFER SPACE TO SIDE A FOOT OF BED
J. 1500mm x 1500mm ACTIVITY SPACE IN KITCHEN



1 BED TYPICAL M4(3) UNIT

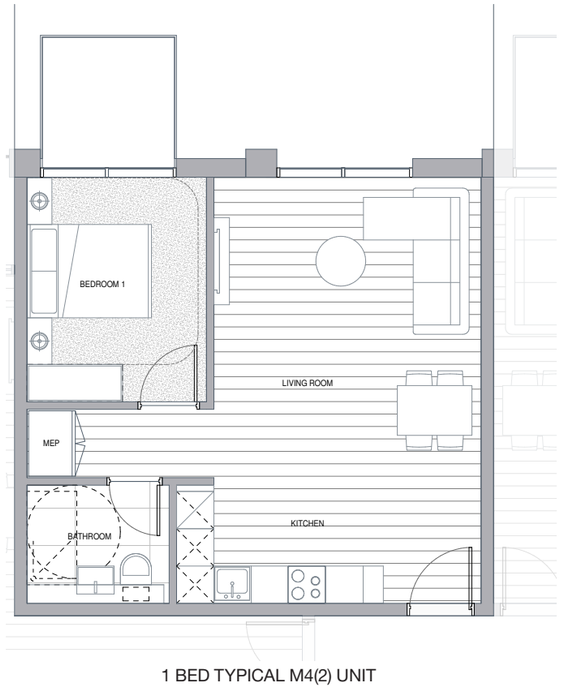


2 BED TYPICAL M4(3) UNIT

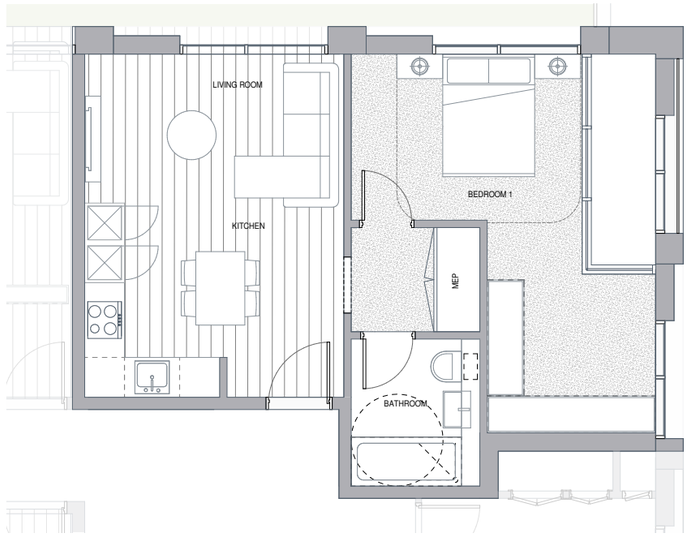


3 BED TYPICAL M4(3) UNIT

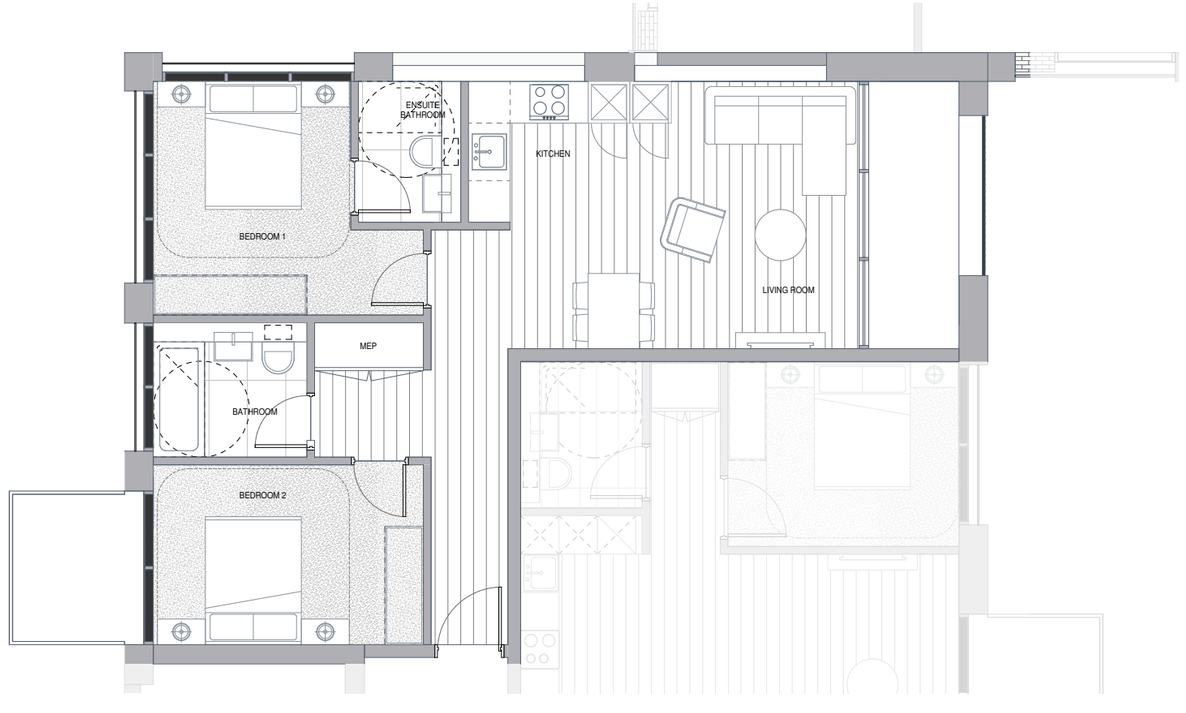
Typical M4(2) Unit Layouts (88.8% of all apartments)



1 BED TYPICAL M4(2) UNIT



2 BED TYPICAL M4(2) UNIT



3 BED TYPICAL M4(2) UNIT

17.7 General Provisions

Internal Doors

All internal doors have been designed in accordance with Approved Document Part M Volume 1. Doors will have a clear opening width of 850mm or wider, dependant on approach.

All M4(3) category 3 apartments have an unobstructed 300mm on the pull side of the door and 200mm on the push side of the door, adjacent to the leading edge.

All M4(2) category 2 apartment doors have an unobstructed 300mm to the side of the door adjacent to the leading edge on the pull side only. The pushing force required for opening doors will not exceed 30N from 0° (the door in the closed position) to 30° open, and not more than 22.5N from 30° to 60° of the opening cycle, as recommended in Approved Document M and BS 8300.

Communal Corridors

Communal corridors have a minimum clear width of 1200mm as recommended in Approved Document M and BS 8300.

The corridor width is increased to 1500mm where M4(3) category 3 apartments are located.

Vertical Circulation

Staircases
Access stairs will have a minimum width of 1200mm and will be designed to the recommendations set out in Approved Document M and BS 8300.

Risers will be set uniformly throughout. All treads will be 250 mm or greater and will have a rise of between 150 mm and 170 mm. Each stair will have no more than 12 risers in each flight.

Handrails will be placed along both sides of all stairs and have a 300 mm overhang at landings. Handrails will be continuous around the half landings.

A slip resistant, tactile nosing is proposed to the nose of each tread, which will also provide colour contrast. The landings will have a similar slip resistant, tactile finish to denote the bottom of flights.

It is proposed that wall mounted visual and tactile level indicators and circulation route signage will be provided on stair landings, in accordance with the recommendations set out in section 9.2 of BS 8300.

Escape stairs / Fire-fighting stairs will have a minimum width of 1100mm, and will be designed to the parameters set out in Approved Documents B and K and the width will be dependent on the expected occupancy of the building and flow rate of escape. Escape stairs / Fire-fighting stairs will, however, include Document M features where possible, to assist ambulant disabled people - i.e.:

- Handrails will be placed along both sides of all stairs and will have a 300 mm overhang at landings. Where a stair has two or more flights the handrail will be continuous around the half landings.
- A slip resistant, tactile nosing is proposed to the nose of each stair to the recommendations set out in Approved Document M, which will also provide colour contrast. The landings will have a similar slip resistant, tactile finish to denote the bottom of flights.
- Stair landings will have visual and tactile level indicators (in the form of an embossed or sunken sign on the wall adjacent to the stair) and circulation route signage in accordance with the recommendations set out in Approved Document M and BS 8300.

Passenger Lifts
The passenger lifts will have an internal dimension of 1100mm by 2100mm which is greater than the recommended minimum. An 1100mm wide lift requires a wheelchair user to reverse out, therefore consideration will be given to the installation of a mirror to the rear wall of the lift car to assist egress.

Internally the lift cars will be designed to the recommendations set out in Approved Document M, BS8300 and to BS EN 81-70 and BS EN 81-1.

All lift call buttons will be made distinct by illumination, surrounding each button. The call buttons will have tactile relief selectors. It is proposed the lifts will have audible announcements at each floor, and lift lobbies will have visual and tactile level indicators and circulation route signage at each floor.

Finishes

Visual Contrast
Visual contrast has been considered throughout each building. Visual contrast has been considered within confined areas such as small lobby areas, where a person with a visual impairment may be too close to the surrounding walls to differentiate between different surfaces and finishes. Visual contrast has been achieved between the junction of the wall and floor, and wall and ceiling, by means of contrasting finishes and colour.

Flooring
Internal entrance lobbies and lifts have a shell limestone floor finish. Internal stairs have a vinyl floor finish at low level and carpet on the upper levels.

All finishes will be slip resistant (requires test upon installation), hard wearing, firm, level and easily maintained. Upper floor lobbies have a carpeted floor finish. Entrances have also been provided with heavy duty door mats to aid the removal of moisture and soil upon entry. The surface of the mat will be level with the surface of the adjacent floor finish.

All Internal floor surfaces are flush and will not impede the movement of wheelchairs.

Signage
There are 1.5 million people with a learning disability in the UK, of which approximately 30% have a sight impairment, and 40% have a significant degree of hearing loss (Section 1.2.3, “Good Signs”, Disability Rights Commission).

Signage will be developed to be clear, concise and consistent, and suitable for people with visual impairments and learning disabilities, such as dyslexia, as described below:

- CLEAR - Easy to see and understand, with large print in a clear typeface, with good contrast and low glare. People with learning disabilities would benefit from an increased use of pictures on signs, in addition to, or independent from text..
- CONCISE - Simple, short and to the point
- CONSISTENT - Signs meaning the same thing should always appear the same.

16.8 Residential Means of Escape

It is proposed that in the event of a fire, disabled people, in the apartment of fire origin, will make their way to the protected lobby on their respective floor to await the arrival of the emergency services. It may be possible to use the lift at this point if it has not grounded, however the lift is not designed to facilitate evacuation, and any evacuation philosophy for occupants should not rely upon the lift.

The fire alarm provided within the building instigates evacuation of the fire affected apartment only. No fire alarm, at any level, will be sounded in unaffected apartments. All occupants on upper levels will stay in their apartments unless advised by the emergency services to evacuate.

16.9 Conclusion

Design development will aim to maintain and improve accessibility throughout each building. The Mill Hill development has been designed with inclusive access in mind, and has taken into account relevant policy, regulations and good practice. This will be maintained and developed further at detail design stage.

This access statement has explored both access and egress issues, to and around the site as well as within the buildings themselves. Consultation on accessibility throughout the design process has resulted in the inclusion of use by disabled people.

Options will continue to be considered to ensure the buildings are accessible. Further access assessment and consultation will be required throughout any future design progression.

18.1 Public Consultation

Extensive public engagement has been carried out in an effort to engage with the local community and key stakeholders. This includes local resident groups, political stakeholders and local amenity groups.

The objectives of the exhibition were to involve local people and groups in developing revised proposals for the site, to ensure that the consultation was accessible to all, and to help to create a development that meets the needs and aspirations of the local area. The consultation and engagement programme has included:
Approximately 4,003 flyers were distributed ahead of the exhibition. These invited local residents to the event, provided some information about the proposals, and included contact details for the project team.
Pre-exhibition pop up events were deployed to initiate first contact with local stakeholders and the general public. The Public Exhibitions were organised to continue engagement with stakeholders, display the proposals and garner feedback. Two public exhibitions were held. The first on Saturday 9th March 2019 between 10 am – 2:30 pm at the RAF Museum, NW9 5LL. The second Tuesday 12 March 2019 at Hartley Hall, 1 Flower Lane, NW7 2JA. The venues were fully accessible and well known to local residents.119 people attended. Project website. A project website www.pentavianewhomes.co.uk was created so that local people could view details of the proposals online. This was updated throughout the project.

Briefings with local groups and politicians. The Applicant was keen to engage community groups with an interest in the scheme.

The following political stakeholders were invited to the exhibition as well as one-to-one meetings to discuss the proposals:

- Mill Hill Ward Councillors
- Neighbouring Ward Councillors from Hale and Colindale
- MP for Hendon – Matthew Offord MP
- GLA representative for Camden and Barnet – Andrew Dismore

The following groups were invited to receive a briefing on the proposals prior to the public exhibition:

- Mill Hill Residents Association
- The Mill Hill Preservation Society
- Mill Hill Neighbourhood Forum

Residents 'enquiries. Throughout the consultation process, a dedicated telephone number, e-mail and Freepost address were supplied and managed by BECG; providing further information to residents, businesses and stakeholders on request.

Overall, 119 people attended the exhibitions providing a range of views. Positive comments included:

- Affordable housing – support the idea of redeveloping the site to provide 41% affordable housing
- Affordable housing mix – support the range of affordable housing options on offer which would benefit the wider range of people
- Housing for key workers – support the idea that key workers in the borough, such as doctors and teachers, could benefit from housing on the site
- Site regeneration – supported the regeneration of the currently underutilised retail park site

There were also questions raised by attendees and consultees regarding the following concerns:

- Height- comments were made regarding concern for the height of the development. Many residents questioned the height of the scheme and whether it would be visible from their communities and homes. Local residents also queried whether the view of the scheme would impact on housing values in the area.
- Strain on local services- comments were made by attendees who were concerned about the possibility of strain on public services, specifically local transport. Many people, questioned whether local transport services would be impacted by the development. Others were concerned about waiting times at GP surgeries.
- Parking- some residents were concerned about the level of parking compared to the density of homes. Residents referred to current concerns about car parking and whether this would affect current parking levels going forward.
- Traffic- some attendees were concerned about the effect that the new residents of the proposals will have on traffic in the surrounding roads.
- Density- comments were made regarding the proposed density of homes. Some felt the site constituted over-development. The Applicant proposed this density due to the requirement of providing affordable housing on the site.
- Pollution- people were concerned about air pollution around the scheme.







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