

Level 30

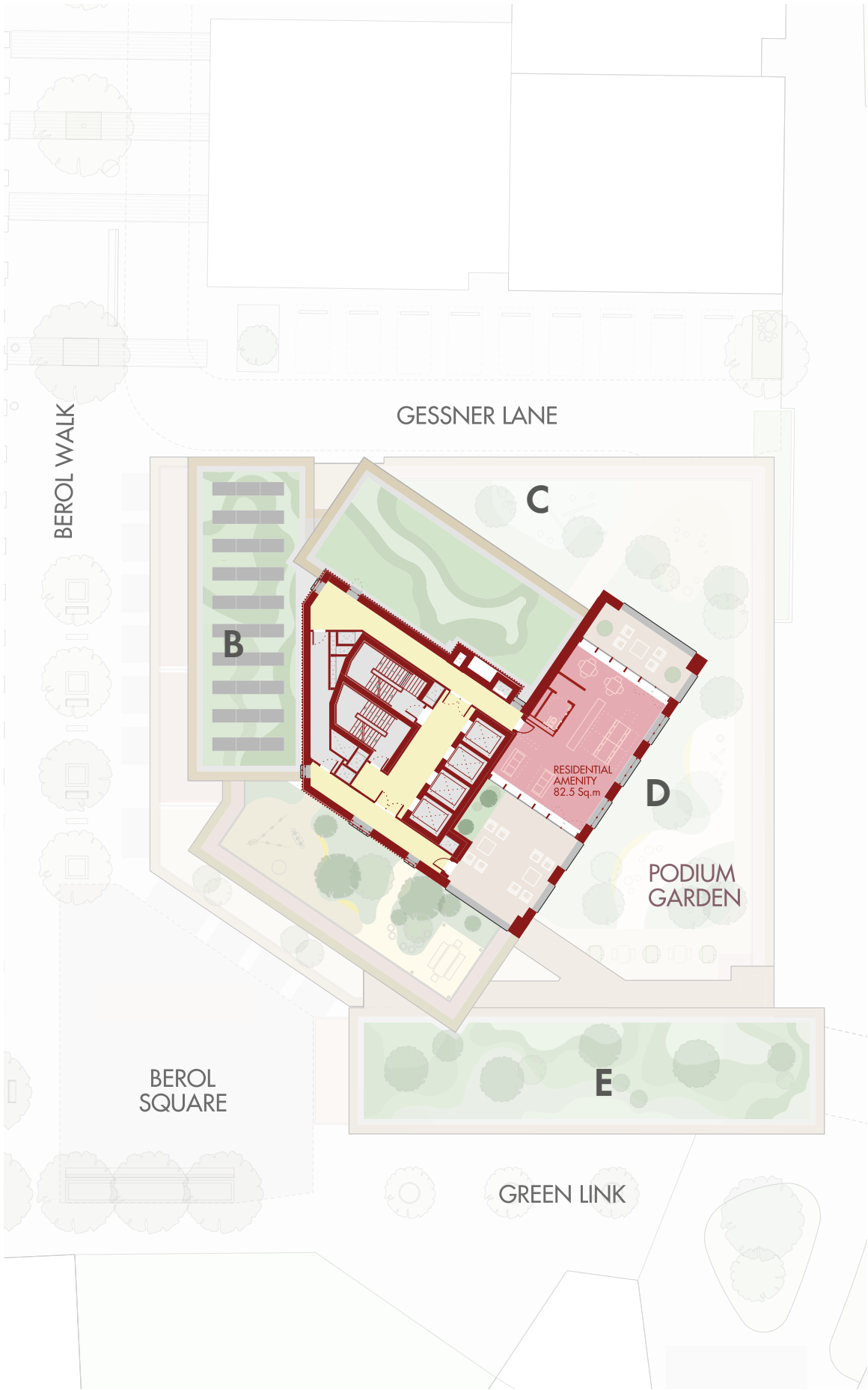
Level 30 provides a rooftop amenity room for the residents. It provides a generous internal space with toilet facilities and a small kitchenette serving a large multi-use room which spills out onto the Sky Terrace for outdoor use with impressive views towards the City. The terrace is covered to provide protection from rain and wind so that it can be used all year round.



The Sky Terrace

Uses key:

- Amenity
- Back of house (plant, waste)
- Circulation
- Core (lifts, stairs, risers)
- Studio
- 1 Bed
- 2 Bed
- 3 bed

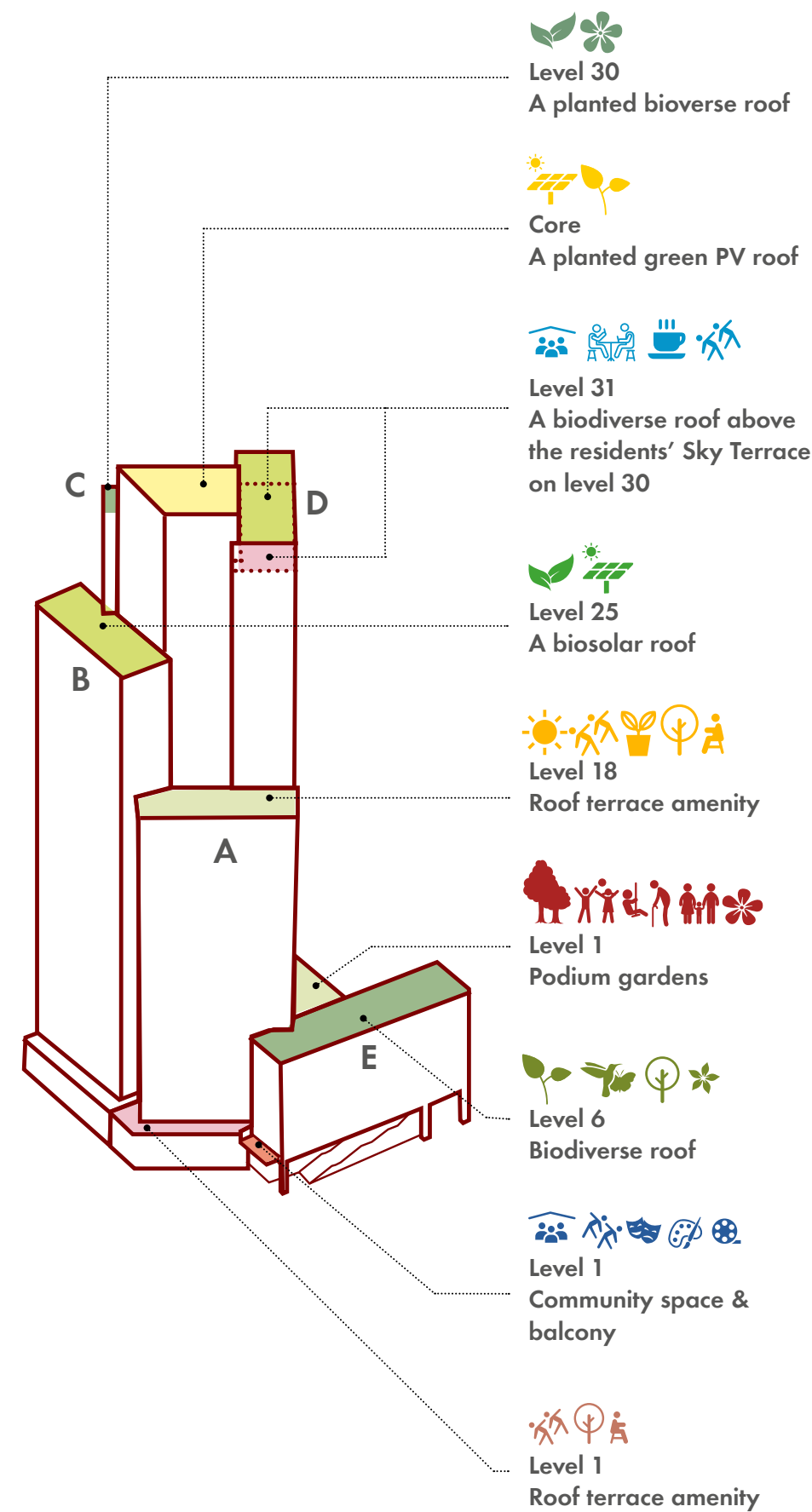


Level 30 plan

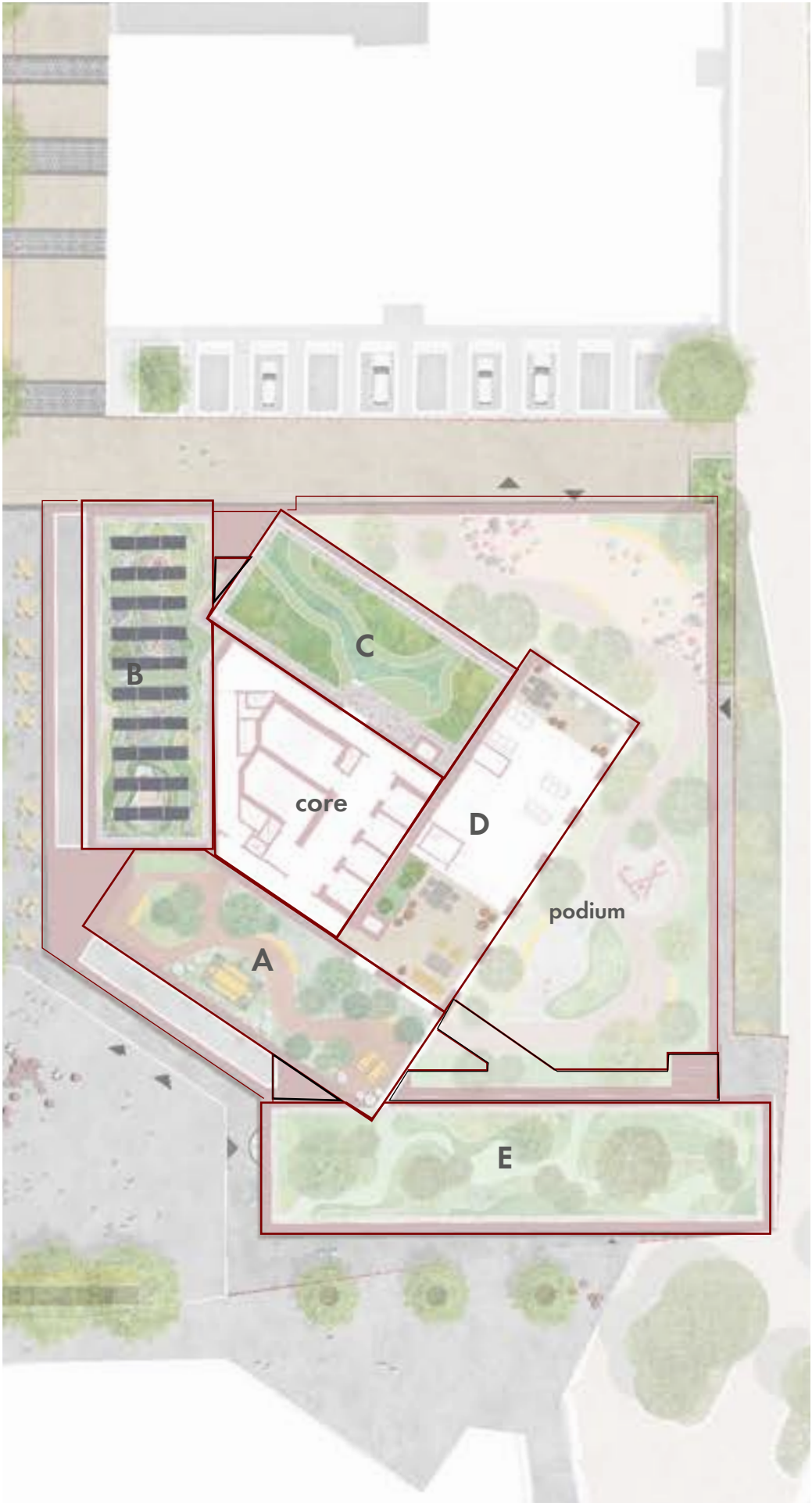
Roofscape

Building roof tops are an important part of the city landscape, often forming the fifth elevation of a building. In the case of 2 Berol Yard, several buildings will look out upon the roofs of the development. Careful consideration has been given to their uses in order to provide a pleasant roofscape and a good balance of amenity, servicing access and sustainability.

The stepped massing breaks up the rooftops, splitting them into smaller articulated areas. The landscape and uses vary up the building, adapting to the particular characteristics of each roof in terms of height, sunlight, wind and outlook.



Roof and terraces uses



Roof plan

6.7 Materials

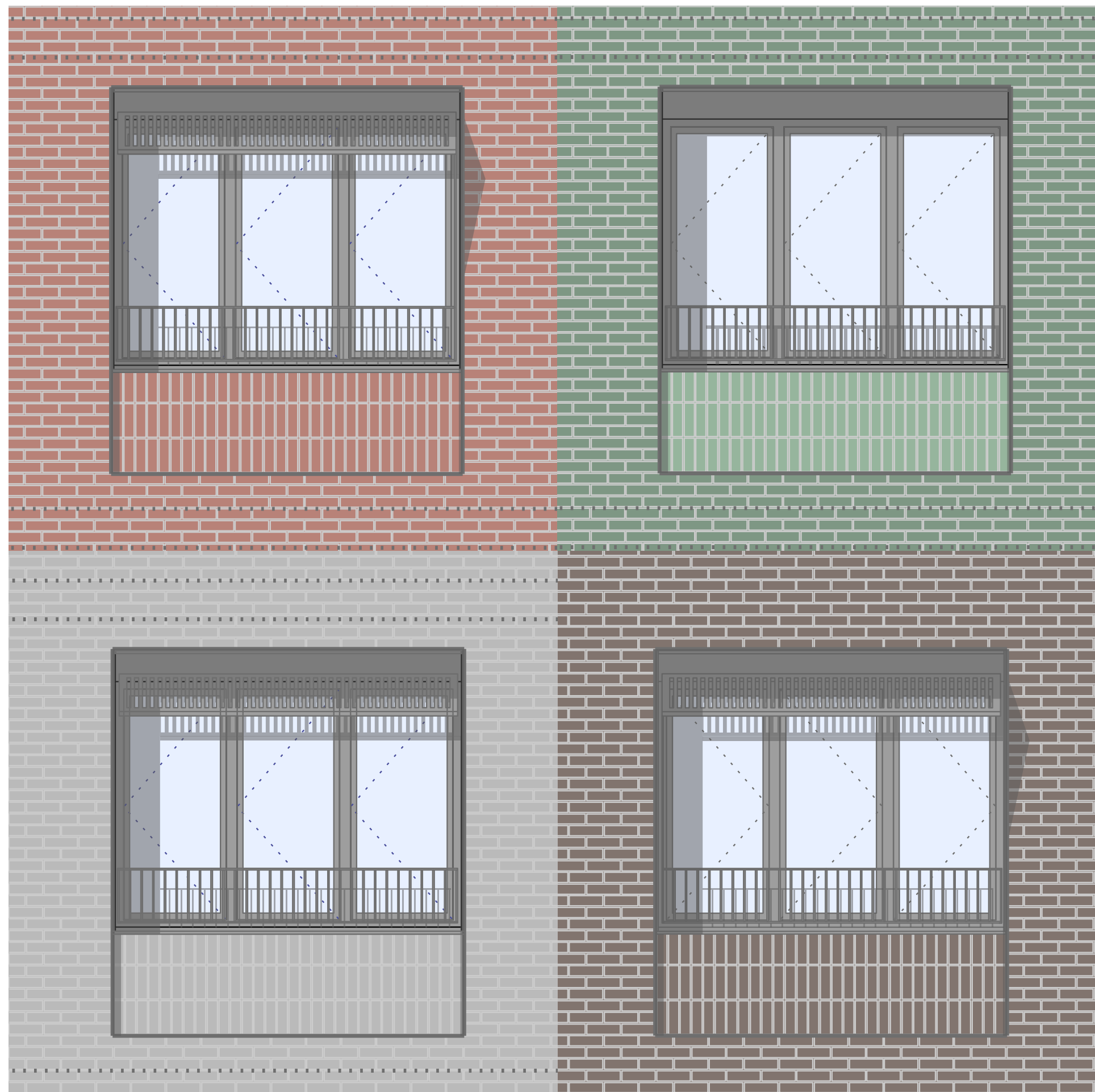
6.7.1 A series of interlocking bars

The individual

The architectural character and language of 2 Berol Yard draws influence from local buildings including Berol House built in 1907 and more widely examples of the industrial brick buildings from the 19th and turn of the 20th century, also known as the Chicago School style.

By drawing on industrial buildings at the turn of the century, interpreted into a modern architectural language, the new building through its scale, stepped massing and detailed facade will contribute positively to the local and wider context.

Each bar has its own identity, expressed by an individual brick tone, which responds to its rich and complex context. At each rotation the brick alternates from a warm tone to a cool tone, progressively lightening as the bars increase in height. Where the bars meet, an infill dark metal panel separates the different brick colours.



Typical bays of different bars



Areal Architects - Boom school



MAE Architects - Chimes



David Chipperfield - 111-19 Jane Street



Allies and Morrison - Keybridge House



JUMA - Project R



Allies and Morrison - Hale Wharf



MAE Architects - Agar Grove

Precedents of buildings with similar tone and materials proposed



Berol House
Materials from surrounding context



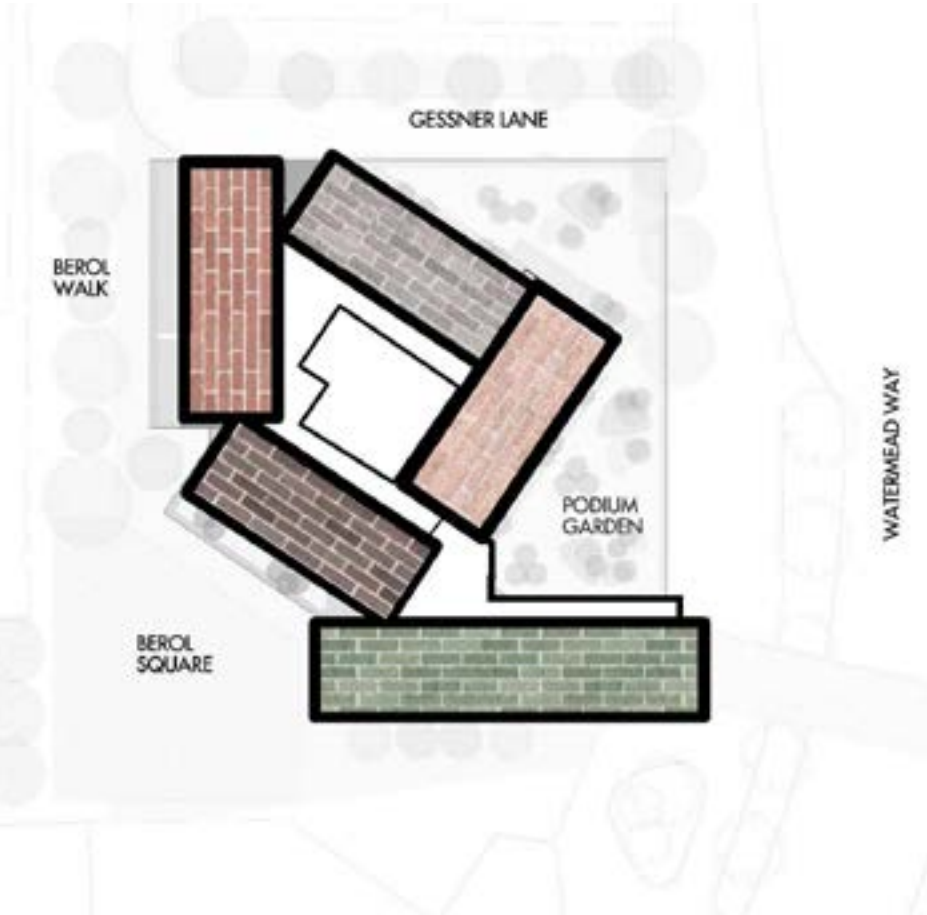
The Gessner



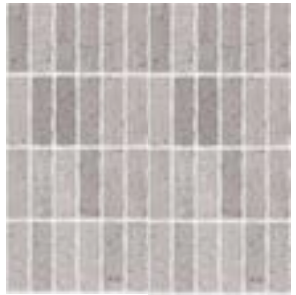
Ashley Road East, Alison Brooks Architects



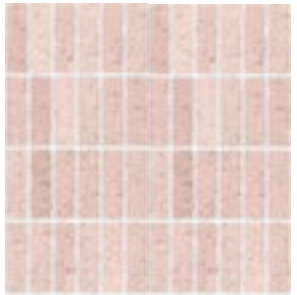
Tonal bars in context



Brick colour allocation



BAR C



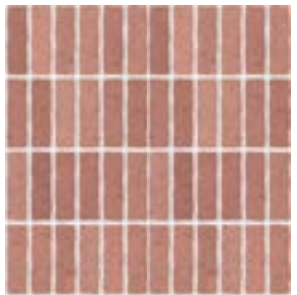
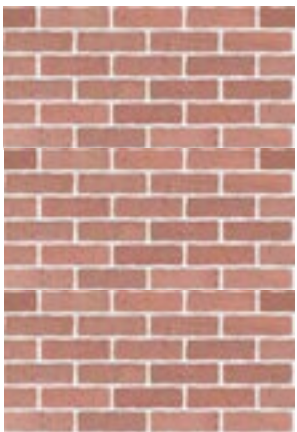
BAR D



CORE



BAR A



BAR B



BAR E

Proposed brick tones and brick bonding for 2 Berol Yard

6.8 Appearance and details

6.8.1 Metalwork

Consistent and responsive

The envelope is composed of three key layers. The main body of the building is a modular, masonry cladding with five different tones of brick. All five interlocking bars use the same 3600mm module, which forms the basis of both construction and allows for a mix of internal layouts.

A secondary layer relates to the metalwork: window frames, door frames and balustrades. This layer acts as a unifying underlay, linking all five bars together. Metal cladding is used in the reentrant corners where contrasting bars intersect. The metalwork on 2 Berol Yard is the same colour as the metalwork on Berol House, unifying the two buildings.

The final third layer is the solar shading. It facilitates adjustments to the façades on different faces for environmental reasons. The South, East and West elevations have a metal sun shelf with the addition of integrated vertical shades where increased shading is needed.



Base window



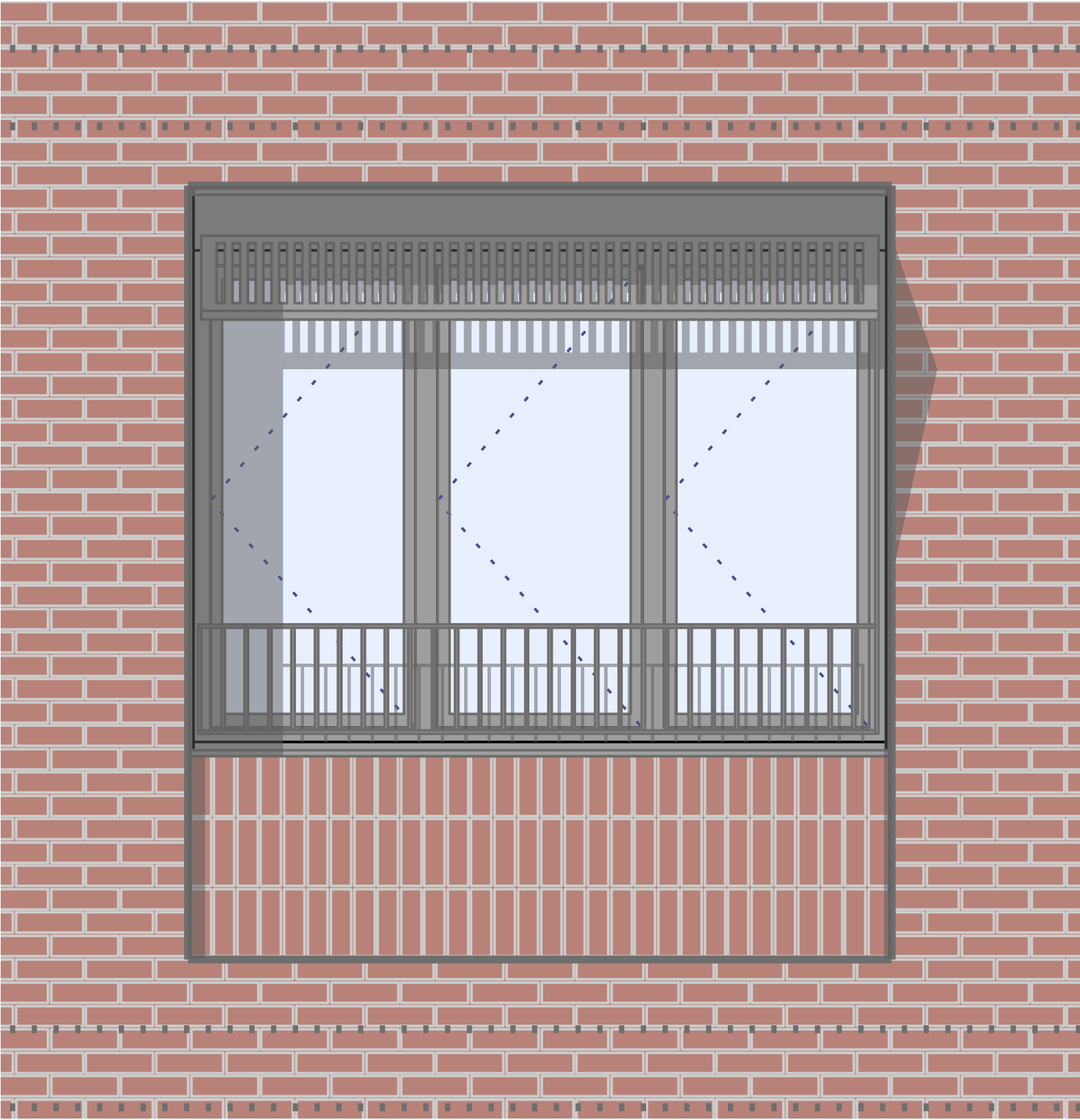
Horizontal solar shade



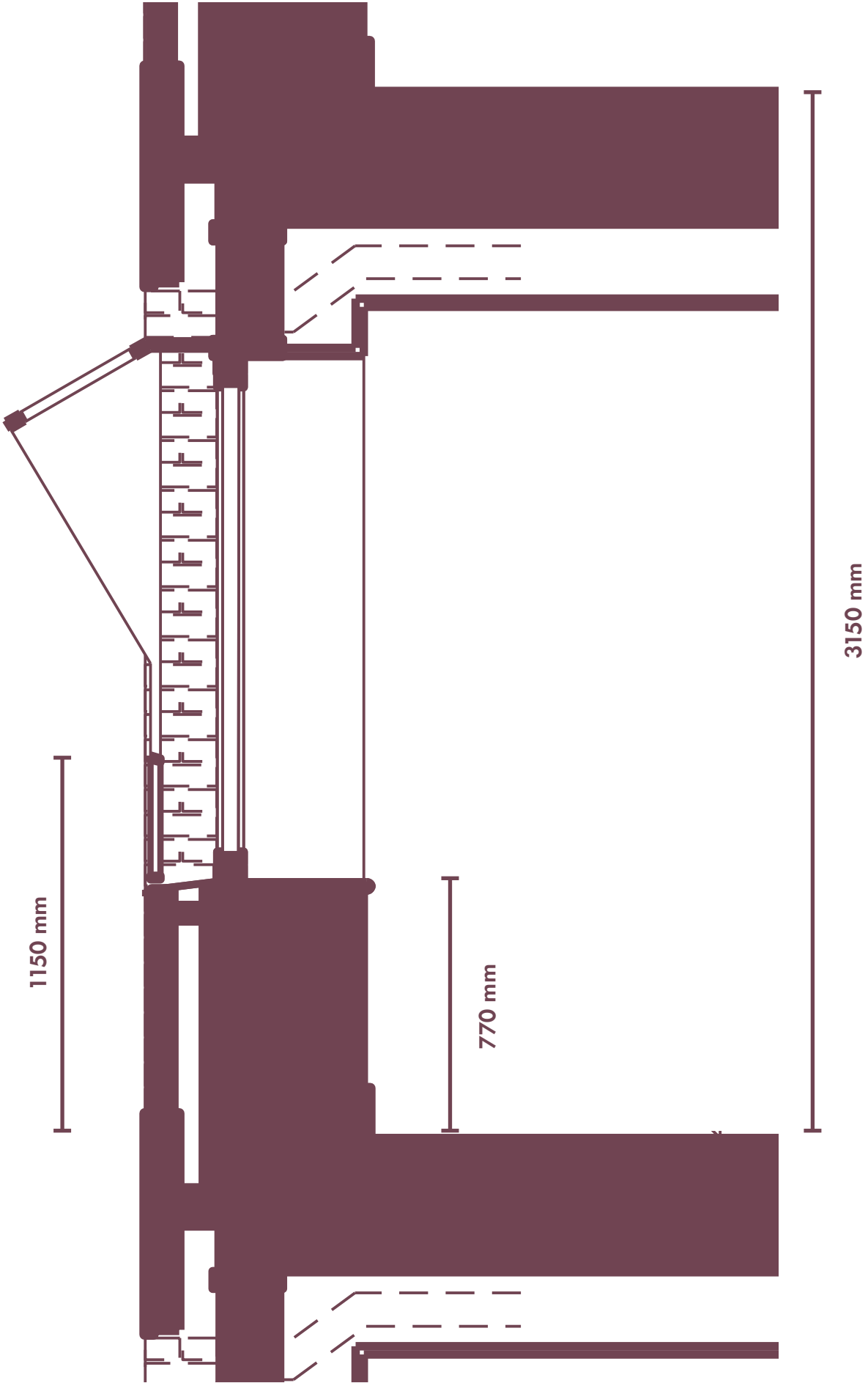
Vertical solar shade



Full solar shade



Typical bay - elevation



Typical bay - section

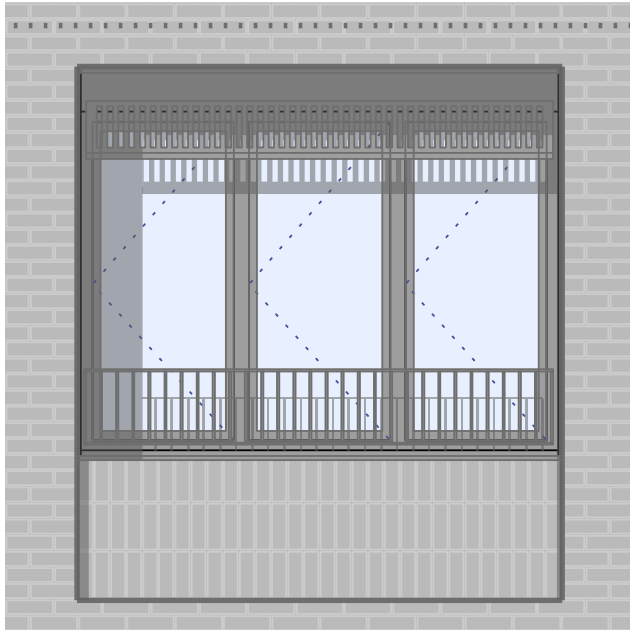
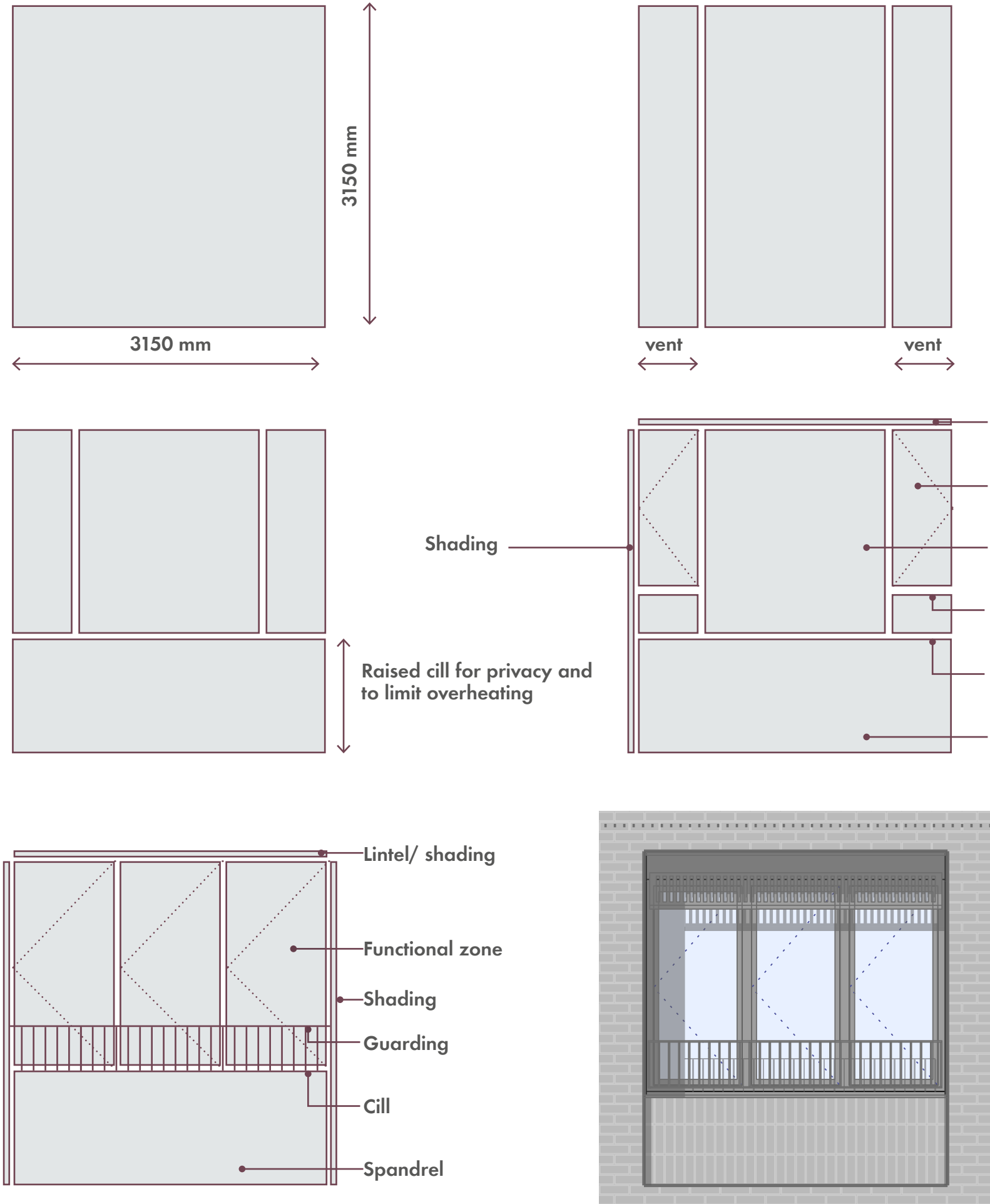


Windows

The window modules are an evolution of the ‘Chicago style’ window, laid out on a rigid grid with a one brick reveal accented with a soldier course brick spandrel base.

An evolution from a larger centre pane configuration, the proposed window widths are equalised for ease of cleaning.

Each window unit comprises of three internally opening lites behind a metal balustrade allowing for cleaning without the use of a cradle. At the top of each window is a small, perforated panel to provide ventilation to the interior of the flats. The overall effect created by the windows punched out of the brick work is a unifying language across the five bars.



Proposed window

6.8.2 The incidental

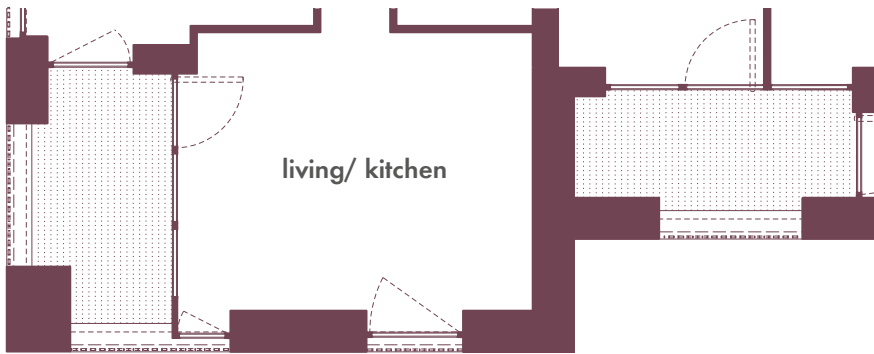
Balconies

The private external amenity spaces to each residential unit are generally located in the corners of each bar. Recessing the balconies in the corners allows for a consistent elevation treatment across the bays. The balconies are accessed from full height glazed partitions to the living room and bedroom. The living room glazing returns to give a corner window offering additional light from two aspects.

Top floors

The openings in brick on the top floor of each bar are elongated by the introduction of a textured metal spandrel panel enhancing the module's verticality and creating a contrast in material treatment. The textured metal is of a similar language to the metal balustrading.

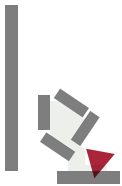
The tallest bar (D) of the building hosts a communal amenity space and terraces framed with an oculus to the northeast and south-west façades.



Corner balcony



Top floor



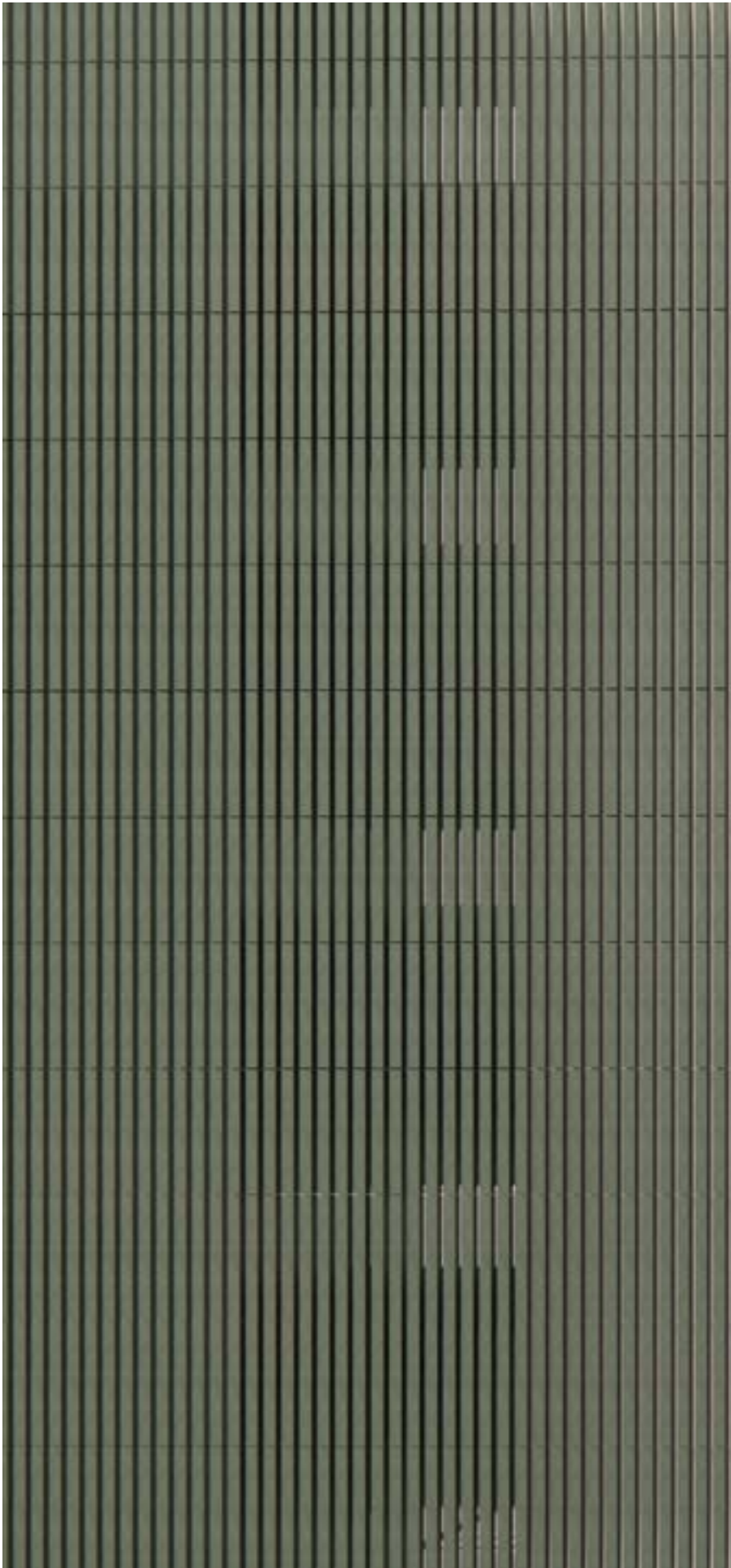
6.8.3 **The core**

Terracotta

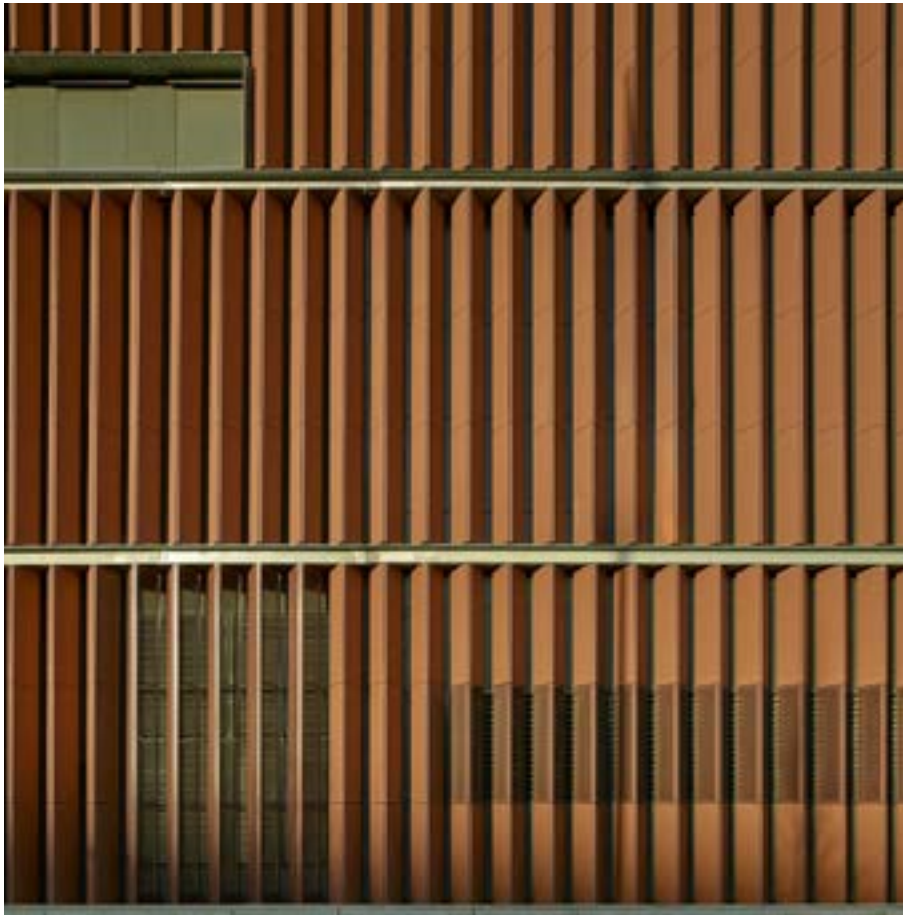
The core is clad in a terracotta baguette rainscreen with a repeating module applied to all elevations. The cladding over sails strips of windows which illuminate the circulation space.

The terracotta baguettes are glazed offering a natural variation in colour and tone. The application of terracotta to the core gives a sense of material continuity between the core, bar E and the ground floor podium.

The terracotta cladding is of a similar language to that applied to Berol House, linking the two buildings with a similar architectural language.



Core facade



Precedent materials

6.8.4 Place making

Berol Square

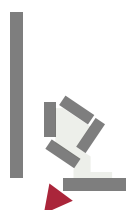
Berol Square is located to the south west of the development linking Berol House and Berol Yard with Berol Walk. The Square is a shared public space which welcomes social encounters, easy movement across the site and organised events.

The square is activated by retail frontages to both Berol House and Berol Yard, the main residential lobby entrance and the public realm stair. The retail units allow for spill out dining areas and the community space will provide an active backdrop as well as encourage movement throughout Berol Square.

The applicant has agreed use of Berol Square for public art and events to establish it as a destination.



Elevated view of Berol Square looking towards Berol House



Main entrance

The residential entrance will be highly visible from Berol Square. The entrance is positioned underneath the projecting balcony to the community space, providing a canopy to the entrance. The lobby is a double height space with wrap around glazing.

The double height entrance lobby will create an active frontage and help to animate Berol Square. The location of the lobby on this corner will contribute to the new pedestrian route activity throughout the day.



Key - main entrance and lobby



Main entrance



Pedestrian and cycle lift



Public stair

A vertical connection

A linear stair creates a vertical connection to the 1st floor community space offering a large gathering space. With windows to both elevations, the space overlooks Berol Square and the roof terrace to the podium.

The addition of an adjacent winter garden at the entrance of the community space offers a smaller space for people to relax and enjoy. The glazed screen and employment of planting will provide a sense of privacy and enclosure.

The design offers the potential to remove the glazing and connect the stair to the green link bridge creating an elevated public route through the site. The proposed Green Link provides an enhanced east - west connection from The Paddock Community Nature Park , over Tottenham Hale Train Station, to the centre of Tottenham Hale.

A retail unit is housed in bar E and occupies the area underneath the stair with full height glazing. Lift access to the first floor community space and to the residential cycle store is via the colonnade on the eastern corner of bar E. The lift is elongated by a large metal spandrel panel to the head to articulate the lift entrance and enhance wayfinding.



Community space and winter garden



View of the public lift from the Green Link, connecting to the community space and the future bridge connection above

6.8.5 **An active ground floor**

The scheme activates the ground floor with four retail spaces and a residential lobby along Berol Walk, Berol Square and Watermead Way. New commercial and retail uses are also being proposed at ground floor in Berol House along Berol Walk.

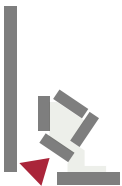
Retail

The ground floor retail units of bar A and B are a double height order with reduced brick piers and infill shop front glazing. The mezzanine level glazing reflects the typical window with a module of three and at the top of each window is a band of louvres concealed by metal architectural fins to provide ventilation and extraction to the retail units.

Below the mezzanine windows is a metal spandrel which houses a retractable fabric awning with retail signage. The retail unit ground floor glazing consists of a large, fixed glazing panel and a single shopfront door.



Retail facade



Podium/ Back of house

The podium building houses Retail Unit 3 and the back of house areas. The envelope is composed of a glazed terracotta baguette rainscreen with a dark metal cladding system behind. The cladding system is adaptable and responsive to the internal accommodation. It consists of insulated metal panels, louvred panels where required for plant rooms or double height shopfront glazing to the retail unit.



Key - retail units



Podium viewed from Northeast above Watermead Way

6.8.6 **Amenity spaces**

Communal terrace

On the top of bar A at Level 18, a large terrace provides external amenity for all residents to enjoy the views out to the south over Berol Square. The top of the podium is also a landscaped accessible roof terrace. These spaces are multipurpose, suitable for exercise, entertainment, play and other outdoor events. Wind and sunlight conditions were tested to ensure the spaces are comfortable and appropriate for the intended use.

The roof space of the other bars are non accessible and dedicated to bio diverse planting, solar panels and plant equipment.



Communal Terraces

Level 30

Bar D hosts an internal community space at roof level. The space is glazed set within the cladding of the crown offering extensive views to the north, south and east. The room has direct access to external amenity space. It has two covered terraces to the north east and south west.

This amenity space is heated and houses a tea point and accessible WC. The glazing is openable inward for cleaning and maintenance.



Exterior



Oculus



Internal amenity



View from Ashley Road along the Green Link to Berol Square



7 Technical Design



7.1 Sustainable design

Sustainability

The energy strategy for the proposed development has the GLA energy hierarchy; be lean, be clean, be green, be seen. The new building at 2 Berol Yard, as well as the extension at Berol House will utilise highly efficient fabric throughout. Berol House will have an uplift in fabric efficiency due to new windows with low U-values. Low energy LED lighting will be installed throughout the development. The Proposed Development will connect to the area-wide proposed district heat network. This will ensure a highly efficient and low carbon source of heating. Renewable technology in the form of photovoltaic panels will be installed on the roofs of 2 Berol Yard and Berol House. The panels will reduce reliance on the electrical grid. A Be Seen analysis was carried out in line with the CIBSE TM54 guide to predict the operational energy, please see the Energy Statement for further details.

- 1 Efficient facade
- 2 Low U - value
- 3 District heat network
- 4 PV panels
- 5 Solar shading
- 6 Planted roofs



Axo - sustainability

Whole life carbon

A number of design decisions have been taken with the objective of reducing embodied and operational carbon where possible. The proposed scheme includes the refurbishment of the existing Berol House and upgrading its building fabric to achieve a higher performing building.

2 Berol Yard mitigates the need for a basement by locating back of house areas on ground and mezzanine levels while still maintaining active frontages to the public realm. The omission of a basement reduces embodied carbon amounts significantly. 2 Berol Yard has undergone a number of studies to optimise glazing ratios to manage overheating and daylight levels. The employment of solar shading devices reduces solar gains and the need for cooling as well as the employment of openable windows for natural ventilation.

Combined Efforts have resulted in an on site carbon reduction of 67% over 2013 Building Regulations baseline. The connection to proposed District Heat Network is essential in meeting the carbon reduction due to the low carbon factors associated with heat from waste.

Circular economy

The proposed scheme ensures that material quantities and other resources are minimised, responsibly and locally sourced throughout the development process. Where possible recycled materials will be utilised. The development has been designed to be flexible and adaptable, therefore increasing the building durability and longevity, thereby reducing construction, demolition, and excavation waste arising.

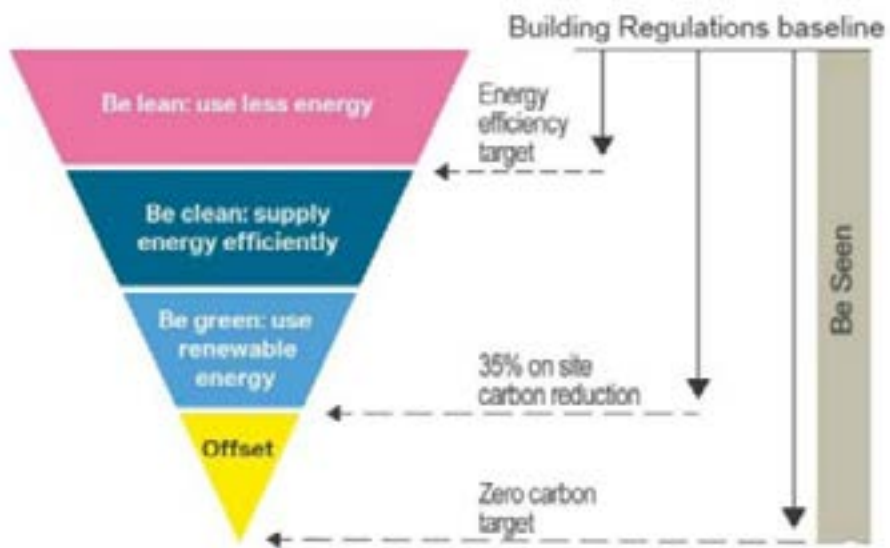
Summary of the GLA's Circular Economy Targets:

- 20% of new materials used should contain reused/ recycled content.
- 95% of construction and demolition waste should be reused/recycled/diverted from landfill
- 95% of excavation waste should have beneficial use
- 65% of municipal waste should be recycled by 2030

All of the above targets are being pursued. The Detailed Circular Economy Report highlights how they will be achieved, performance monitored, and the metrics that will be used to do this.



Whole life carbon



Energy hierarchy

7.2 Microclimate

Wind microclimate

The wind microclimate report will provide an assessment of the pedestrian street-level wind environment within and around the proposed development site against wind comfort and wind safety criteria. The study pays particular attention to pedestrian access routes, amenity spaces, outdoor seating areas, bus stops, building entrances and proposed upper levels (balconies and terraces).

A 3D model constructed for the study included the built area within a radius of approximately 500 meters from the site to account for the influence of the surrounding context on the incoming winds as they reach the site.

A quantified assessment of the Proposed scenario was carried out to assess the effect of the proposed development on the local wind environment, while the Baseline and Cumulative scenarios are currently under development to evaluate the impact of the proposed development on the existing and future local wind environment.

Wind analysis

The methodology adopted for the assessment combines the use of Computational Fluid Dynamics (CFD) to predict air flow patterns and wind velocities around the proposed development site; the use of long-term wind data from the nearest suitable meteorological station; and the recommended best practice comfort and safety guidance (the Lawson Criteria).

The proposed scenario has been carried out, which included the proposed development within the existing context including schemes identified as under construction at the time of the assessment which were assumed to be complete for the purpose of the assessment. At the street level within the site, with regards to Pedestrian Comfort and Safety, all receptor locations met both the recommended criteria for safety and comfort, therefore, no mitigation is required at these areas.

Regarding the upper levels within the site, the Pedestrian Safety assessment indicated that some receptor locations do not satisfy the recommended safety criteria. More specifically, in the 2 Berol Yard building, the recommended criteria for safety are exceeded at the level 30 accessible terrace and at a few balconies of Bar A, Bar B and Bar D. Therefore, mitigation would be required to improve the wind conditions and aim to bring the wind conditions in these areas within the recommended criteria for safety.

Wind mitigation

With respect to Pedestrian Comfort at the elevated levels on site, the results indicated that the wind conditions are suitable for sitting, standing and leisure walking. Should any outdoor seating arrangements be allocated within the areas identified in this report as suitable for 'sitting', then no mitigation will be required. Also, the mitigation proposed to address the safety exceedances is likely to provide shelter and improve the wind conditions for comfort.

Requirements for mitigation measures have been

identified due to the exceedances of the criteria at the upper levels within the site. Mitigation measures to improve the wind environment include the introduction of solid or porous balustrades and perimeter screening, as well as trees, hedges and wind baffles/screens around the outdoor seating areas. The actual position and size of the proposed mitigation measures can be refined and tested during the detailed design stage to assess and optimise their performance.

Once the results of the Baseline and Cumulative scenarios are issued and the wind microclimate report is finalised, the impact of the proposed development on the off-site local wind environment will be demonstrated.

Summary

The proposed scheme is sheltered by surrounding buildings therefore the Pedestrian Comfort and Safety levels largely meet the recommended criteria. A few areas were identified higher up the building needing additional wind mitigation to achieve recommended criteria, the design has incorporated this analysis and achieved recommended Comfort and Safety levels through the employment of wind mitigating screens.

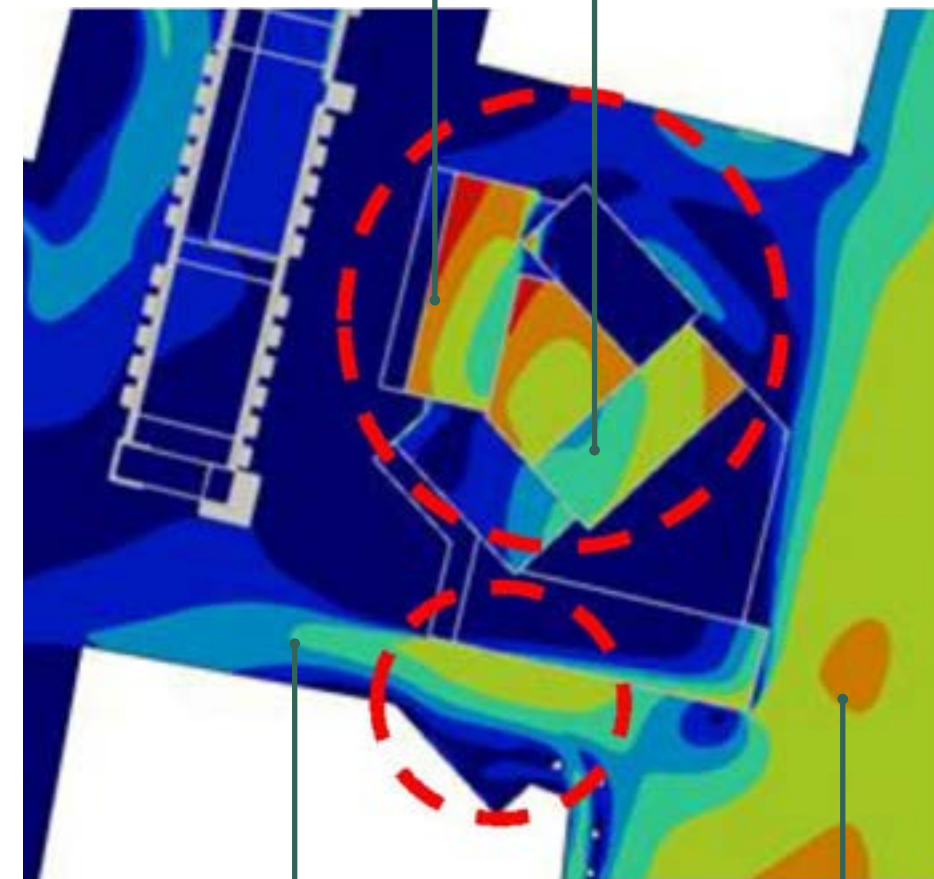
Tall buildings in the masterplan shield Berol Yard from the prevailing south westerly winds.

Roof spaces with uncomfortable wind conditions are not accessible.

Level 30 amenity space has a roof and is part enclosed mitigating uncomfortable wind conditions.



 Comparatively higher wind speeds



Ground floor pedestrian conditions are comfortable.

Green link wind conditions will be mitigated with landscaping and soft scaping.

Testing does not account for landscape design.

7.3 Daylight & sunlight

2 Berol Yard

Analysis of the proposed residential accommodation shows that daylight and sunlight amenity is appropriate for this type of development with the majority of rooms seeing full compliance with the BRE Report daylight guidance. Sunlight amenity testing highlights the urban nature of the site and the area intentions.

Neighbour Analysis

Overall, the effects of the proposed development on the neighbouring properties are in line with area expectation. Review of the assessments undertaken with the extant scheme in place shows that the proposed development would have a limited additional impact but that the properties would maintain appropriate daylight.

Vertical Sky Component

Analysis undertaken using the BRE Report guidance:

- 81% of windows meet VSC criteria
- 93% of rooms meet No Sky Line criteria
- 88% of windows see VSC above
- 18% or retain 0.7 of existing

Further detailed information is available in the accompanying Daylight and Sunlight Report.

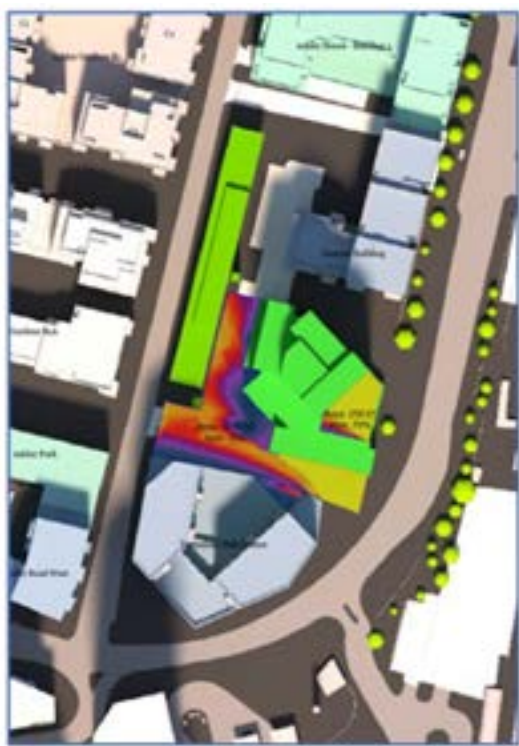


Level 2

Level 5

Level 15

Daylight analysis



Sun on Ground March 21



Sun on Ground June 21

