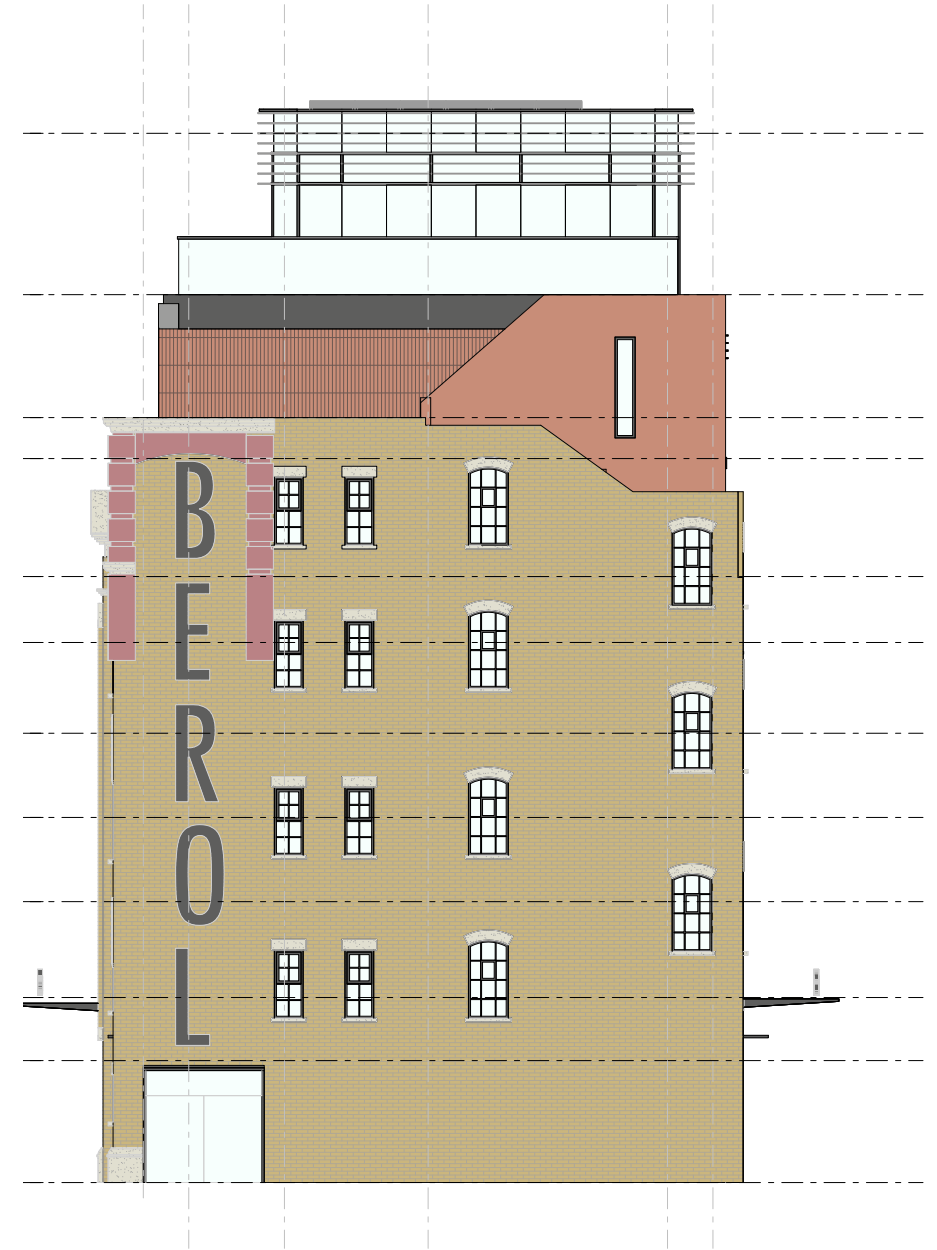
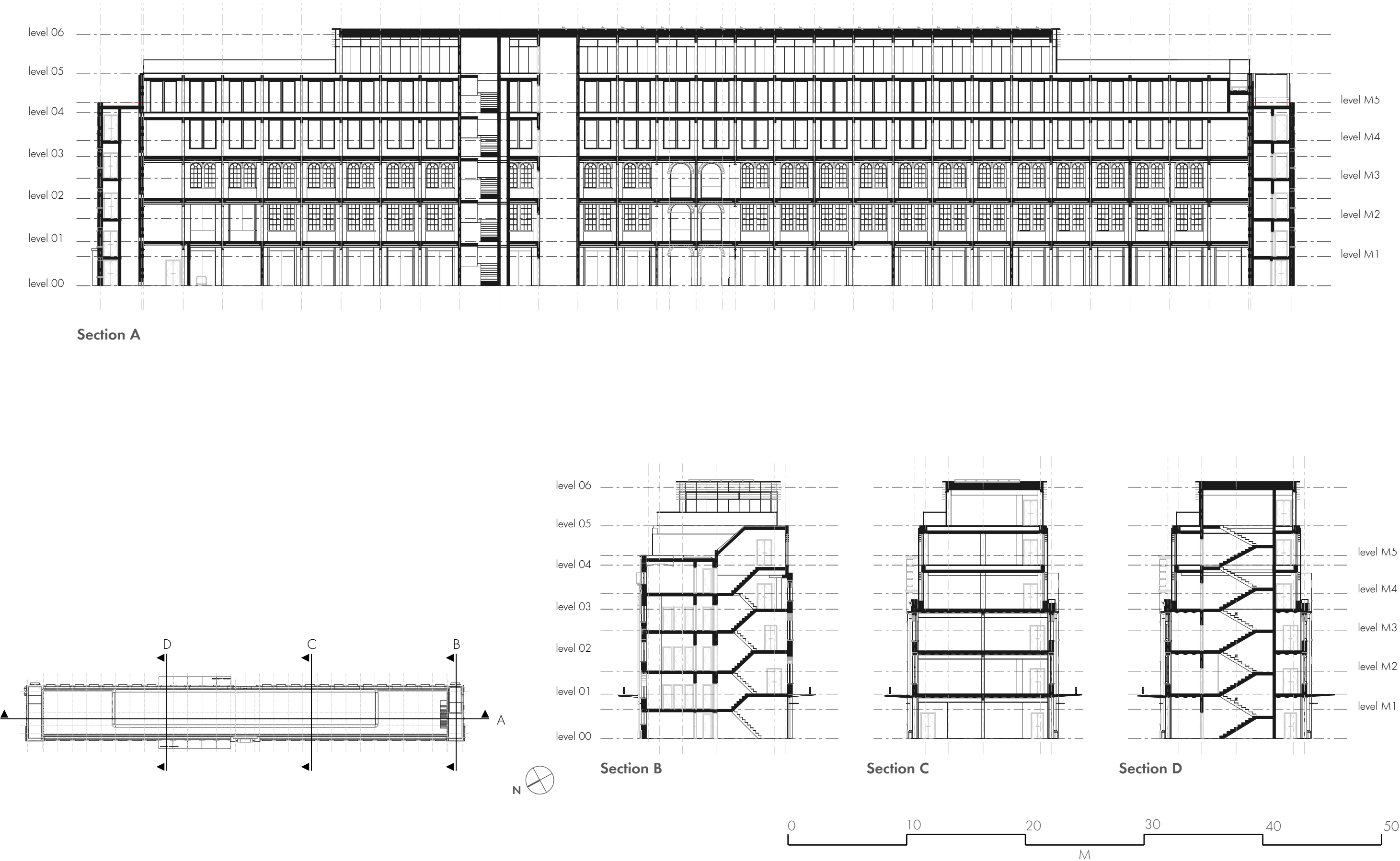




South elevation

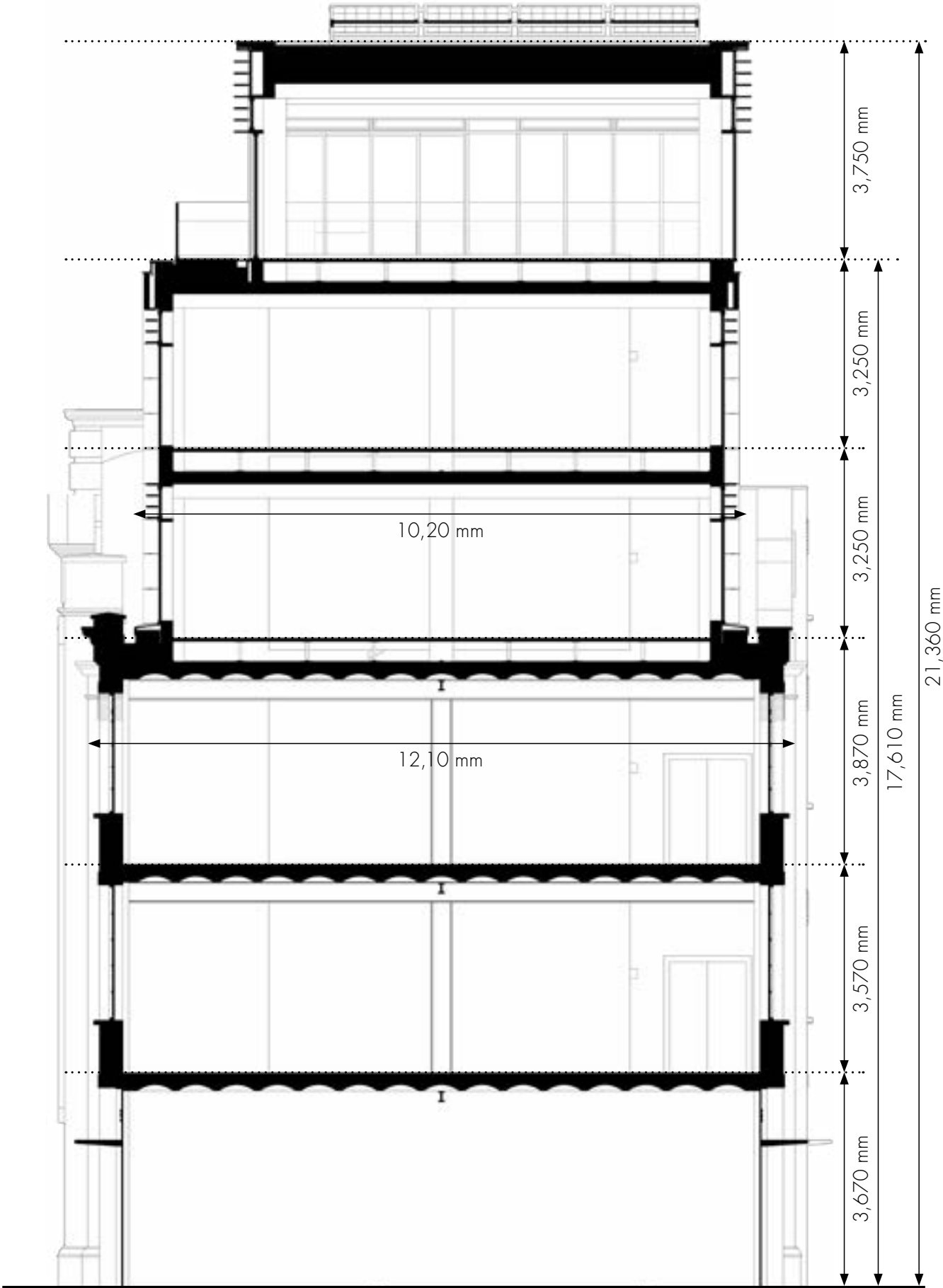


5.3.2 Sections

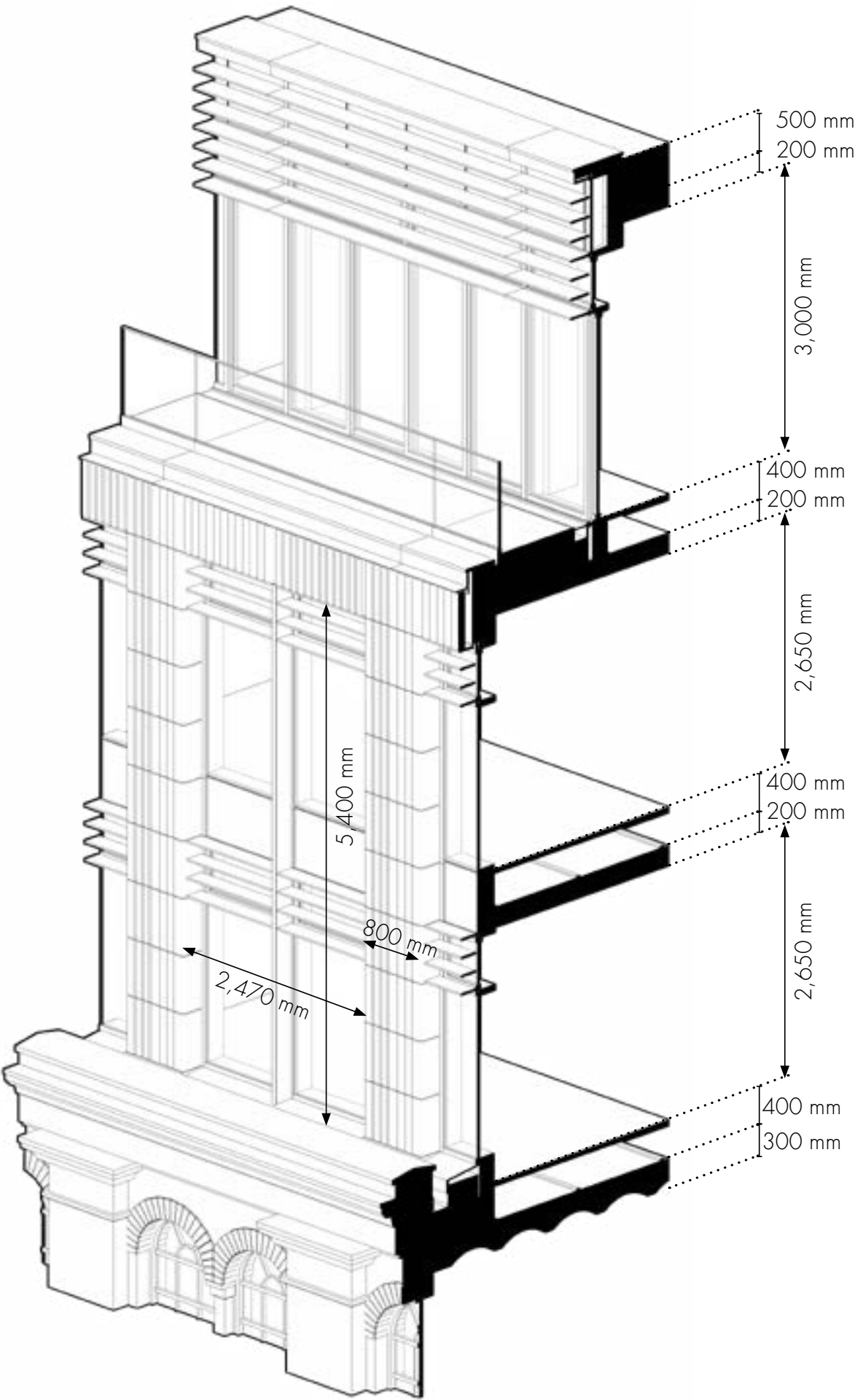


*All drawings and areas contained in this chapter are subject to site and building survey

5.3.3 Main dimensions



Typical cross-section



Typical proposed facade bay axonometric

5.3.4 Architectural expression

The sympathetic relationship of the new elements of construction to the existing building's façades has been a key consideration in the development of the proposed design.

The basic hierarchy follows a classic tripartite relationship with the existing building acting as the base and the progressively recessed new floors offering the stylobate and roof orders.

The building has a simple bottom, middle and top and the alignment and proportionality of each floor gradually "lightens" with more glazing as the building gets higher. This guarantees the status and legibility of the existing building but also offers an opportunity for the new building to be articulated as a confident modern addition.

The clarity of the whole composition invested with a unifying grid, but with a clear and honest expression between new and old elements of construction is at the heart of the design.

Later chapters in this report will outline the care and consideration given to the choice of the materials for the new façades to match the existing, but critically to offer new improved thermal and embodied carbon performance.

In this regard, a key design is the replacement of the existing glazing in the original building, none of which is original and would not satisfy the regulatory requirements and sustainability targets for glazing to offices.



View from Berol Square



View north from Ashley Road



View of the main entrance from Berol Link



View of the south gable end from 2 Berol Yard



View from Berol Square

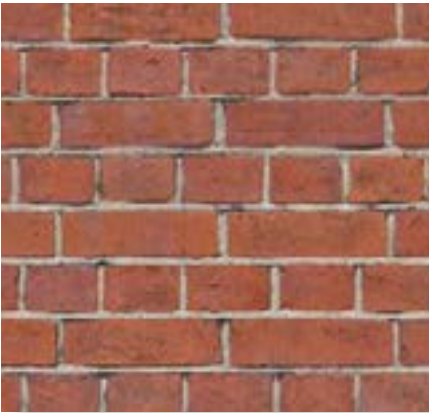
5.4 Material strategy

5.4.1 Precedents



Selected architectural precedents for extensions to existing buildings

5.4.2 Berol House materiality



RED BRICK



YELLOW BRICK



BEIGE CONCRETE DETAILS



5.4.3 Material palette

Existing building palette

1. Yellow brick
2. Red brick
3. Beige concrete details



Extension palette

1. Powder coated metal
2. Metalwork weathered steel
3. Double glazing
4. Terracotta tiles



5.4.4 Terracotta glazed facade

Terracotta has been one of the most beautiful and long-lasting building materials for centuries. It has recently been embraced as a natural and timeless medium for modern rain screen and sunscreen design. A variety of panel lengths and heights can be utilized to create a modern, natural aesthetic.

Terracotta cladding is continually evolving from the 90s technology of 600 x 300 red tiles to now versatile and bespoke glazes, shapes and solutions.

The advantages of Terracotta as a facade material:

1. Unique decoration element with versatile expression of building aesthetics thanks to its wide range of shape, finishing and colour selection.
2. Safety - Terracotta is non-combustible and has a high-breaking strength and low linear thermal expansion. Terracotta is suitable for high-rise buildings, resistance to high earthquake degree and wind load. Compared with stone, it is much lighter which significantly reduces the building load.
3. Green material - Terracotta is environment friendly. Made of natural clay, Terracotta is non-radioactive, non-polluted, 100% recyclable and energy-saving. Due to its cavity structure, terracotta has low thermal conductivity, good thermal insulation performance and acoustic performance.
4. Easy Installation- Terracotta is relatively light material with precise size which ease the installation, and its cladding system is mostly open system without sealant work.



5.4.5 Facade composition

Kit of Parts

The fundamental issue in the development of the new design proposal is to ensure that the materiality and constructional methodology of both the new and adapted elements of construction meet all current and future performance criteria for buildings in this sector and use class.

The possibility of using modular construction using high sustainable materials and low carbon mass timber prefabrication will build on huge carbon saving of retaining the existing building.

The very real ambition of this project is to create an exemplar of sustainable adapted re-use design both in the borough and nationally.

Berol House can continue to perform to the very highest standards of sustainable design leaving an enduring legacy to future generations.



View from the extension facade south side of Berol Link

1. Powder-coated window louvers
2. Powder coated window profile
3. Double-glazing swing window
4. Double-glazing fixed window
5. Opaque fixed glass
6. Insulation
7. Metalwork weathered steel
8. Terracotta tiles
9. Alu. sub-structure fixation system
10. Safety glass balustrade
11. Double-glazing sliding window
12. Raised access floor system
13. Mass timber structural column
14. Mass timber structural framing
15. Green roof



5.4.6 Fire safety strategy

AESG has been appointed by Berkeley Square Development to provide a RIBA Stage 2 Fire & Life Safety Strategy for Berol House. The purpose is to demonstrate that the design achieves the functional requirements of the Building Regulations 2010 as amended in 2018.

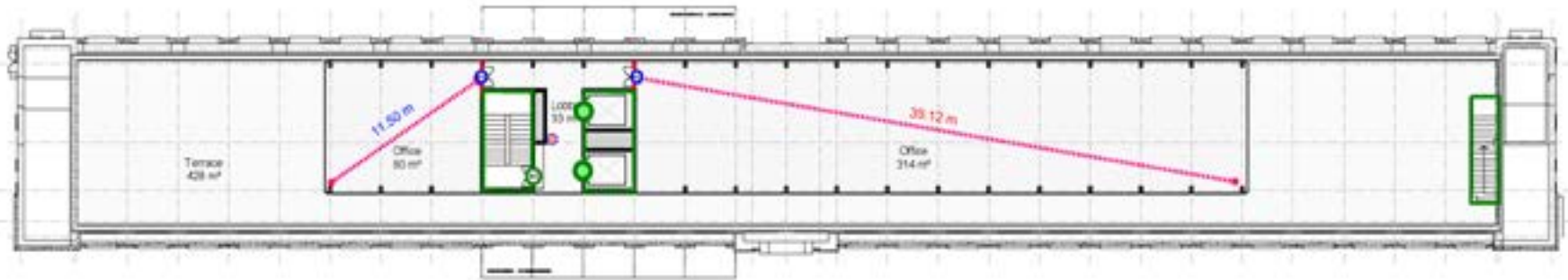
Fire safety in buildings is governed by Part B of Building Regulations (2010, as amended in 2018). To achieve compliance with Part B of Schedule 1 of the Regulations, the following sections have been addressed:

- B1: Means of Warning and Escape
- B2: Internal Fire Spread (Linings)
- B3: Internal Fire Spread (Structure)
- B4: External Fire Spread
- B5: Access and Facilities for the Fire Service

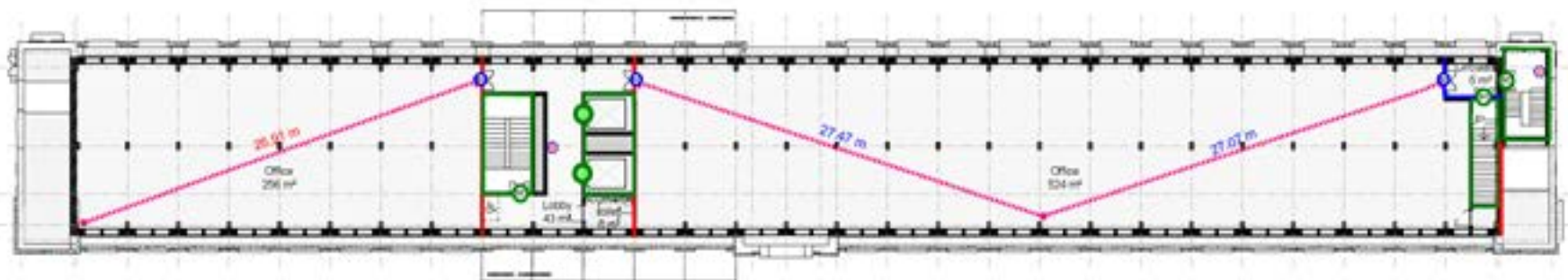
Approval of the building design will be sought during the Building Regulations application. Responsibility for deciding if the requirements of the Regulations have been met rests with the Building Control body. The Fire Service will also be consulted as part of this process.

*This information is from the AESG fire and life safety strategy. Please refer to the Stage 2 Fire and Safety Strategy document for further information.

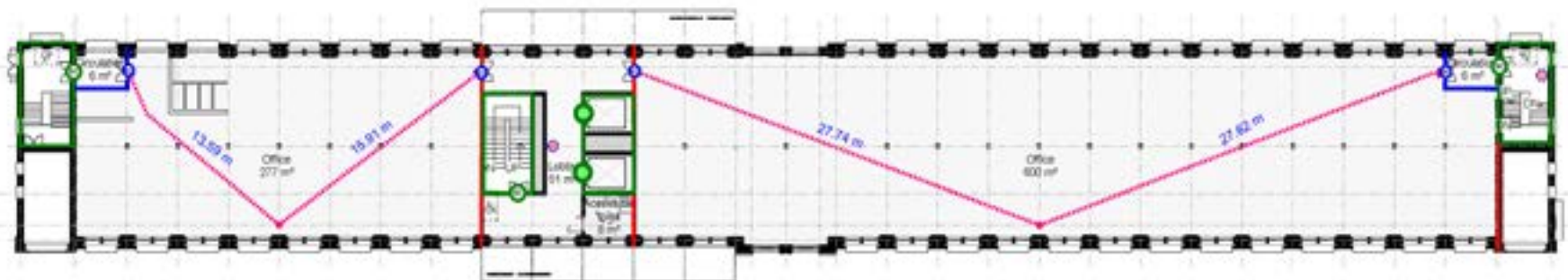
- 60 min. fire-resist. constr. for lift & stair
- 60 min. fire-resist. constr.
- 60 min. fire-resist. constr. for corridor
- FD30S Fire Door (smoke seal) + Self-closure for protected stair
- FD30S Fire Door for lift
- FD30S Fire Door (smoke seal) + Self-closer
- Dry Riser inlet
- Dry Riser outlet



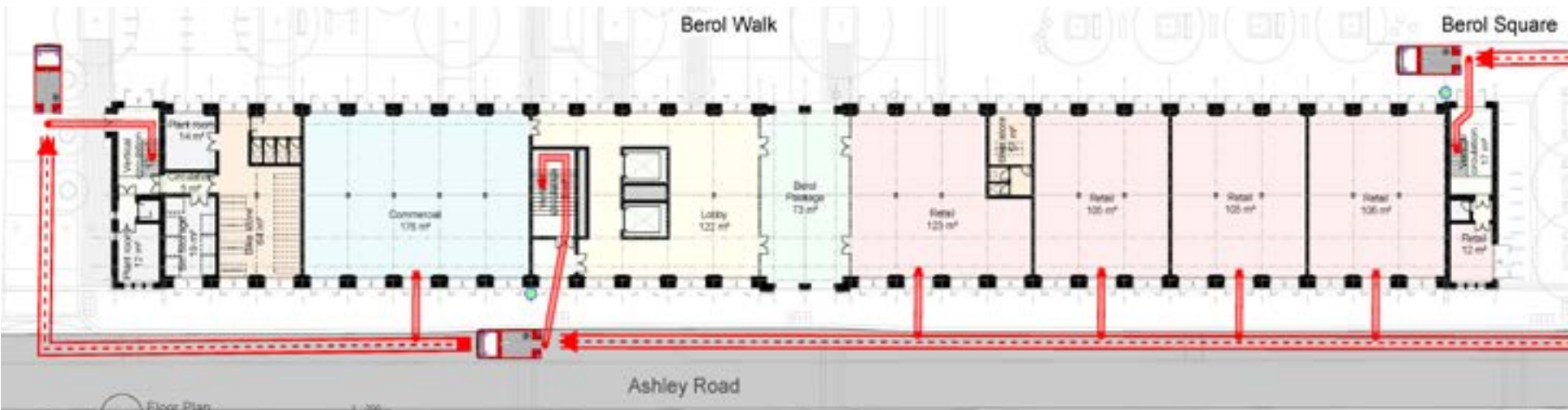
Level 05 _ Roof terrace (proposed FFL. +17.61m)



Level 04



Levels 01, 02, 03



Level 00 _ Ground floor

5.4.7 **Waste management strategy**

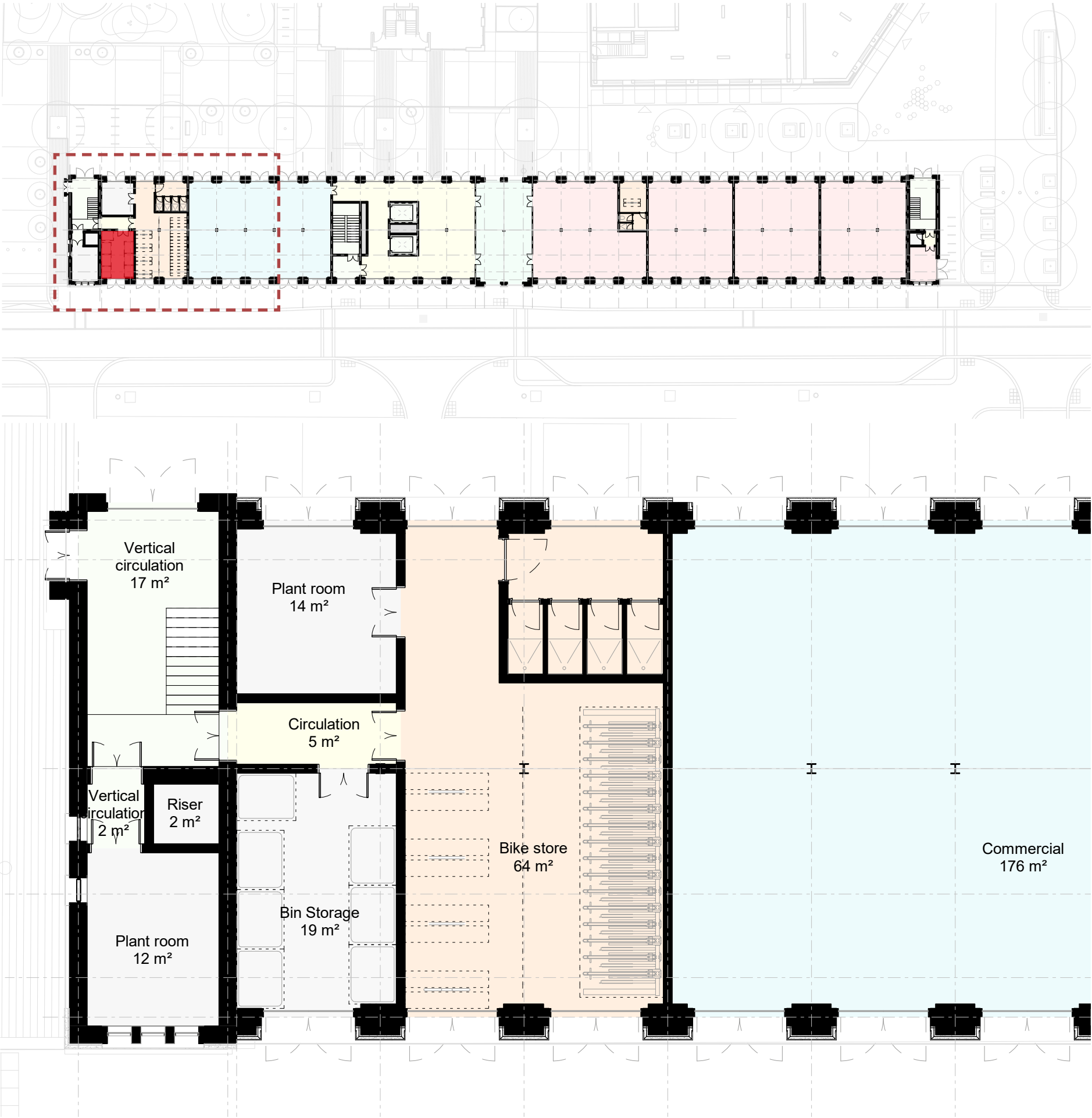
A Waste Management Strategy has been produced by Berkeley Square Developments Ltd to support the planning application of the Proposed Development. The waste strategy has been developed from the relevant policy from the London Plan (2021) and the London Borough of Haringey has been used to set out the expected waste demands for each use and the proposed strategy.

All occupiers of Berol House are commercial tenants. Each commercial tenant will provide a suitable waste storage area within their own demise.

In addition, a dedicated commercial waste bin storage area is located on the ground floor to allow RCVs to collect the waste as arranged directly by the commercial tenants. The tenants will be responsible for depositing their waste in the commercial bin store.

An area of approx. 19 sqm has been made for the provision of 7 no. 1,100 L bins.

Please refer to the Waste Management Strategy for full information.



Location of the ground floor bin storage

5.4.8 Sustainability

The climate crisis is one of the biggest threats our society faces. As designers and developers we have a responsibility to reduce the impact on the environment of the construction process, in-use and end of use of the building.

Responsible design is embedded throughout our design development for Berol House. From the outset our design decisions have been influenced by the imperative of minimising the WLC, both the embodied carbon and operational carbon.

By retaining the existing structure and facade of the existing Berol House the embodied carbon saving is significant. The modular design for the new extension lends itself to prefabrication off-site, minimising waste. Similarly, the proposal for mass timber construction for the additional floors has been selected for its sustainability credentials.

The existing structure of Berol House will have a window upgrade. Openable double glazed windows will improve the thermal insulation and allow for natural ventilation which will reduce the operational energy demand - as well as enhanced user comfort.

The material strategy for the facade for the additional floors has been proposed for its potential low-carbon intensity

The building user comfort and wellbeing will be paramount to the success of the development and has driven the design to include good natural ventilation, daylighting and generous external amenity spaces.



Retain existing building

- Reduce embodied carbon by reuse of existing structure and facade
- Minimal intervention to the existing facade (lean design)

Utilise roof space

- Biodiversity
- Increase thermal performance with : landscaping / green / brown roof
- On site solar panels to create renewable source of energy

Optimise new extension

- Appropriate and contemporary lasting design
- Considered carbon intensity of facade materials
- Modular repeated typical bay to enable offsite efficiency
- Minimise on and off site waste
- Facade designed to reduce energy demand

Future flexibility

- Flexible internal layouts
- Potential for demountable building elements for end of use

Upgrade M+E

- Interim gas boilers with future connection to local energy network
- LED lighting

Passive design principles

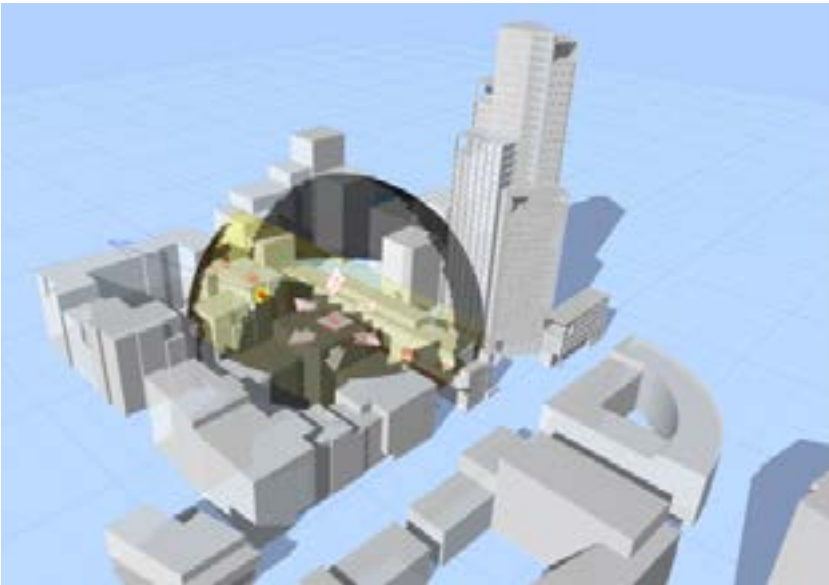
- Design for occupant comfort + low energy use
- Replace windows with double glazing to reduce heat loss / waste and openings for natural ventilation
- Maximise opportunities for natural cross ventilation
- Window openings optimised for natural daylight and solar gain reduction

Enhance worker wellbeing

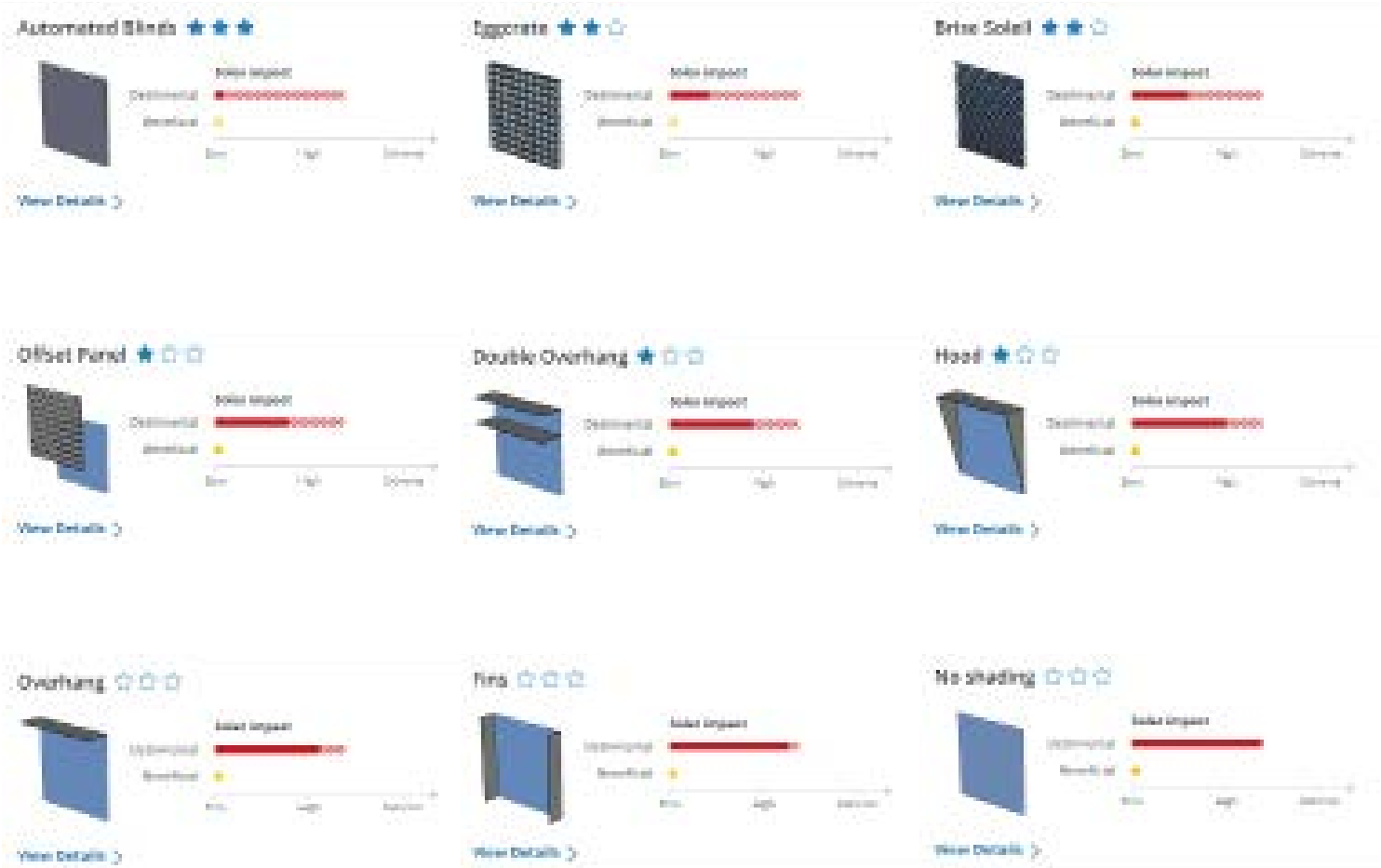
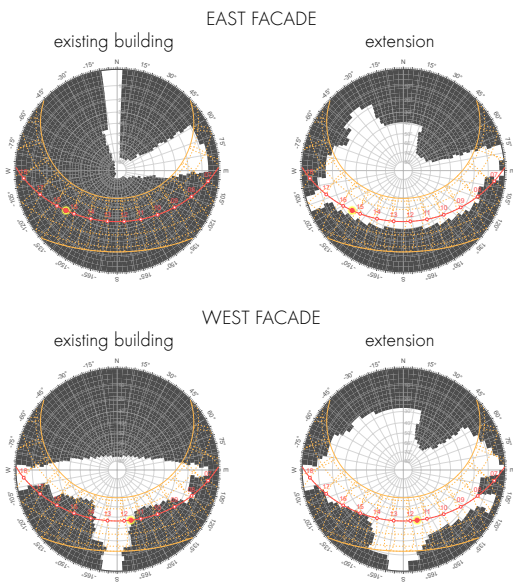
- Improved working spaces, internal layout / finishes / fittings / biophilia
- Cycling amenity
- Biodiversity
- Visual amenity: Roof terrace and enhanced public realm

5.4.9 Solar shading strategy

The design of the façade has undergone various iterations throughout the design process. This is hugely impacted by the rhythm and seriality of the existing building. Daylight/sunlight studies have been carried out which have informed the amendments to the proportions and size of the glazed openings. The final design takes into account an efficient shading strategy to minimize overheating and the use of natural light and ventilation.



Surrounding buildings shading



Facade shading strategies



Facade shading studies

5.4.10 **Design for disassembly**

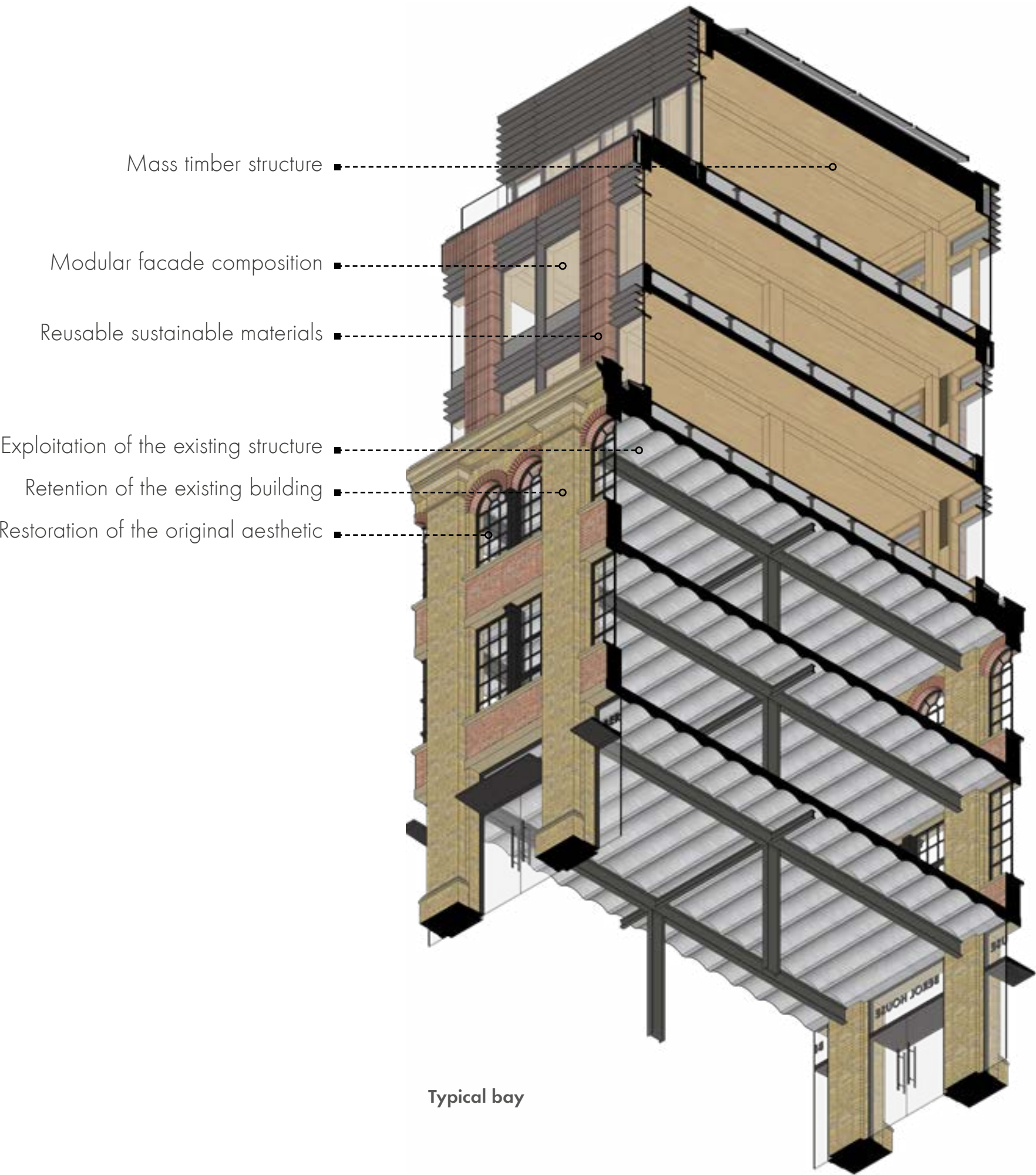
The proposal has been designed to promote the dismantling and recycling strategies for its components, reducing the material demand and extending the use of the materials involved long after the building’s useful life.

The repeating and modular proportions of the existing building promotes the standardisation and serialisation of the components of the new build intervention. The design for the three-storey extension on top of the existing structure is based on a typical 3270mm wide bay that repeats along the 100m length of the building, ensuring modularity is a key element in the design proposal which favours the future disassembly and reuse of the components.

A hybrid structure is proposed for the building. Primarily mass timber construction for the extension and steel where required within the existing building. This sustainable approach to the extension lends itself to a potentially lighter weight structure, the opportunity to maximise spans for internal flexibility, reduces the quantum of internal finishes where the timber can be left exposed and ultimately can be designed for end of life allowing for disassembly and reuse at end of the building’s useful life.

The storage of the proposal information can be encouraged through the use of BIM technologies and Materials Passports, allowing for future disassembly an end-of-life strategy.

The building structure will be designed to the 50-year industry life standard (following British Standards and Eurocodes).



6 Design Proposal: 2 Berol Yard



6.1 The Proposal: 2 Berol Yard

6.1.1 Design Summary

2 Berol Yard is the new building which forms part of Berol Quarter alongside Berol House. It provides 210 rental homes with a mix of 706 sqm flexible retail and commercial floorspace at ground floor level with a community space of 161 sqm and enabling works for a bridge connection over Watermead Way. The build-to-rent accommodation will include 35% affordable housing by habitable rooms and include homes let at London Living Rent and Discount Market Rent.

The proposal comprises of a part 6, part 18, part 25 and part 30 storey building around a central core with a podium to its northeastern edge.

The building is designed as a collection of simple and robust bars dressed in different brick tones drawing on its immediate context. Inspired by the industrial metalwork of the area's industrial buildings and the neighbouring Berol House, the metalwork takes on this industrial detailing to components with expressed mullions, shading and shopfronts.

Aside from the shared public realm and public square at ground level, the proposal will also include seven outdoor spaces through the building to be enjoyed by residents within the building. These comprise of podium gardens with playspace, roof terraces, biodiverse and solar roofs and a resident's Sky Terrace on the 30th floor.



Photocomposite view from above Down Lane Park looking south of emerging schemes in the Ashley Road South Masterplan with site highlighted in orange.

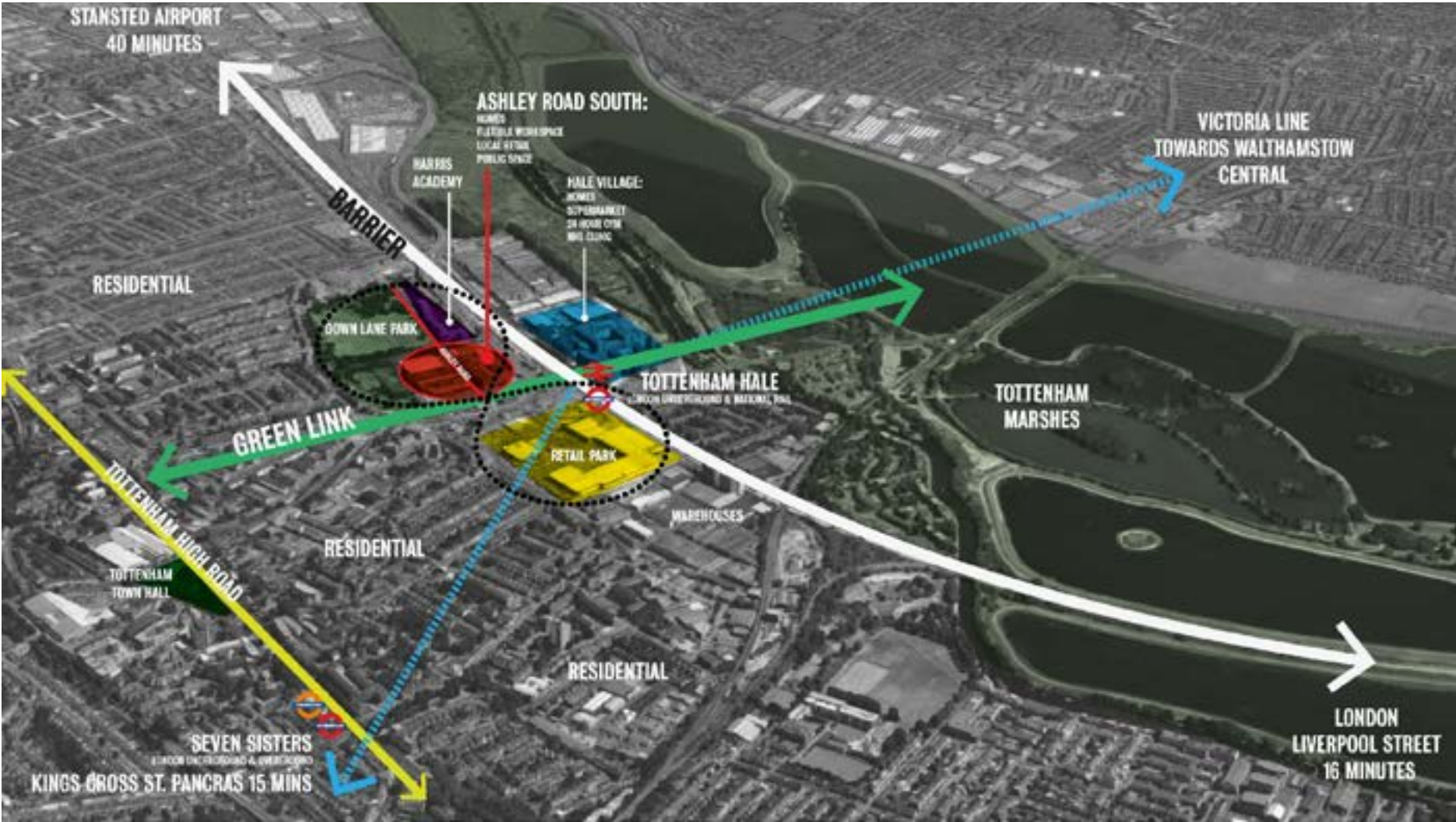
6.2 Approach to Site

6.2.1 Responsive to Context

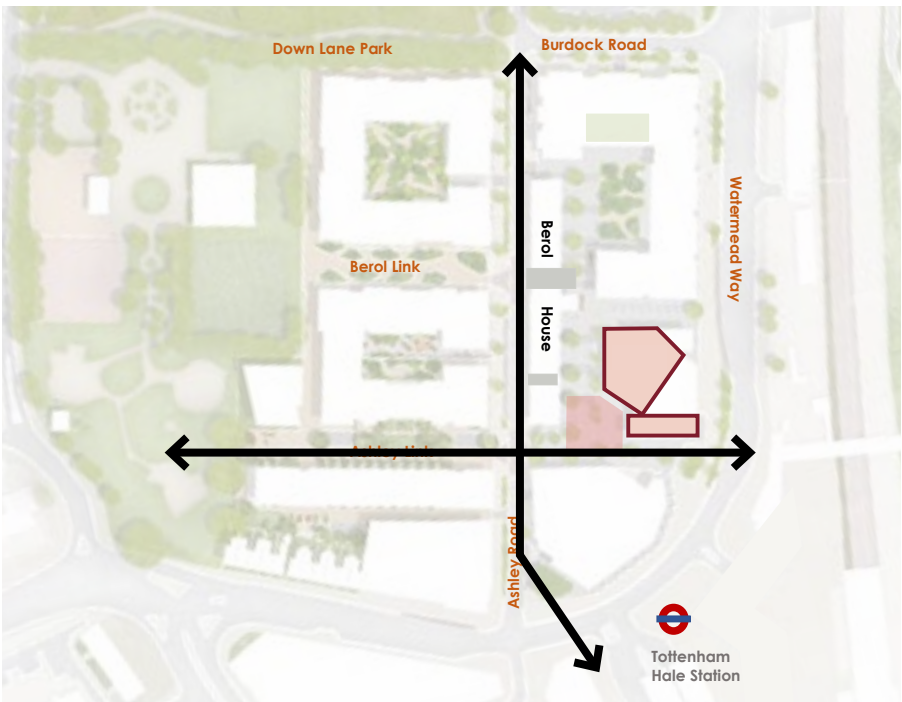
Description of Site

As set out in Chapter 2 “Site and Context”, 2 Berol Yard site is located on the intersection of several principal routes, in close proximity to an important transport hub, Tottenham Station, and a building of historic relevance, Berol House, previously the Berol Pencil Factory.

The site is a special location in Tottenham. Along with Berol House, it marks the active junction of the Green Link, a key east-west active pedestrian-led landscaped route and Ashley Road, the north-south route that connects the station to Down Lane Park making this location a significant local neighbourhood node as the heart of Berol Quarter.



Strategic routes as diagrammed in the District Centre Framework



The site is located near an important transport hub and network of routes

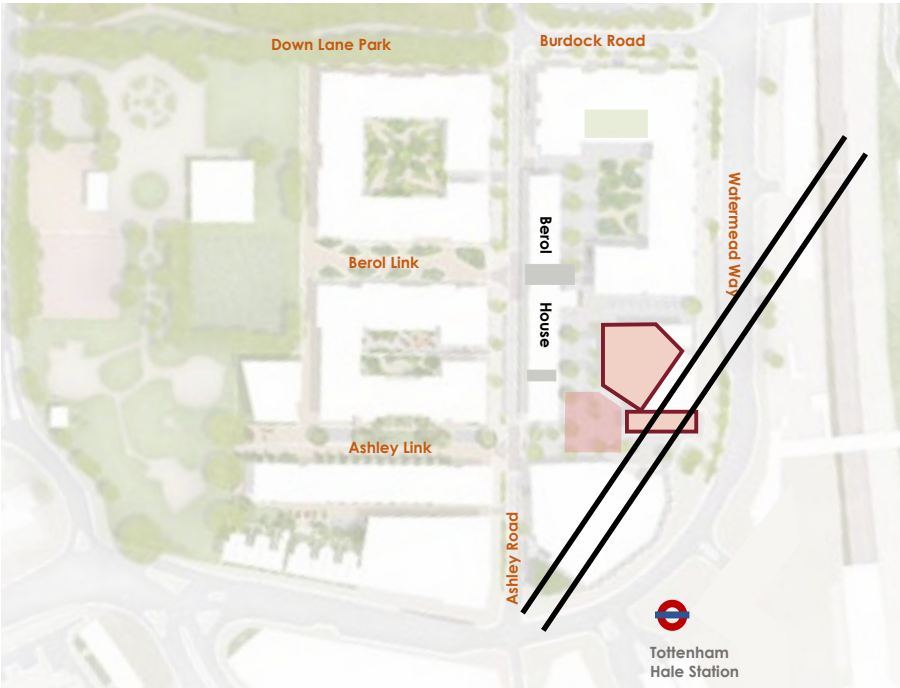


View of a model showing Berol Quarter located on the intersection of principle routes

Constraints

The Victoria Line Tunnel

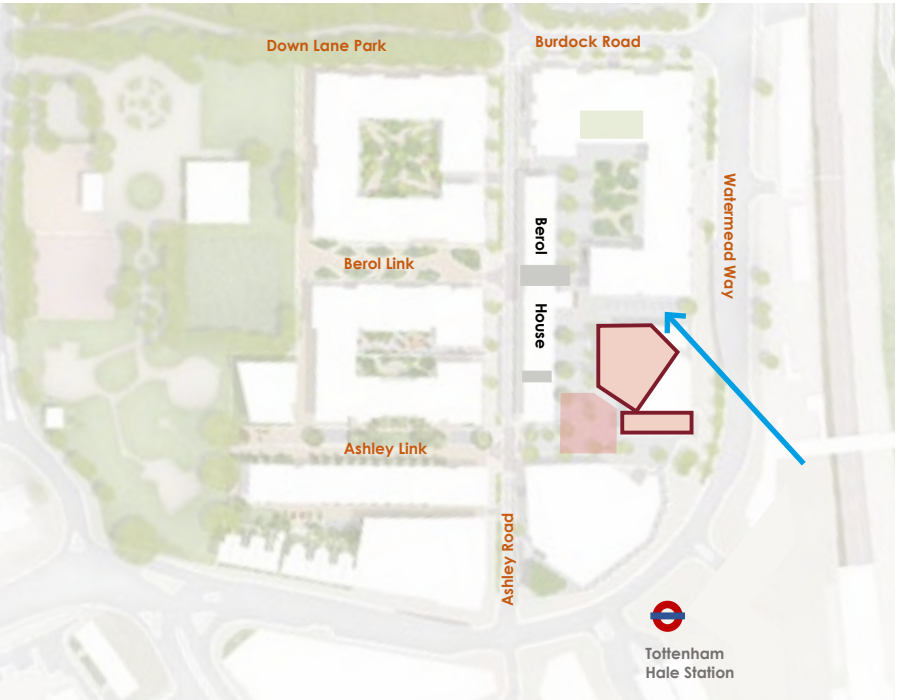
Below ground, the tunnel for the Victoria Line Underground runs from southeast to northwest and tranverses the site. Any building proposed will need to limit loading onto the tunnel and avoid carbon intensive structural transfers over the Victoria Line.



Line of Victoria Line tunnel below site

Daylight Access to the Gessner Building

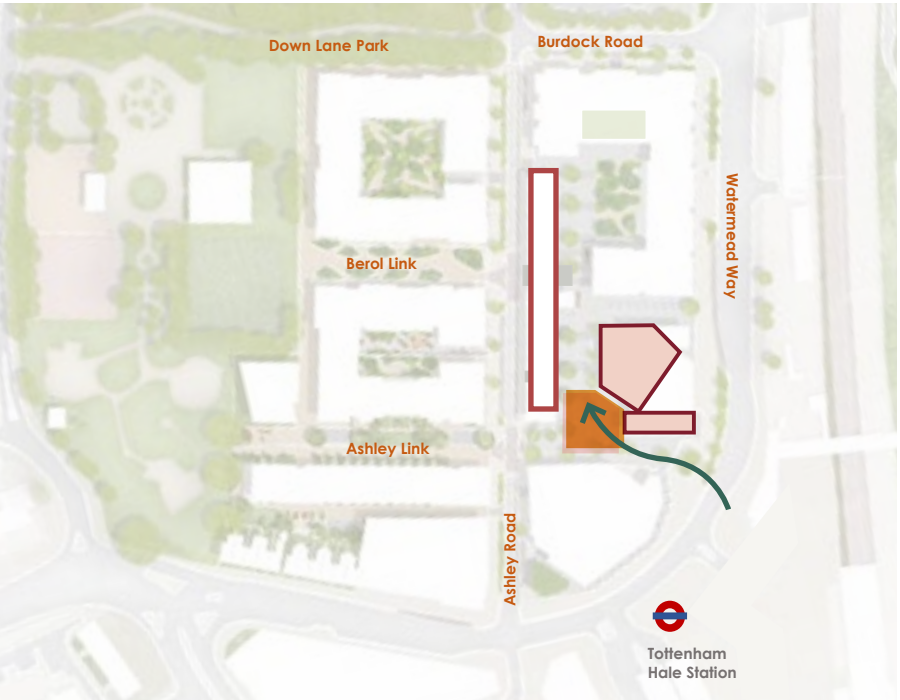
The south elevation of the Gessner Building consists of windows to residential units. Whilst development to the south has always been expected, access to daylight has been an important consideration in the design evolution.



Chamfer to northern edge to provide access to daylight for Gessner

Tottenham's Heritage at the Heart

To celebrate Tottenham's local industrial history, there is an opportunity to locate the public square inwards from its previous proposed location on Watermead Way to feature the handsome Victorian elevation of Berol House as its backdrop. The proposed building for 2 Berol Yard would complete this local square and be shaped to invite visitors into the space.



Public square located in front of Berol House with chamfer to southern edge of new building

Opportunities

Optimise the use of the site

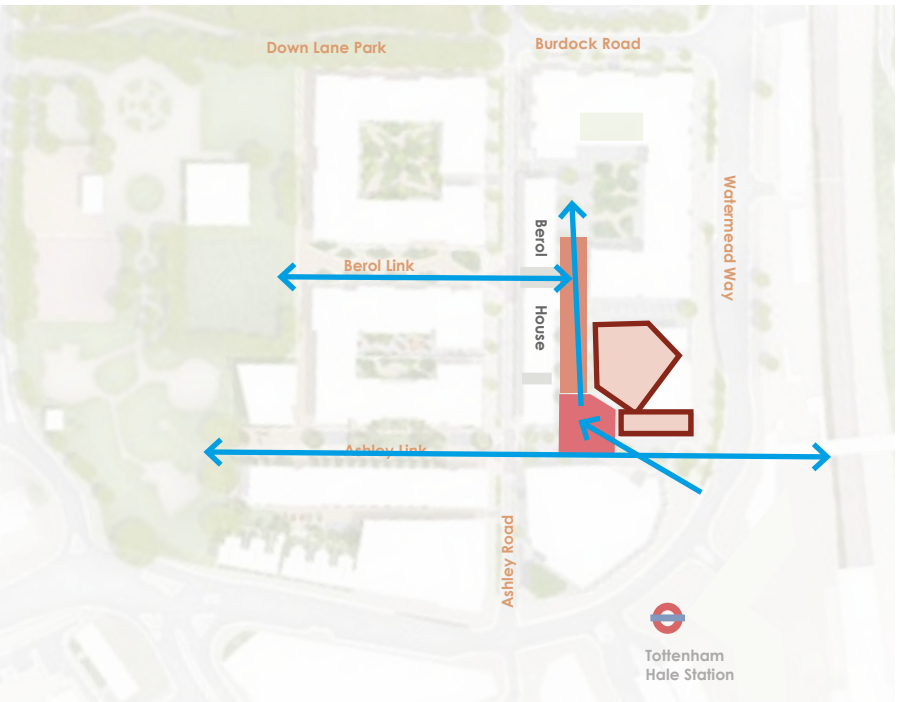
Replace a surface car park with a new, well articulated and responsive building to provide a mix of uses: new homes, community space, retail, amenity, more vegetation and landscaping and new public spaces



From car park to new uses

Activate the ground plane

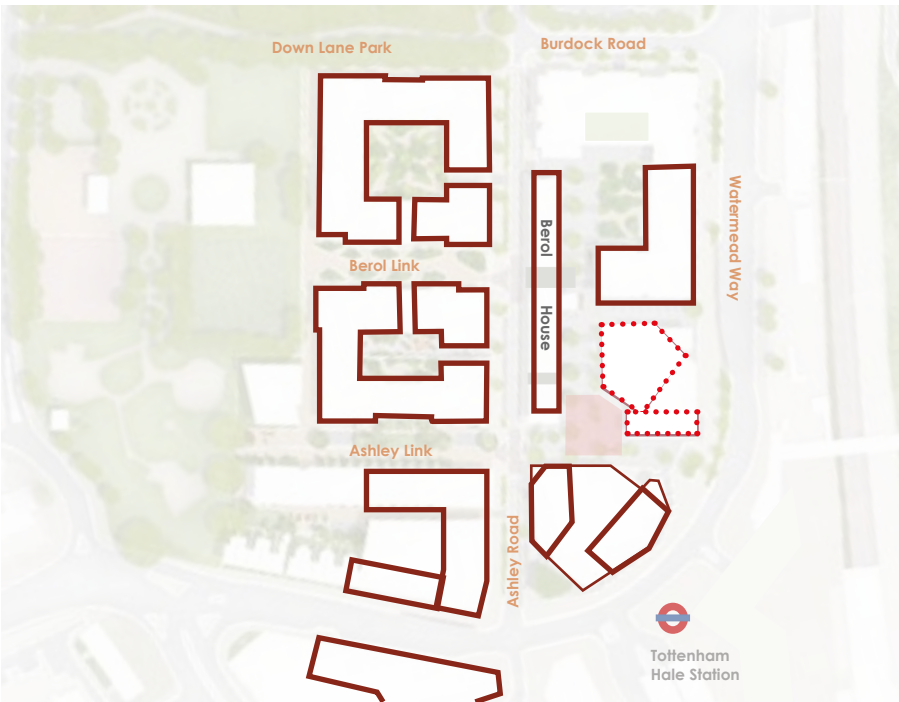
Improve existing desire lines and create new public spaces which can be supported by activity from footfall generated by a well considered mix of uses



New public spaces and activity

Complete the puzzle

The surrounding context has undergone rapid change in recent years, 2 Berol Yard is the last piece which will complete and consolidate this part of Tottenham Hale. It is an opportunity to respond to the new emerging built context, whilst laying foundations for longer term improvements to the neighbourhood and district.



A newly formed surrounding context

6.2.2 Connections & Placemaking

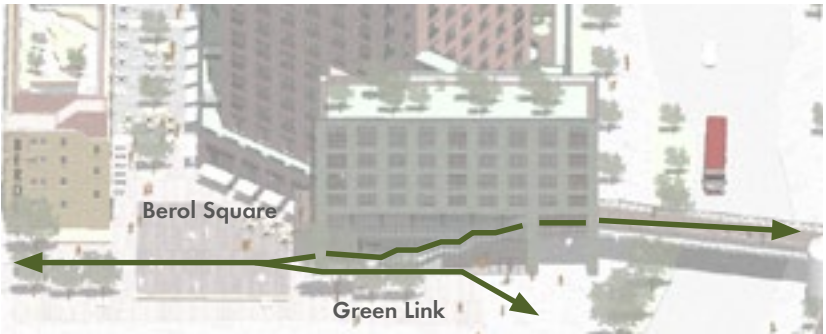
Activating the Green Link

2 Berol Yard is well positioned to help deliver the vision of the Tottenham Hale District Centre Framework providing a new local square, Berol Square and the continuation of the Green Link to Hale Village and the marshes beyond.

As part of the Tottenham Green and Open Spaces Strategy, the Tottenham Green Grid Bridge Study proposed to land the bridge into the public route thereby narrowing the width of the Green Link. The proposal in this scheme seeks to improve this by providing within its footprint the landing to receive the road bridge, public stairs and lift to optimise the area available for the Green Link.



Excerpt from Tottenham Green Grid Bridge Study landing bridge in Green Link.



Sketch axonometric looking from south towards Berol Square showing the Green Link



The proposal marks the Green Link, a vital part of the active travel network



2 Berol Yard facilitates the future Road Bridge link by providing a landing to receive the bridge, stairs to the public realm and a lift

6.3 Scale & Massing

6.3.1 Fragmented form

Defined by its siting

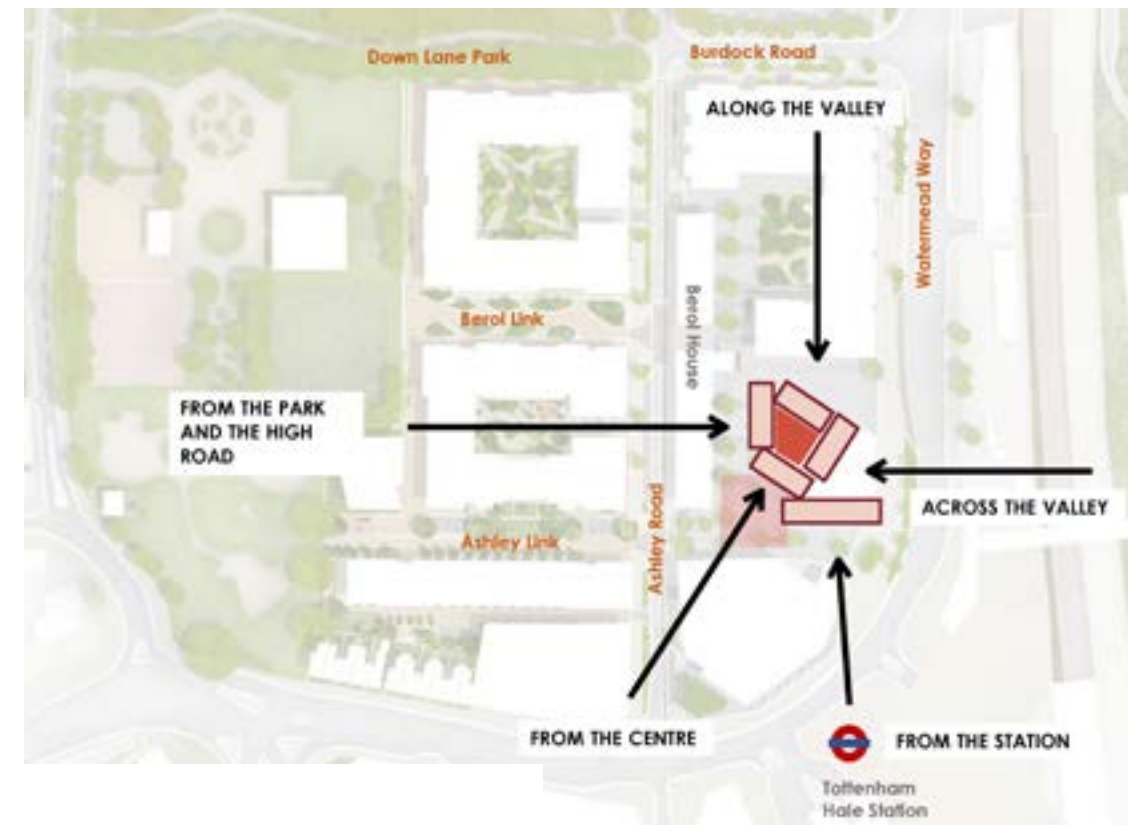
The site footprint of 2 Berol Yard is derived from the culmination of the constraints of the tunnel, the respect of neighbouring access to daylight and the opportunity to define the Green Link and its surrounding routes and spaces. Its resultant rotated geometry also provides good access to light for internal accommodation with no directly north facing spaces within.

Informed by use

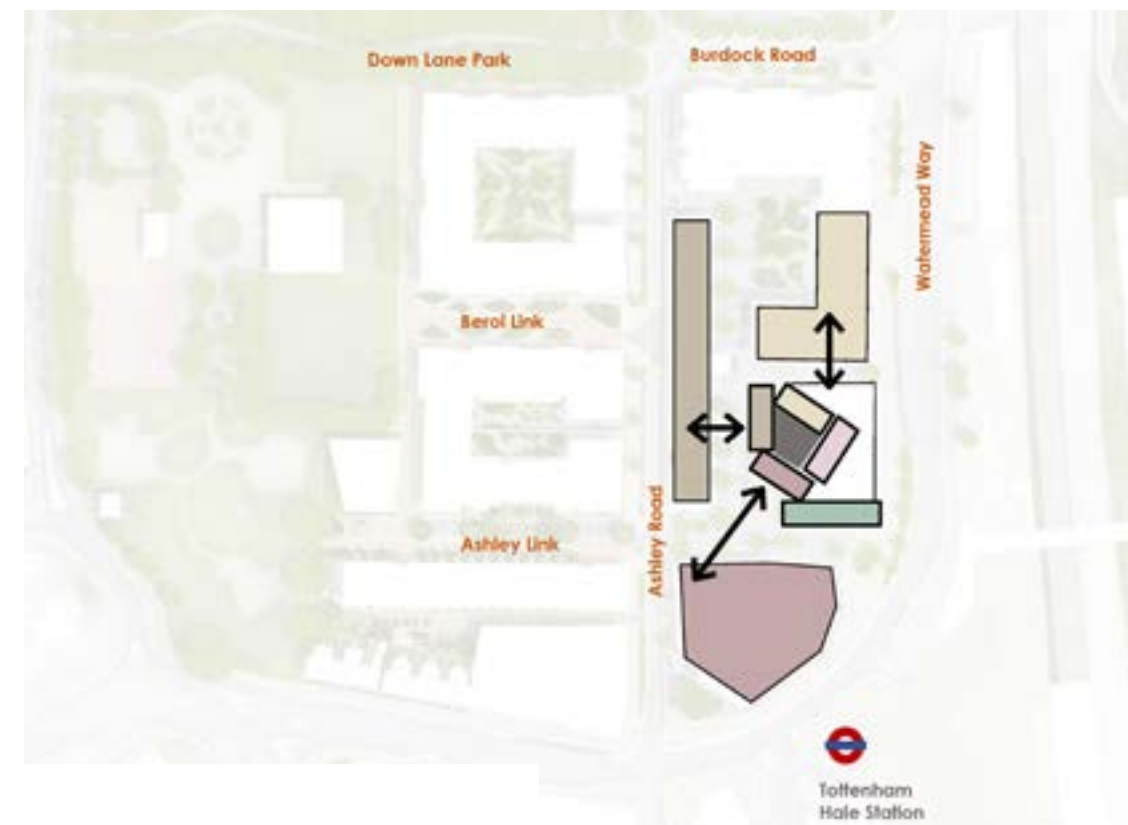
The building is articulated as a series of brick bars that fragment as a responsive form. Each bar presents a different identity to the context it faces. This also provides an opportunity to optimise dual aspect for the residential units within the building.

Inspired by context

As the last piece of the puzzle that completes the Ashley Road South Masterplan, the proposal of 2 Berol Yard has the ability to respond to the retained, emerging and built context, taking inspiration from their materials, facade rhythm and articulation. Together, the six parts are of different heights and tones for each orientation, resulting in a dynamic collection of forms that have a different appearance when viewed from different surrounding viewpoints.



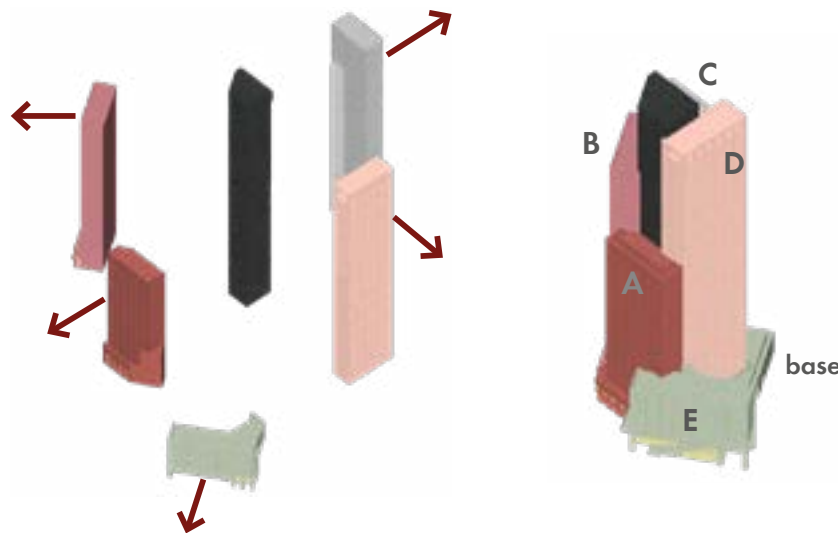
A fragmented and responsive form



Informed and inspired by its context

6.4 Scheme

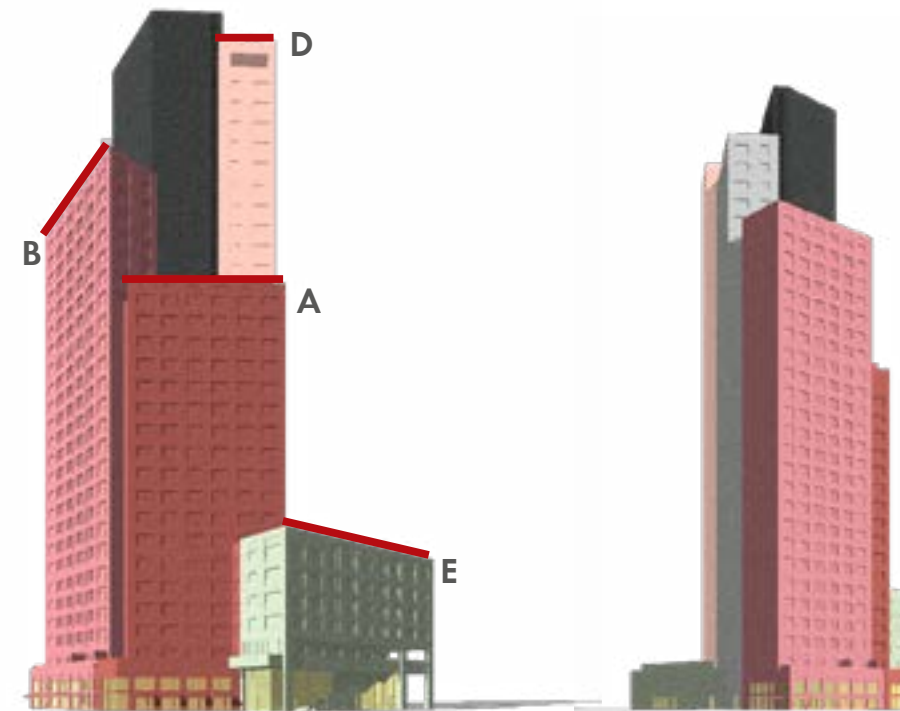
6.4.1 Concept



Six fragmented parts

The site is part of a mixed context, from historical Victorian buildings, industrial sheds, a busy road network, emerging brick and metal residential buildings, to a local green park, expansive Lea Valley marshes connected by pedestrian routes through local pocket squares and gardens. The massing for 2 Berol Yard responds to this variety of conditions respecting its contribution to skyline views as well as definition of the public realm at grade.

The scheme is comprised of six interconnected parts. First, a low rise volume, the Green Link Building (bar E), that defines the continuation of the Green Link connecting the High Road from the west to Tottenham Marshes to the east, marking this public route with a community space for local groups such as Made by Tottenham with a landing, stair and lift for the future road bridge.



A dynamic form of six parts that changes with each orientation and the different surrounding conditions

Secondly, a brick base is orientated northwest to southeast making a new local community square legible featuring the historic Berol House as its backdrop. The brick base continues north defining Berol Walk with animate shopfronts that mirror the future activity at the ground floors of Berol House.

Above, four slender brick bars, bar A to D, provide a choice of residential homes that benefit from a range of aspects and orientation. Each bar steps to relate to its neighbours and provide communal terraces from different elevated vantages.

The podium features elevated gardens for residents with informal play spaces for the children. Below the podium, the residents' cycle space encourages healthy travel to and from the area.



With Tottenham Hale at its heart

Aside from providing spaces for local cultural, creative and retail uses at ground floor, the scheme provides a key local community space in bar E, prominently overlooking Berol Square and the Green Link route. This space will have the potential to foster and develop the wealth of local talent and entrepreneurs in Tottenham Hale.

6.4.2 Related to the wider context

Framing the station

Together with the Ferry Island Building 1 and Hale Works, 2 Berol Yard completes the triangular cluster centred around Tottenham Hale Station, defining it as the centre of Tottenham Hale.

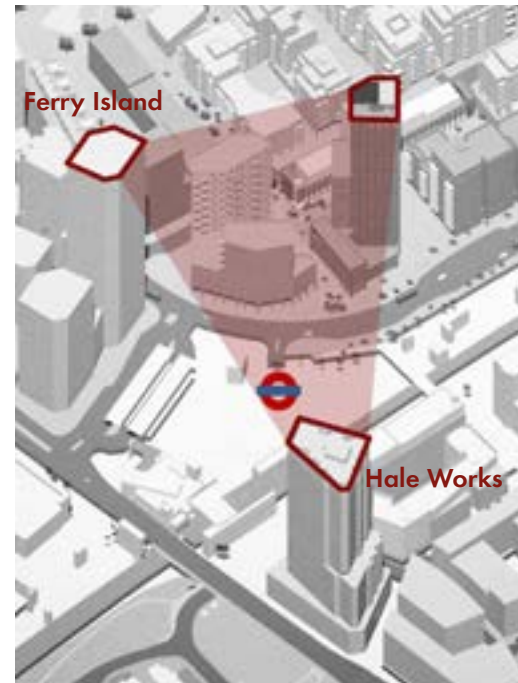
Responding to neighbouring heights

The stepped clustered form responds directly to the buildings in its immediate context. The lowest volume relates to the lower shoulders of 1 Ashley Road and the height of Berol House.

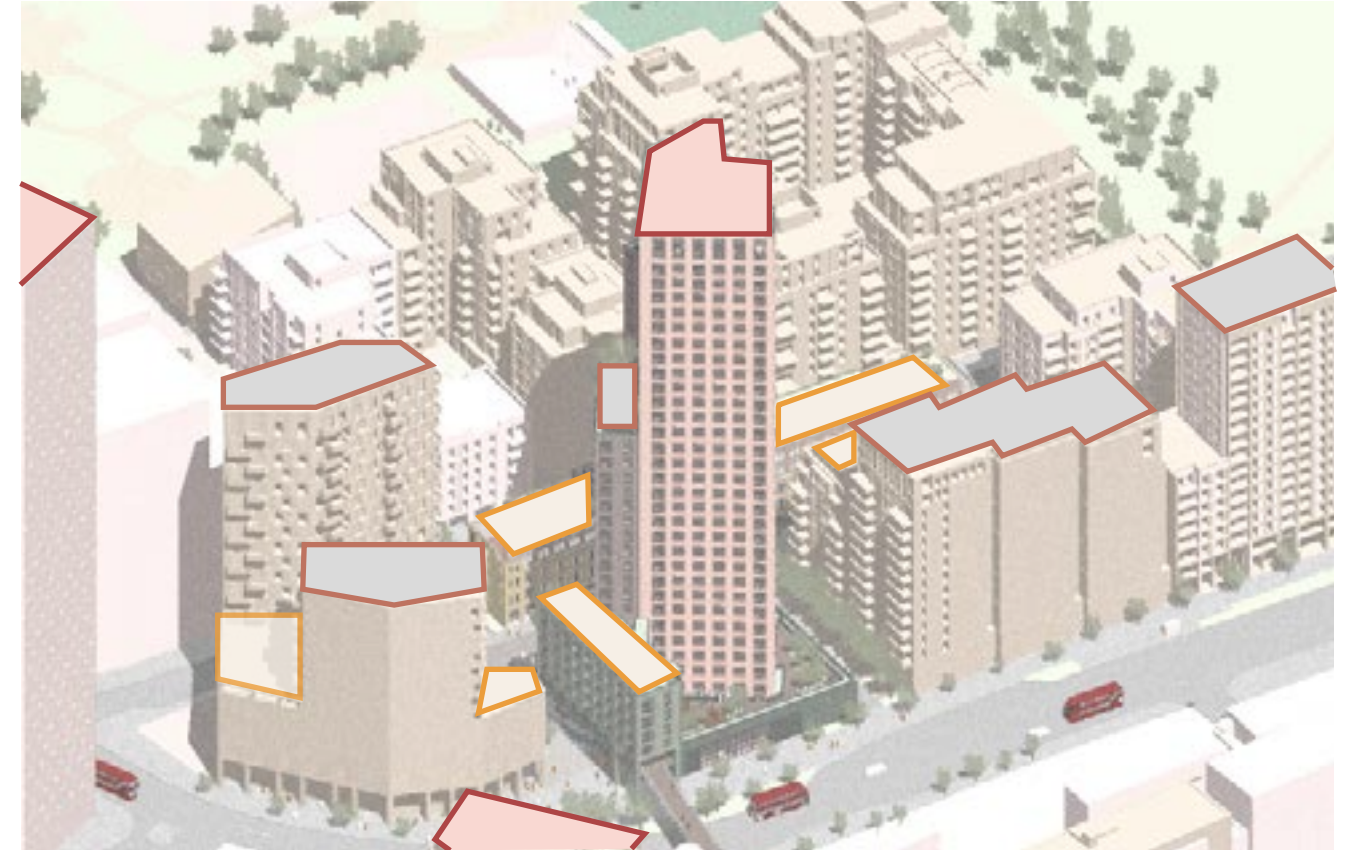
The mid-rise datum of the second tallest volume responds to intermediate heights defined by 1 Ashley Road and the Gessner Building. The tallest point of the composition forms a cluster with Building 1 of the Ferry Island sites and Hale Works to frame the centre of Tottenham Hale but is still deferential to the height of the Ferry Island building.

Supports District Centre Vision

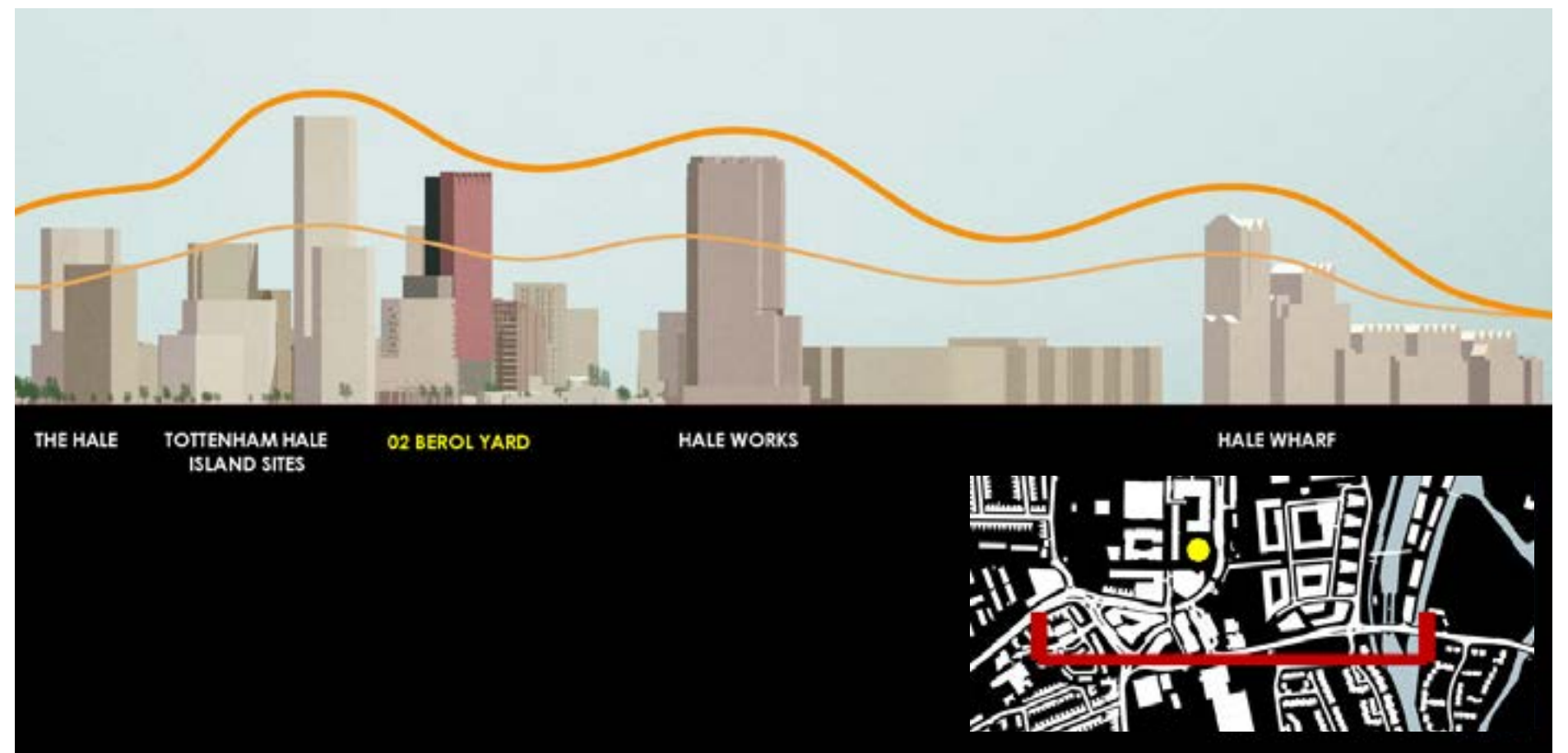
Tall buildings generally allow for compact footprints resulting in more area at ground levels for public space. Recognising this the District Centre Vision identifies a wave of development with tallest at its centre. The proposed scheme for Berol Yard is in line with this wave of height aligned with consented neighbouring schemes, as reinforced by the design response for 29-33 The Hale.



With two built tall buildings, 2 Berol Yard contributes to the triangle that frames the station as the centre of Tottenham Hale.



The stepped, clustered form responds directly to the buildings in its immediate context.



The "wave" of development cluster that together define the centre of Tottenham Hale.

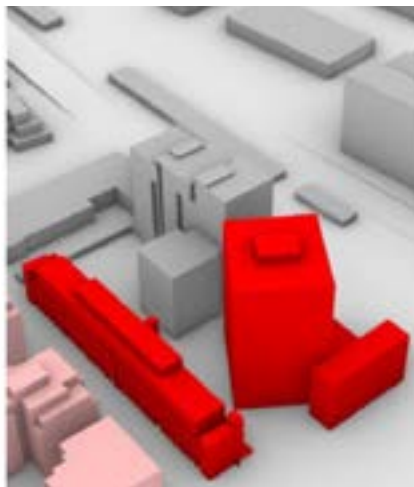
6.4.3 Design Evolution

Along with Berol House, the design of 2 Berol Yard was developed through positive engagement with London Borough of Haringey (LBH), the Development Management Forum (DMF), Haringey Quality Review Panel (QRP), the Greater London Authority (GLA) and the Haringey Planning Committee (HPC).



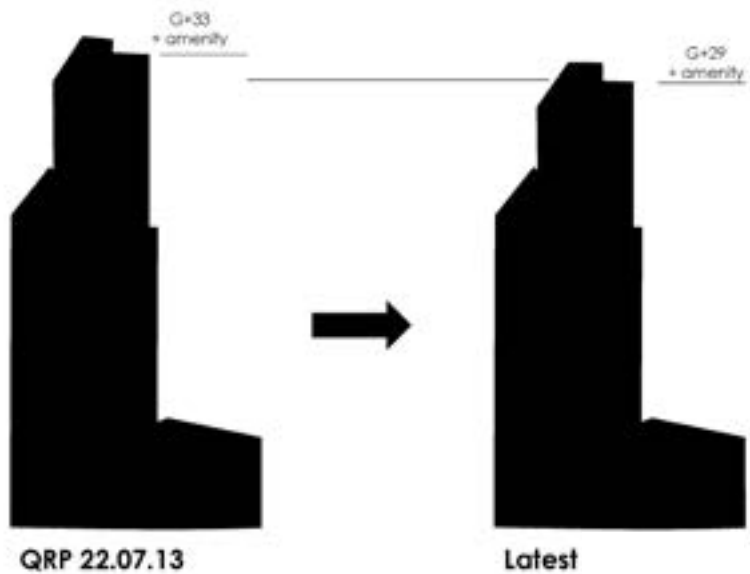
Stepping & fragmenting the form

In responding to the emerging context and constraints, a stepping & fragmented form was developed. Various heights and tones were tested and reviewed with the long, medium and close range views. The fragmented form had an added attribute of optimising dual aspect units for internal arrangement.



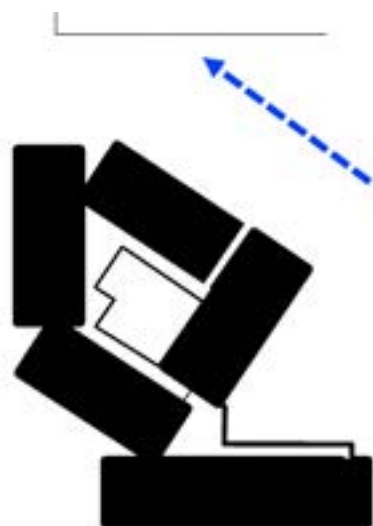
Shaped by the environment

Under recommendation of the QRP, form and height of the emerging scheme was tested with other alternatives to develop optimal environmental conditions particularly at ground levels. It was confirmed conditions for pedestrian comfort were better for the fragmented form and that the additional storeys beyond 14 storeys had little impact to enjoyment of the public realm. Furthermore, the facets and stepped base helped mitigate any downdraft of wind from high levels.



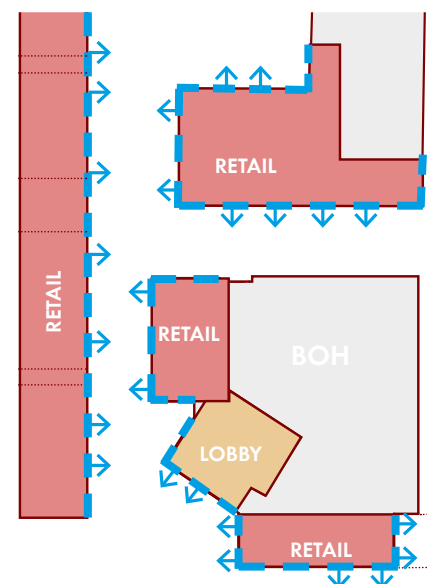
Refining the height and articulation

Through conversations with the QRP and LBH, the proportion of the top and the height of the building was refined. The openings for the bedroom windows and inset balconies were developed to be expressed differently on the facade.

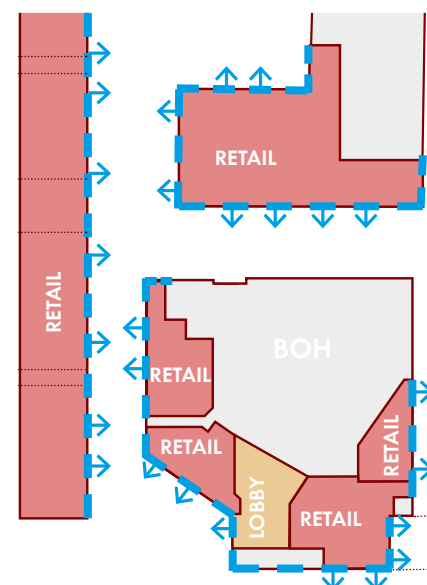


Rotating the plan

The plan was rotated to improve privacy with neighbours and to safeguard their access to daylight. The result eliminated north facing units in the plan and generally improved outlook for the units.



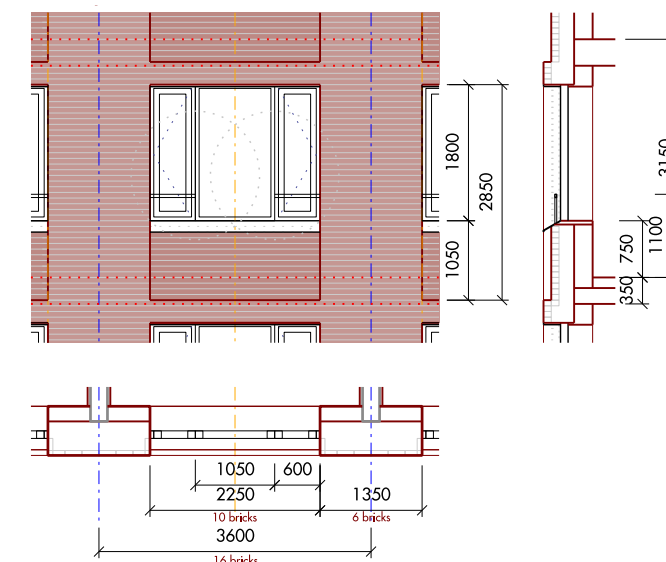
Previous - Active Frontages



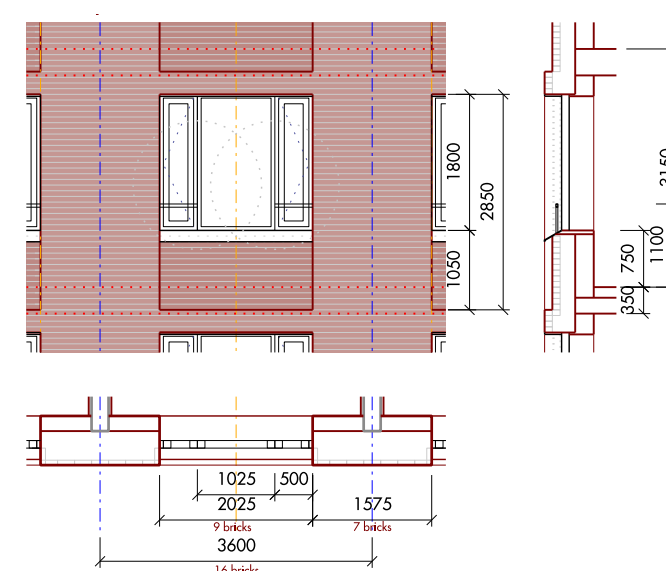
Proposed - Active Frontages

Activating frontages & informing spaces

In speaking to local community stakeholders, potential tenants and the consultees, the need for maximising frontages for local community and creative uses. Retail spaces increased in depth and number lining not only Berol Walk and the Green Link but also Watermead Way. The community space was relocated to the first floor with more space and to encourage use of the future landing and stair for the road bridge. At an elevated vantage point, the community space also gained additional outdoor space overlooking the square. The entrance lobby was also enlarged to allow access to the cores easily.



1350 pier/ 2250 window



1575 pier/ 2025 window

Designing responsive windows

Through careful testing of solar gain, the proportion of solid to void to the facades was tuned in the design for their respective orientation. The integration of fine metalwork for shading and balustrades was detailed and the rhythm of the vertical mullions studied to allow the windows to open inwards fully for purge on hot days and safe access for cleaning. The suite of metalwork will share similar attributes inspired by crill steelworks to form canopies, awnings and guardrails.

6.5 Typology

6.5.1 Uses

Berol Yard is a mixed use development with retail and community uses located on the lower floors and residential apartments on the floors above these.

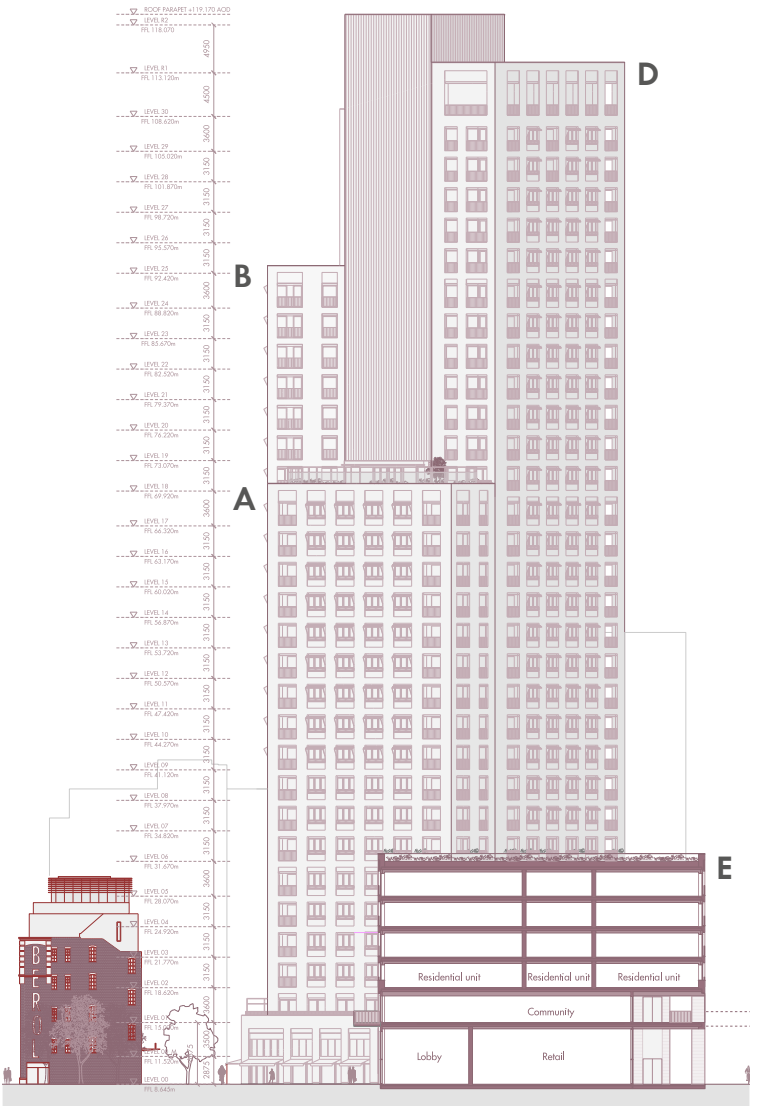
As described in the previous chapter, the scheme consists of a taller building, comprised of a cluster of four stepped forms and a lower linear building. Altogether the development includes the following:

- 210 built-to-rent apartments, associated amenity and back of house spaces
- 604m² NIA of retail at ground floor
- 160m² NIA of community space on level 1

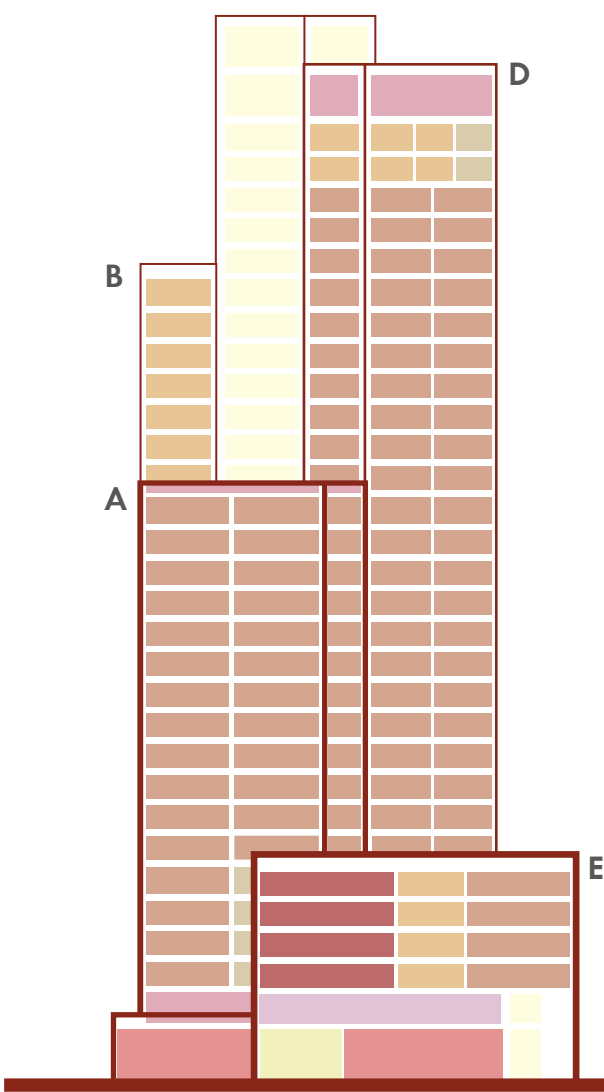
Uses key:

- Retail
- Amenity
- Community
- Entrance lobby
- Cycle store
- Parking
- Back of house (plant, waste)

- Circulation
- Core (lifts, stairs, risers)
- Studio
- 1 Bed
- 2 Bed
- 3 bed



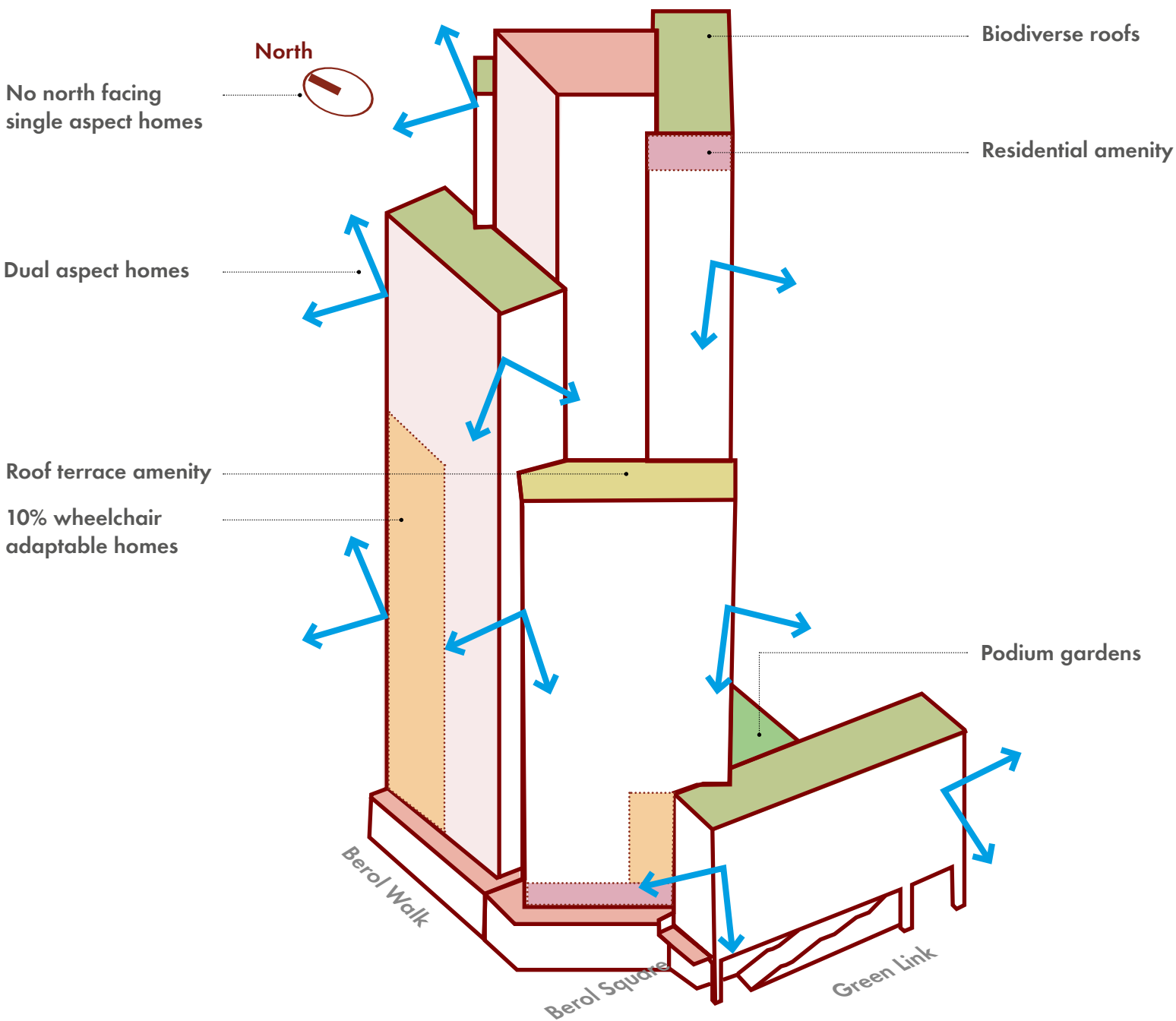
Sectional elevation looking north



Section with distribution of uses

The residential part of the proposal sits above the podium level and consists of:

- a variety of typologies, from studios to 3 bed homes
- 35% affordable homes by habitable room
- 10% wheelchair adaptable homes
- 67% dual aspect units and 33% enhanced single aspect
- no single aspect north facing homes
- residential amenity spaces
- podium gardens and roof terraces
- biodiverse rooftops



Axonometric highlighting key residential aspects