



Fig. 95. Sample panel mid installation - primary and secondary fixing members are fixed to the RC structure.



Fig. 96. Sample panel mid installation - first panel is mechanically fixed to the secondary rails.



Fig. 97. Sample panel mid installation - vertical members are fixed between primary and secondary rails.



Fig. 98. Sample panel mid installation - single corner piece is fixed to primary and secondary rails on each elevation.



Fig. 99 Sample panel finished.



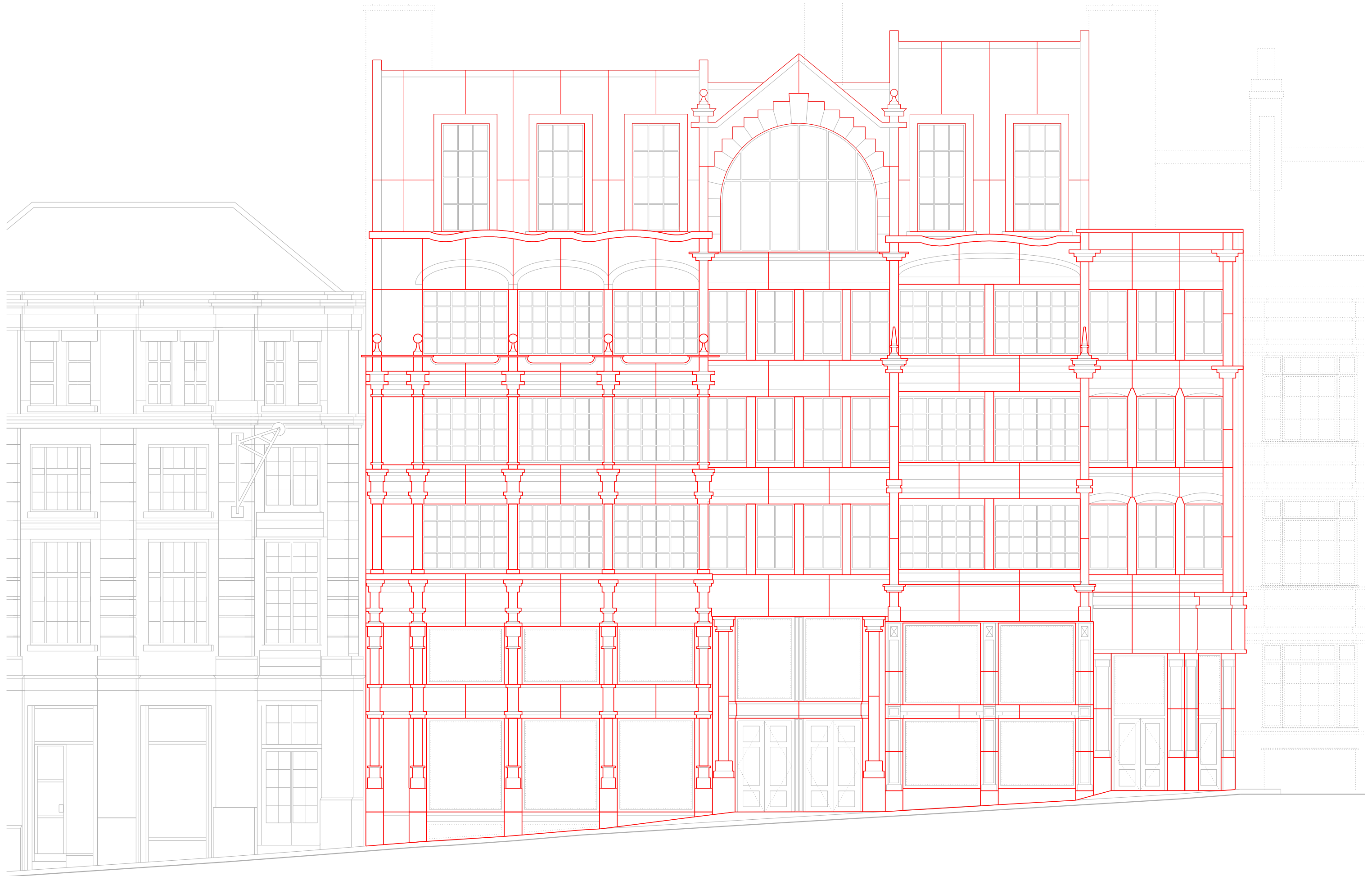
Fig. 100 Sample panel finished.

3.4 Key Element 1 - Restoration -

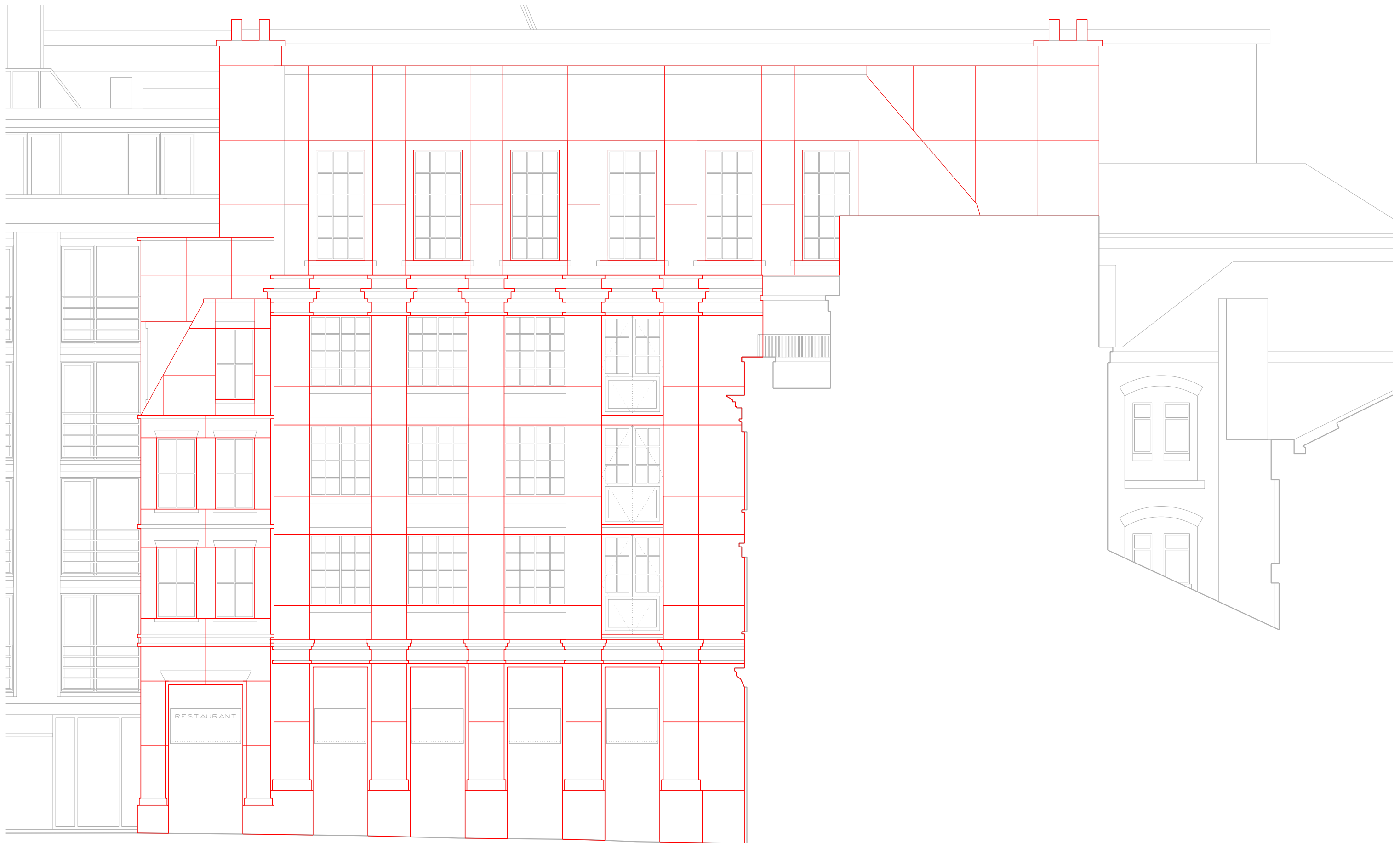
Panelisation

Working with structural engineers Atelier One, we have developed the panelisation of the sample panel to the whole facade. This indicates the limits of both the folding capacity of the fabrication process and sheet material sizes.

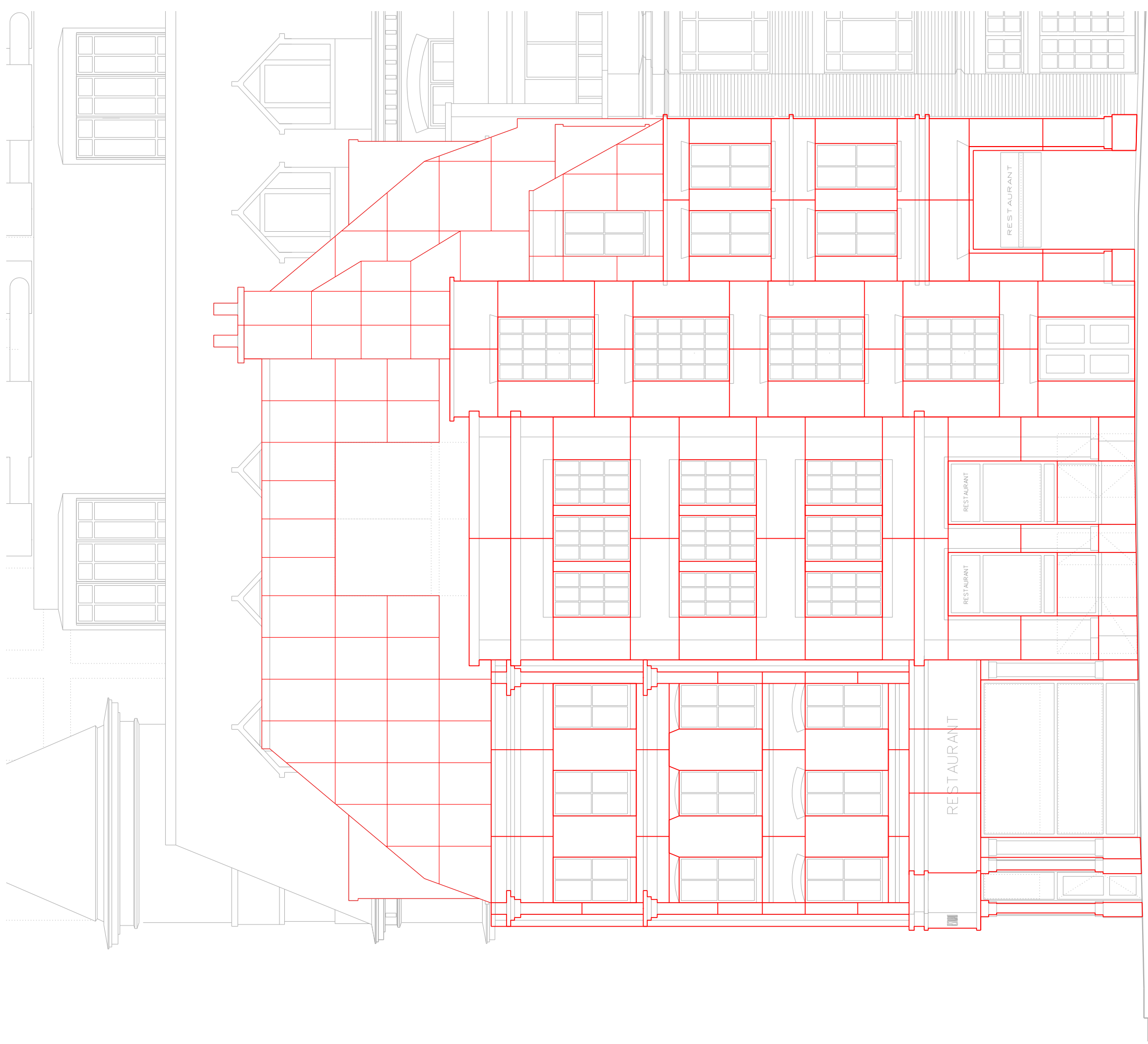
The panelisation has been developed to ensure each building is read separately, restoring the traditional grain, plot widths and rhythm, restoring vitality to the streetscene. Panels have been sized to ensure installation time is reduced to a minimum and reduce waste from the process.

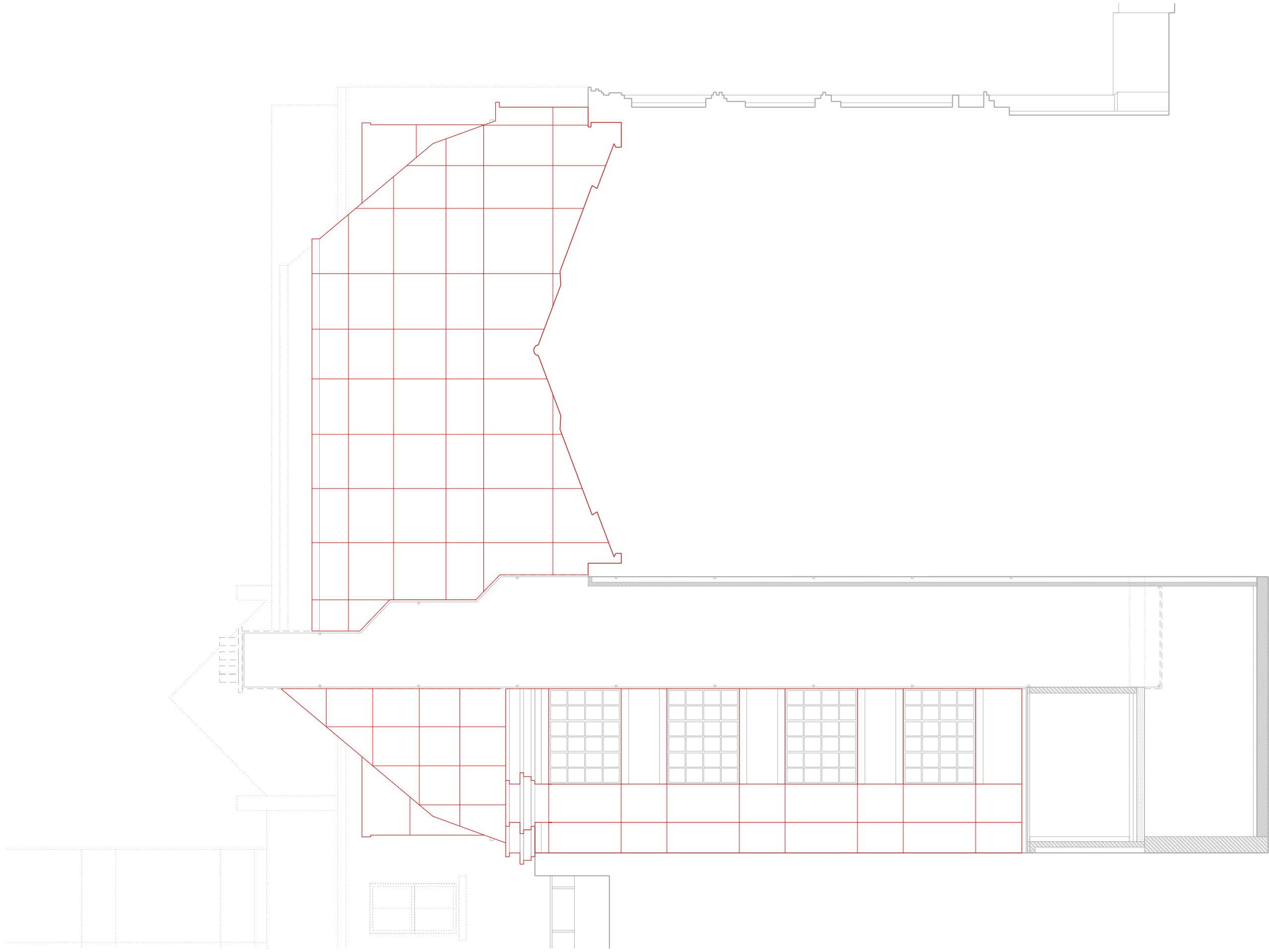


① PROPOSED NORTH ELEVATION – PANEL SUBDIVISION



① PROPOSED SOUTH ELEVATION – PANEL SUBDIVISION





4.4 Key Element 1 - Restoration -

Facade Durability

Durability of the facade is crucial in developing, realising and delivering the design. Working closely with structural engineer Atelier One, the following changes have been made to ensure the facade is durable and stable at the ground floor level:

- **Mesh type**

Facade mesh panels will be made from perforated sheet with 6mm holes at a 10mm pitch. This will provide 35% open area and provide sufficient strength as to withstand bending from wind forces.

- **Mesh finish**

A patinated brass finish was chosen for its ability to naturally weather and maintain its structural integrity over time.

- **Additional mesh stiffening fins**

At ground floor level, the mesh will have additional mesh stiffening plates. Furthermore, additional folds will be introduced through detailed modelling to strengthen the facade. In areas with less folding, additional structure will be introduced to strengthen panels whilst blending with the overall detail of each elevation.

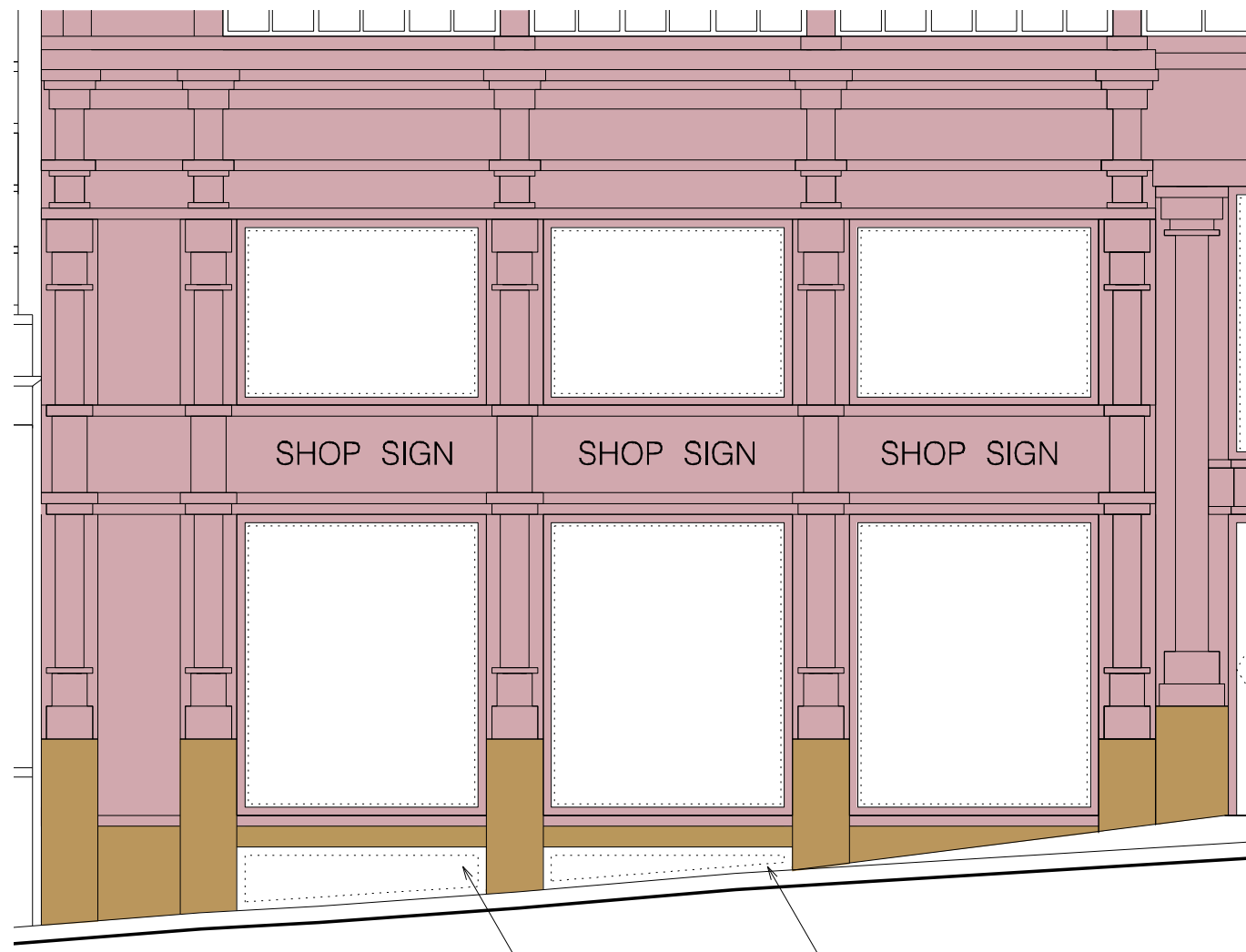


Fig. 101. Greville Street elevation to highlight areas which have been folded to increase stability and which areas are to have additional mesh internal fins added.

FOLDED ADDITIONAL MESH STIFFENING MESH FINS

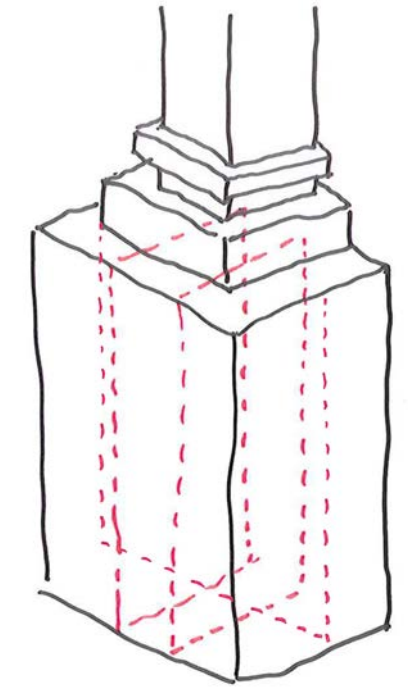


Fig. 102. Example sketch of additional mesh stiffening fins added to a large flat section.

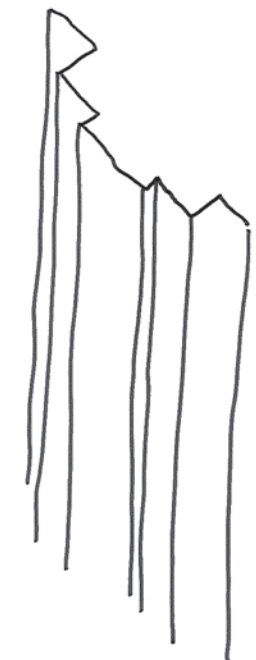


Fig. 103. Example sketch of additional folds introduced through detail modelling to strength areas of the facade

4.4 Key Element 1 - Restoration -

Facade Maintenance



Fig. 104. Specification - 6mm DIA x 10mm pitch - 35% - To scale



Fig. 105. External Cleaning - Pressure washing the outside



Fig. 106. Internal Cleaning - Inward opening windows

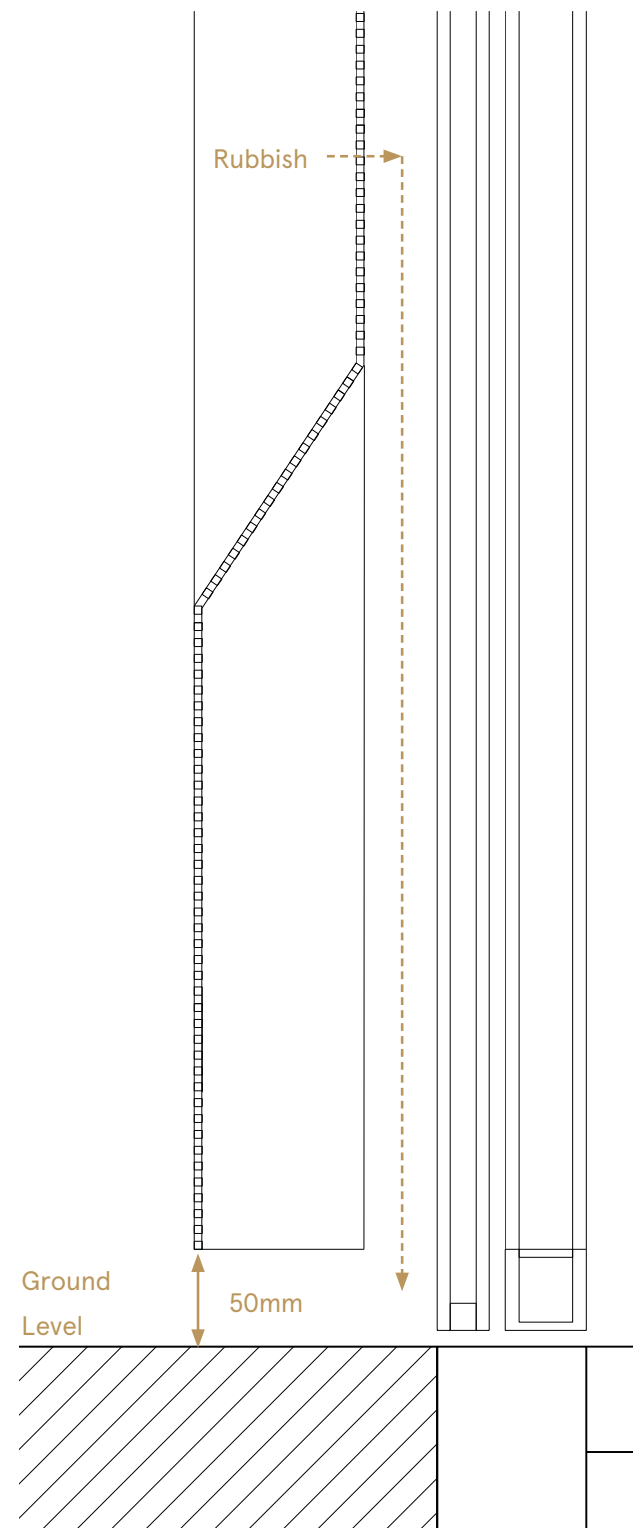


Fig. 107. Design - Access at the bottom of the facade for cleaning

The facade is to be maintained through its design, specification, detailing and cleaning contracts managed by the owner, who is the applicant. These have been explored below:

- **Specification/Design**

As highlighted previously, the specified perforations are 6mm in diameter. The small size of these perforations will ensure that any large items cannot be pushed through. If items of 6mm in diameter are pushed through the perforations, they fall to the bottom of the facade. The bottom of the facade ends 50mm above street level to ensure cleaning of any items can be easily accessed. We have purposefully specified the facade perforations of a size which will be difficult to puncture with rubbish (including cigarettes). Furthermore, the building manager, who is the applicant, will regularly have the ground floor areas cleaned of any rubbish.

Panels will be designed to be cleaned in situ. If a panel is to break, the cladding system will allow for removal of individual pieces.

- **Internal Cleaning**

Inward opening windows will be specified to ensure cleaning can be done from the inside. Furthermore, areas of the facade can be accessed from regular operable windows on each elevation.

- **External Cleaning**

The facade can be pressure washed in areas which would otherwise be difficult to access. Pressure washing will not cause any discolouration in the facade finish and will also force any rubbish items or dirt from harder to reach locations. This will also remove spider webs etc.

Areas of the external facade at high level will be access from the dormer windows.

4.4 Key Element 1 - Restoration -

Facade Signage

Evidence from Kelly's Street Directory indicates that the buildings on the site were used for commercial purposes as early as 1846. An ivory dealer and surgeon were recorded at No 20; an optician at No 22; and a copper plate printer and silversmith at No.23. It is therefore our intention to reinstate the Victorian shop frontages, respecting details and signage as was once visible on the site. The proposal achieves this through the following devices:

- **Signage**

Regularity and control in font size, type, colour and position to maintain uniformity in the Greville Street Elevation. Brass letters are to be fixed onto the metal facade finished in a different patination.

- **Awnings**

Reinstate the Victorian awnings once likely to have been used at 20-23 Greville Street. During out of hours, these will be folded back into the facade and therefore hidden. During working hours, these can be extended into the street.

- **Glazing details**

The glazing details will follow that of the previous Victorian shop fronts on the site. Elements are likely to include bulkheads, cornices, transoms and sign bands.



Fig. 111. Proposed Greville Street shop front with retracted awning.



Fig. 112. Proposed Greville Street shop front with extended awning.

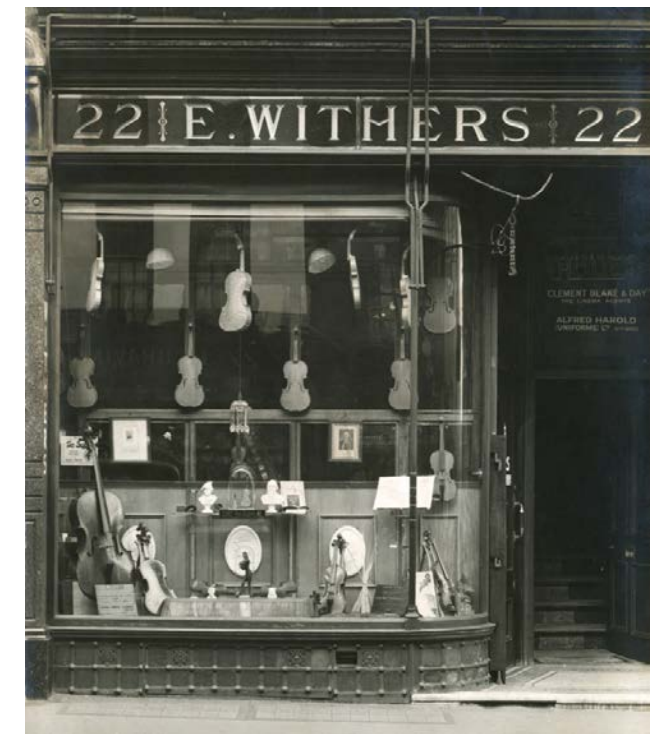


Fig. 113. London Victorian shop front with retracted awning.



Fig. 114. London Victorian shop front with extended awning.

4.5 Key Element 2 -

Roof Extension

4.5 Key Element 2 – Roof Extension –

Streetscape Analysis



Fig. 115. View east along Greville Street from Hatton Garden.



Fig. 116. 6 storey large commercial building on Farringdon Road.

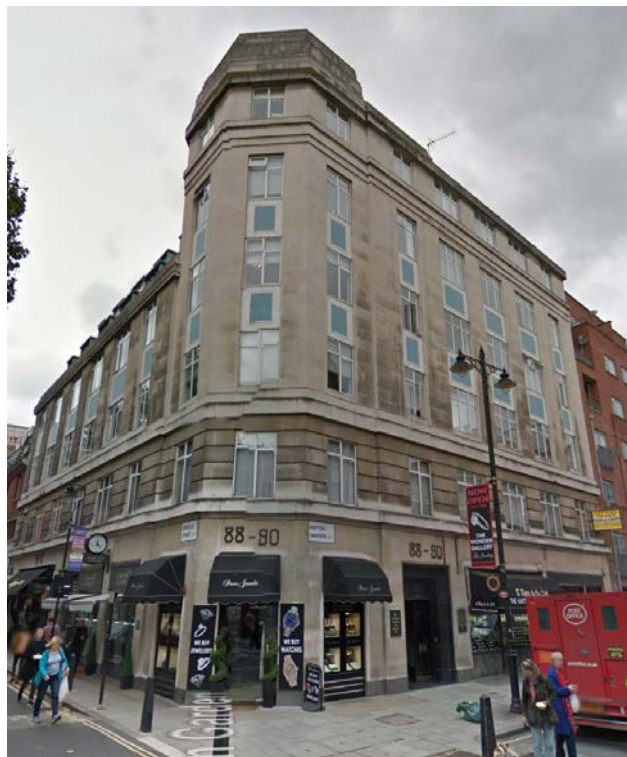


Fig. 117. 6 storey 88-90 Hatton Garden, crossing Greville Street.



Fig. 118. 6 storey 25-27 Greville Street,

This analysis begins with a physical and pictorial survey of building types, uses, heights and materials. Pedestrian, bus and car journeys were undertaken to and from the site and into adjacent streets and public spaces. The aim is to analyse the site's context in relation to streetscape contribution and use this to inform the most appropriate massing options.

The following are extracts from the Historic Building Report prepared by Donald Insall Associates.

'The Hatton Garden Conservation Area is located in the southern part of Camden, bordering the City of London to the south, whilst its northern and eastern boundaries run along Clerkenwell Road and Farringdon Road, the border of the Borough of Islington. Charterhouse Street and High Holborn form the southern boundary and to the east, the southern end of Grays Inn Road. The Hatton Garden Conservation Area is not dominated by a particular style of period but instead reflects its extensive history through a combination of architectural styles including Georgian terraced houses, Victorian residential blocks, early social housing, 19th century industrial buildings as well as some neo-classical Georgian building and post-war developments. It is this diversity which gives the area its special interest.

The area is situated on a plateau but the land to the north and east towards Warner Street and Farringdon Road falls away, marking the former valley which used to lead towards the River Fleet before it was covered in the late-19th century. The west side of Farringdon Road largely consists of late- 19th century

warehouses and commercial buildings of a similar scale and rhythm, whilst the east side is dominated by a modern office development which extends the entire length of the street between Cowcross Street and Clerkenwell Road. East of Farringdon Road at the junction with Cowcross Street and St John Street is the railway line and Farringdon Station (1922, Grade II) is a low rise brick faced station with white faience and granite dressings; opposite is the modern terminus. Looking east is the Grade II-listed Nos.25-27 Greville Street (1873-4)-a six storey Venetian Gothic commercial building which dominates the corner of Greville Street and Farringdon Road with its bull-nosed corner and prominent turret. It is faced in red brick with polychromatic dressings to the windows and doors.

Greville Street runs east to west and is intersected by three narrow roads; Saffron Hill (east), Kirby Street and Hatton Garden (west). These streets, along with Greville Street, were laid out during the development of the Hatton Estate in the late-17th century. The western end of Greville Street contains a mixture of buildings ranging in date from the early-19th century to the 1970s and ranging in style from mid-19th century Italianate to the Austrian-inspired apartment block at the corner of Hatton Garden (Nos.88-90 Hatton Garden). The 1990's rear elevation of Prudential Building forms the closing vista to the west. The north elevation to Vesage Court occupies the entire south side of the street.'

4.5 Key Element 2 - Roof Extension -

Streetscape Analysis



Fig. 119. 7 storey 36-43 Kirby Street.



Fig. 120. 6 storey Prudential Building closing Greville Street.



Fig. 121. Treasure House and 7 storey 10-18 Hatton Garden.

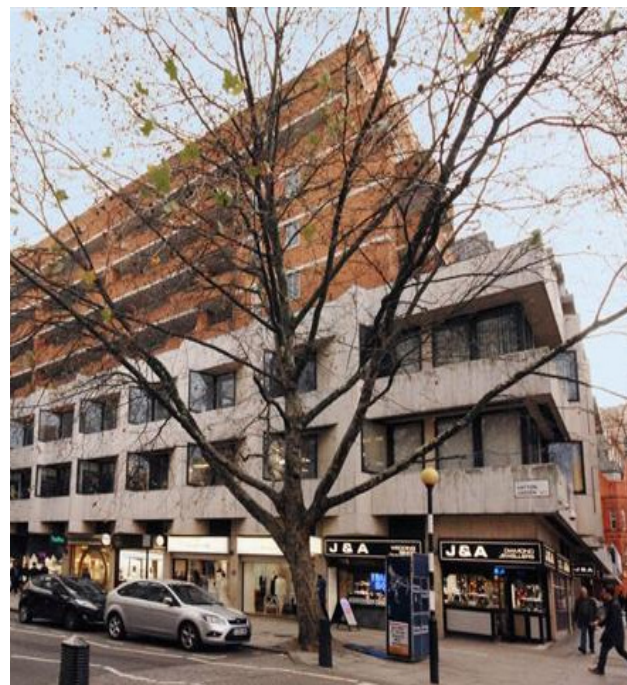


Fig. 122. 10 storey Vesage Court on Greville Street.

The following are extracts from the Historic Building Report prepared by Donald Insall Associates.

‘Saffron Hill runs parallel to Farringdon Road. At its southern end, it falls towards High Holborn, marking the former valley towards the River Fleet. Kirby Street runs north to south between Greville Street and Cross Street and whilst it retains its narrow grain, it was heavily bombed during the Blitz raids and therefore is now dominated by post-war buildings. The buildings are three- to four storeys in height, with a consistent roof line on both sides of the street, giving it some uniformity despite the variety in style. The modern student accommodation blocks at Nos.36-43 Kirby Street and Nos.31-35 Kirby Street have double mansards, but these are set back from the building line and therefore not noticeable from street level.

Hatton Garden runs between Clerkenwell Road, south to Holborn Circus. As one of the focal points of the Hatton Estate development, the road is wider than others in the conservation area. The trees planted at the south end of the street were part of the early development of Hatton Garden. Along the street are examples of the Georgian terraced housing, Victorian industrial / commercial buildings, early-20th century warehouses and postwar rebuilds on the east and west side of the street. The oldest survivors on Hatton Garden are the two figures of a boy and girl in 18th-century dress which flank the entrance to No.43 Hatton Garden and originally belonged to the former parochial school established in 1696 in a former chapel which stood on the site. The building was destroyed in the Second World War and has since been restored

as offices.²⁰ Of the few surviving Georgian terraces are No.5 and Nos.86-87 (The London Diamond Club), which has since been altered with a stucco façade. There are a number of Neoclassical Edwardian buildings with stone façades and ranging from three- to five storeys high. Most notable amongst these is Treasure House (1907, Grade II*), at Nos.19-21. The building is four storeys, faced in Portland stone, with six fine relief stone carvings to its ground floor piers. No.11 stands out on the street, as it is face in green glazed bricks. Opposite is Vesage Court, a 1970s apartment block which dominates the entire south west side of Hatton Garden between Holborn and Greville Street and stretches back to Leather Lane. It has a three-storey stoneclad podium containing shops and rises seven further storeys, faced in red brick.’

4.5 Key Element 2 - Roof Extension -

Streetscape Analysis

The following are extracts from the Historic Building Report prepared by Donald Insall Associates.

'Ely Place, (a rare survival of a gated road in London) is a peaceful, private street located south of Bleeding Heart Yard and Charterhouse Street. The original late-18th century yellow brick porter's lodge and iron gates survive as does some of the terrace laid out by Charles Cole in 1773, including Nos.7-9, 21, 25, 31-34, whilst Nos. 26-30 are rebuilds. On the west side of the street is the Church of St Etheldreda (Grade I), which is the only surviving fragment of the medieval Ely House. Along the west side of Ely Place is an opening between the terraces which leads into Ely Court, a narrow passage which connects through to Hatton Garden and where the Ye Olde Mitre (c.1773, Grade II) is located.

Further west, in the south-west corner of the Hatton Garden Conservation Area is the Prudential Building (1885-1901, Grade II*), 'one of London's Victorian Gothic showpieces', designed by architect Alfred Waterhouse and his son Paul. Later additions to the building were made in 1930-32 by Messrs Joseph and more controversial alterations were carried out in the 1990s by EPR Architects, who replaced the north-east corner of the building which now dominates the west end of Greville Street.'



Fig. 123. View of Bleeding Heart Yard.



Fig. 124. View of site from Bleeding Heart Yard.



Fig. 125. View of site from Farringdon Station.



Fig. 126. View of site from Farringdon Road.

4.5 Key Element 2 - Roof Extension -

Approach to Streetscape



Fig. 127. Key view 1 from Farringdon Road looking west.



Fig. 128. Key view 2 from Hatton Garden looking east.

As illustrated in the previous street scape analysis, the building can accommodate addition massing at roof level without detracting from the quality of the surrounding Conservation Area. Massing tests highlighted possible approaches to achieving this without overly dominating the streetscape, adding appropriate massing and additional area or detracting from the views highlighted in the previous section.

The following are possible methods of adding additional floor area to the current building:

Option A - Full footprint

This option would see an extrusion of the existing footprint on all sides to maximise potential floor area. In streetscape terms, the additional block shaped massing would overly dominate Greville Street through an increasing sense of enclosure and adversely impact neighbouring property's daylight and sunlight levels.

Option B - Reduced footprint

This option would follow similar principles to the previous but with the reduction in size to reduce any impact on Greville Street and its visibility on the streetscape.

The additional block shaped massing is still visible from the surrounding streets and in Camden's key views due to its unfavourable outline against the surrounding buildings.

Option C - Stepping back

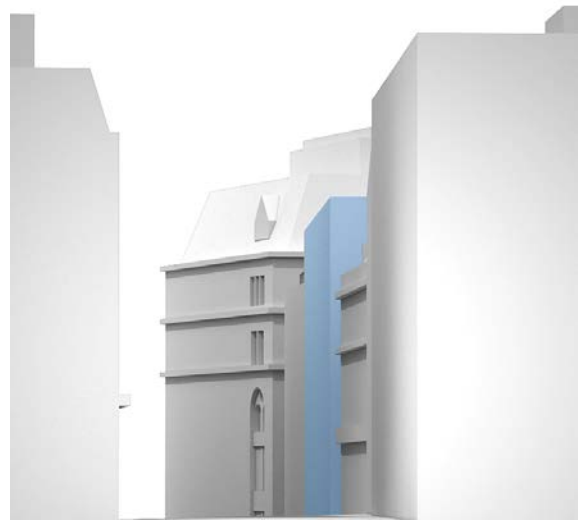
This option allows for a seamless transition from the existing facade back to roof level. Stepping back the mass immediately ensures similar views are maintained to the current condition. The angled mass will prevent from overly dominating the street below and maintain any views towards the sky and from surrounding buildings.

This approach is similar to that of a mansard roof, developed to provide additional floor area whilst not detracting from the host and adjacent buildings and remaining unseen from street level.

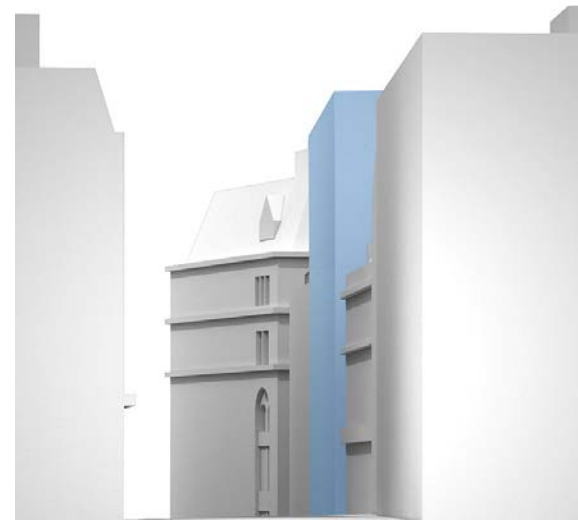
4.5 Key Element 2 - Roof Extension -

Approach to Streetscape

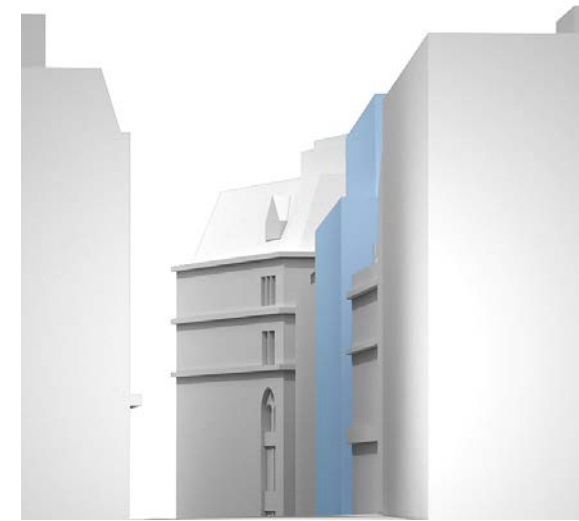
View from Hatton Garden looking east



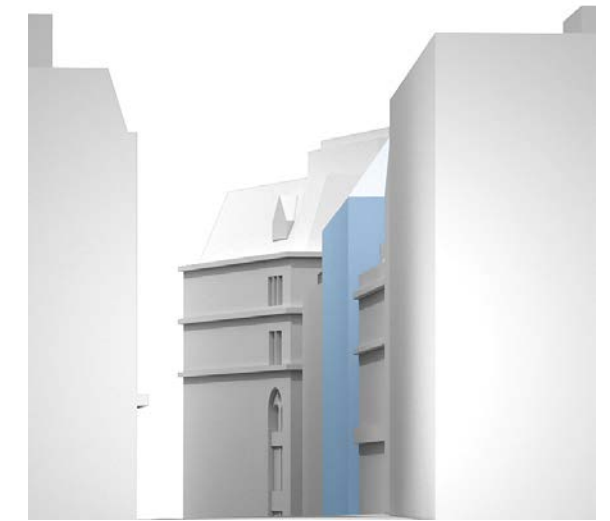
Existing



Option A - Full footprint

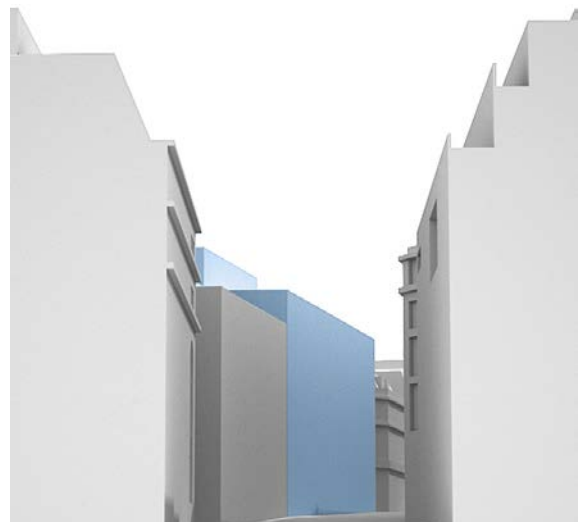


Option B - Reduced footprint



Option C - Stepping back

View from Farringdon Road looking west



Existing



Option A - Full footprint



Option B - Reduced footprint



Option C - Stepping back



Fig. 129. Outline of proposed roof extension on existing section.



Fig. 130. Bronze sample colouring.

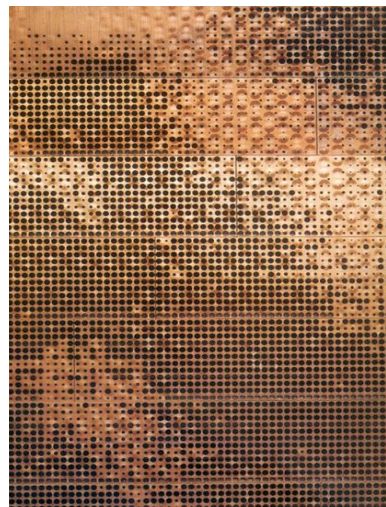


Fig. 131. De Young Museum - Herzog & de Meuron.



Fig. 132. Caixa Forum Madrid - Herzog & de Meuron.

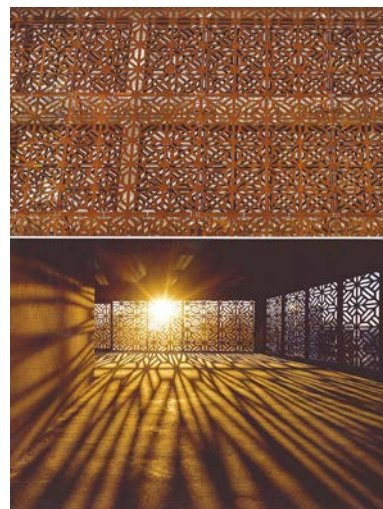


Fig. 133. Bronze roof perforated terrace covering.



Fig. 134. Information centre - Switch.



Fig. 135. San Telmo Museum Extension - Nieto Sobejano Arquitectos.

4.5 Key Element 2 - Roof Extension -

Approach to Material

Considering the previous streetscape and massing analysis, we propose to introduce a modest roof extension comprising one floor with mezzanine level, following the original mansard line stepping away from the parapet to protect neighbouring building's amenity levels and provide additional office accommodation for a range of business sizes.

The original deed profile (shown below) highlights the previous mansard roof line which is to be followed in reinstating the initial roof boundary. The roof extension is to be engineered as to reduce any excess structure, speed up construction time and cost and where necessary integrate any cross bracing into proposed floor plates to maximise potential office accommodation.

The roof is designed to maximise glazed areas but protect inhabitants from overheating with a continuation of the wrapped perforated facade from below.

Perforating the roof will allow clear views from the upper levels and introduce natural daylight into all interior spaces, activating each area of the roof. Furthermore, the perforation pattern, density, frequency and size can be altered to reduce the impact on the surrounding area and streetscape.

As the roof cladding wraps up above the CLT roof slab and build up, plant equipment can be positioned out of sight from the street and surrounding buildings whilst remaining in a central position to serve the building. Positioning plant at roof level can allow plant equipment to be naturally ventilated and an acoustic barrier built in to the roof facade can minimise any potential noise output from such equipment.

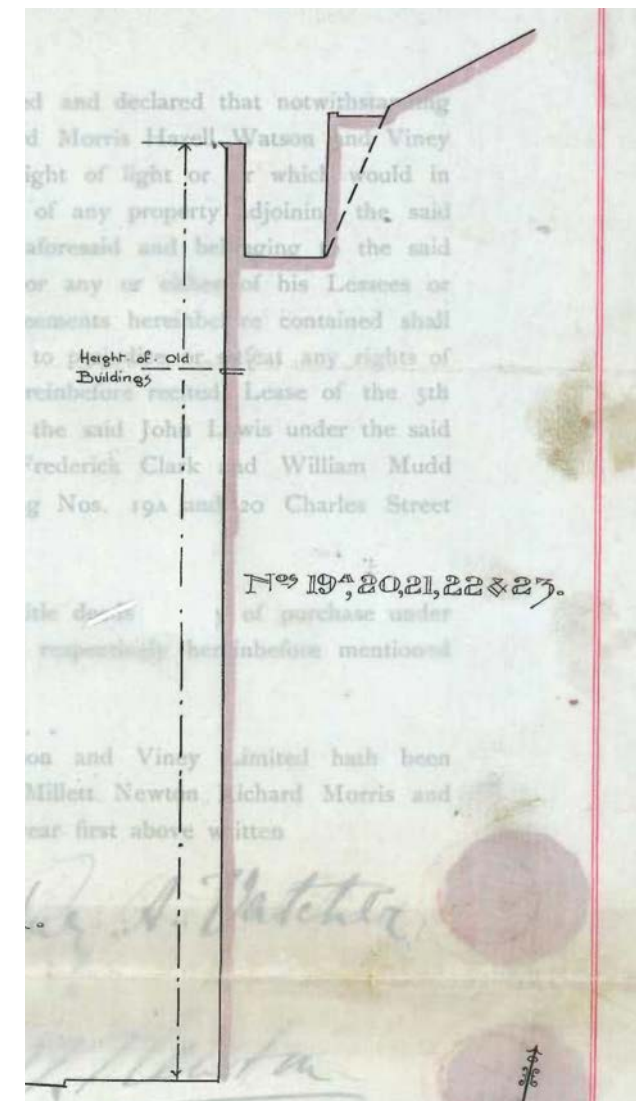


Fig. 136. Outline of previous building occupying 20-23 Greville Street.

4.5 Key Element 2 - Roof Extension -

Wirelines

The following wirelines have been produced by Hayes Davidson based on the massing of the current design to assess the impact the roof extension and associated facade will have on the surrounding streetscape.

The wireline views highlight the appropriate massing of the roof extension using the same mansard line of the buildings previously occupying the site. This ensures in massing terms, the proposal retains a massing suitable for the site and area.

When compared to the pre-application submission, the mansard line of the revised design steps back further in line with conservation officer comments.

Please see following pages for wireline views.



Fig. 137. View 01 - Existing view

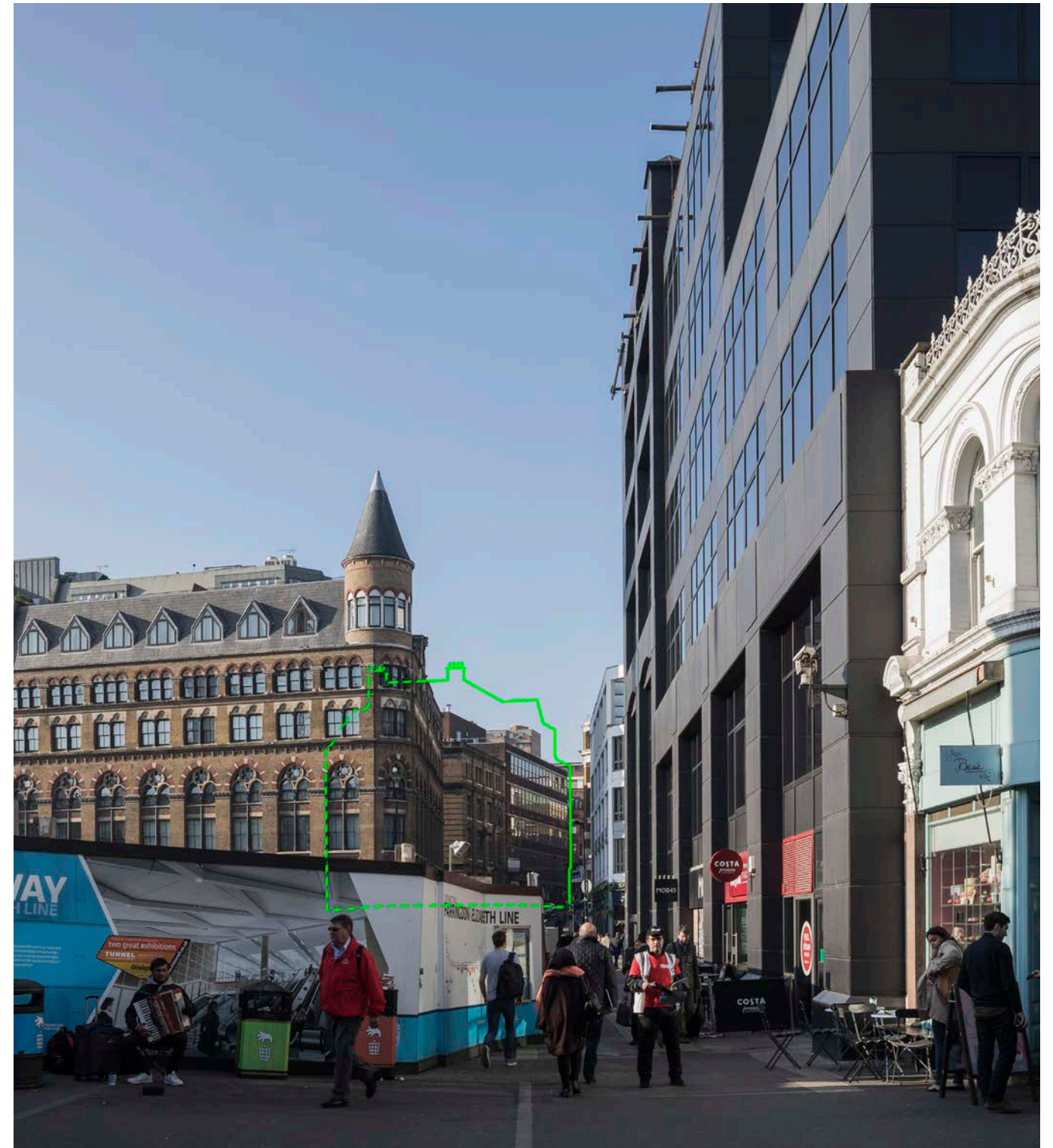


Fig. 138. View 01 - Proposed massing



Fig. 139. View O2 - Existing view

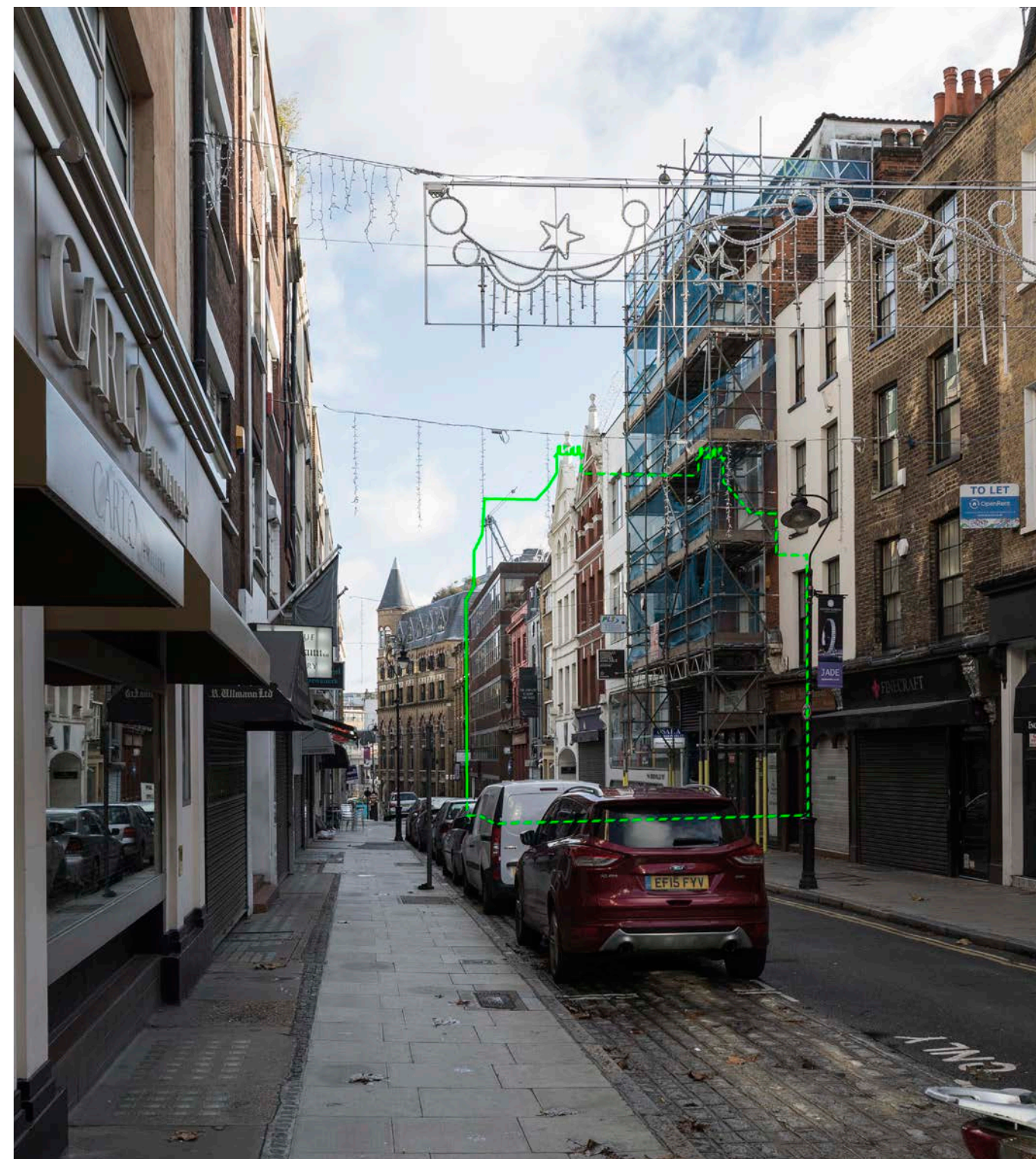


Fig. 140. View O2 - Proposed massing

4.5 Key Element 2 - Roof Extension -

M+E Height

The mechanical and electrical plant, currently situated in Bleeding Heart Yard is proposed to be relocated at high level on the roof behind acoustic screening and a mesh overrun to conceal any otherwise visible machinery.

Working closely with M+E engineer Webb Yates Engineers, we have developed a strategy to make use of the full roof plan with low plant equipment, ensuring that all requirements are met for the offices and commercial units below whilst respecting the amenity levels of neighbouring buildings.

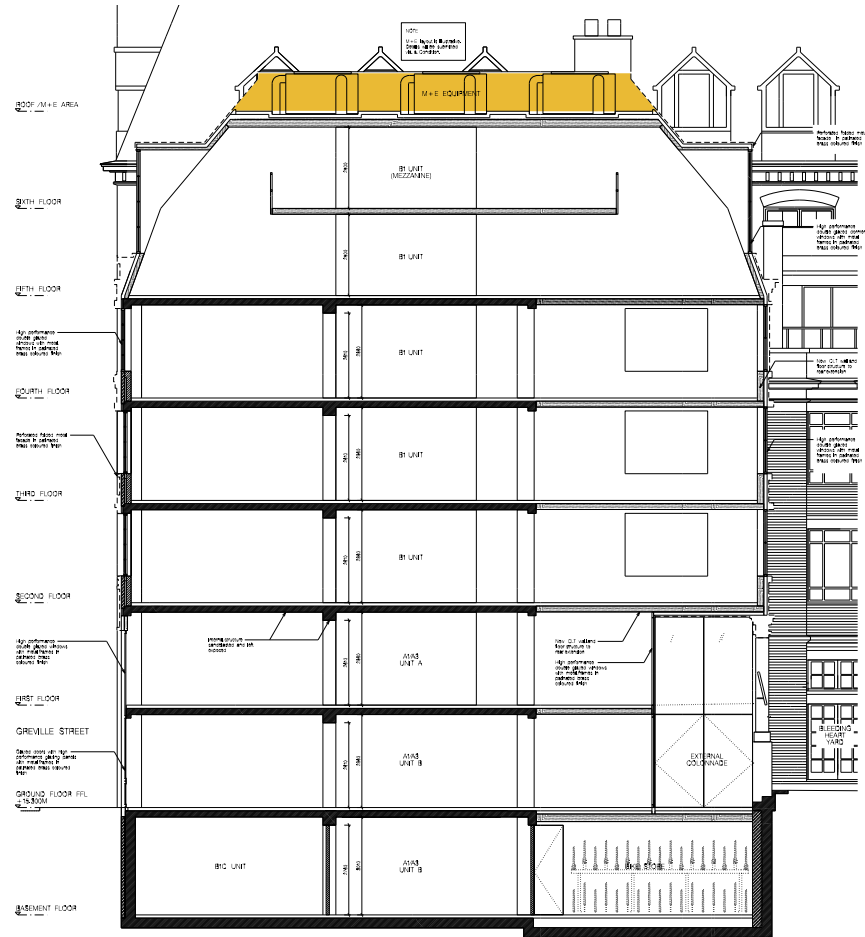


Fig. 141. Proposed M+E equipment location

Plant



Fig. 142. Existing M+E equipment location

Plant

4.5 Key Element 2 - Roof Extension -

M+E Roof Plan



Fig. 143. Proposed roof plan showing M+E layout as designed by Webb Yates Engineers

4.5 Key Element 2 - Roof Extension -

M+E Equipment

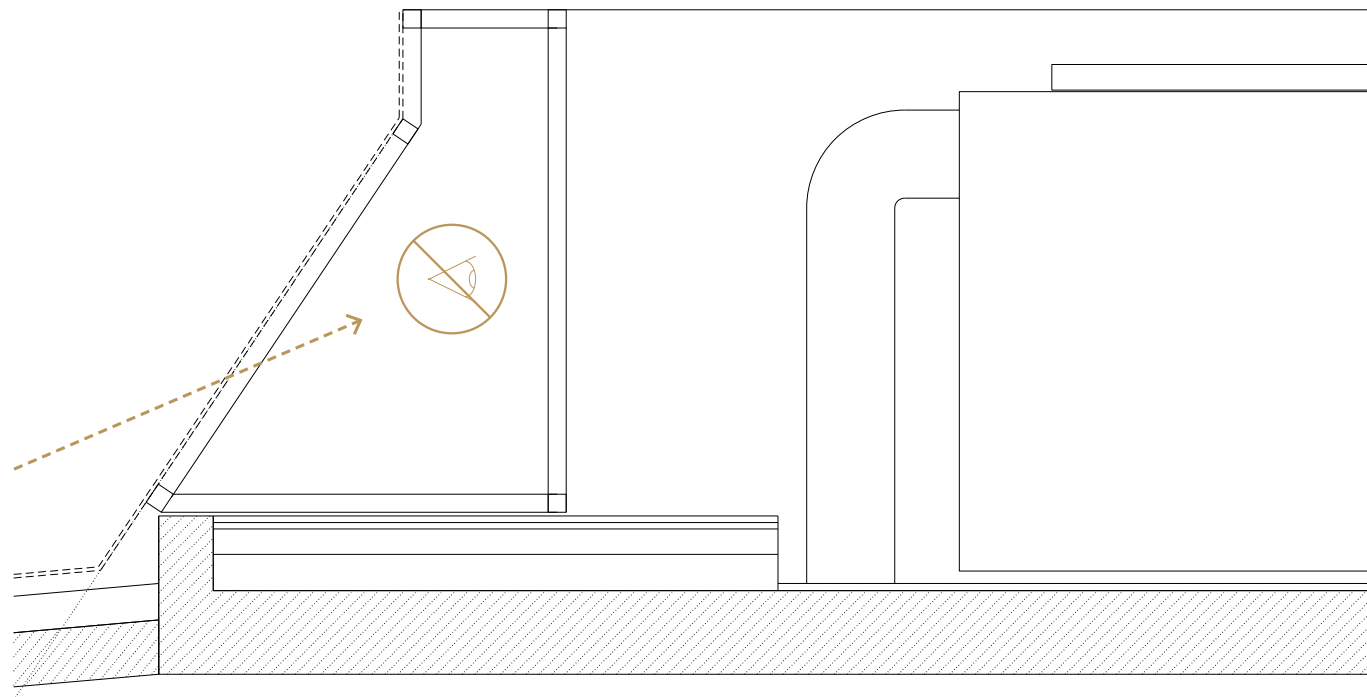


Fig. 144. Overrunning Facade - the overrunning facade will act as a visual barrier and conceal any plant equipment behind it.

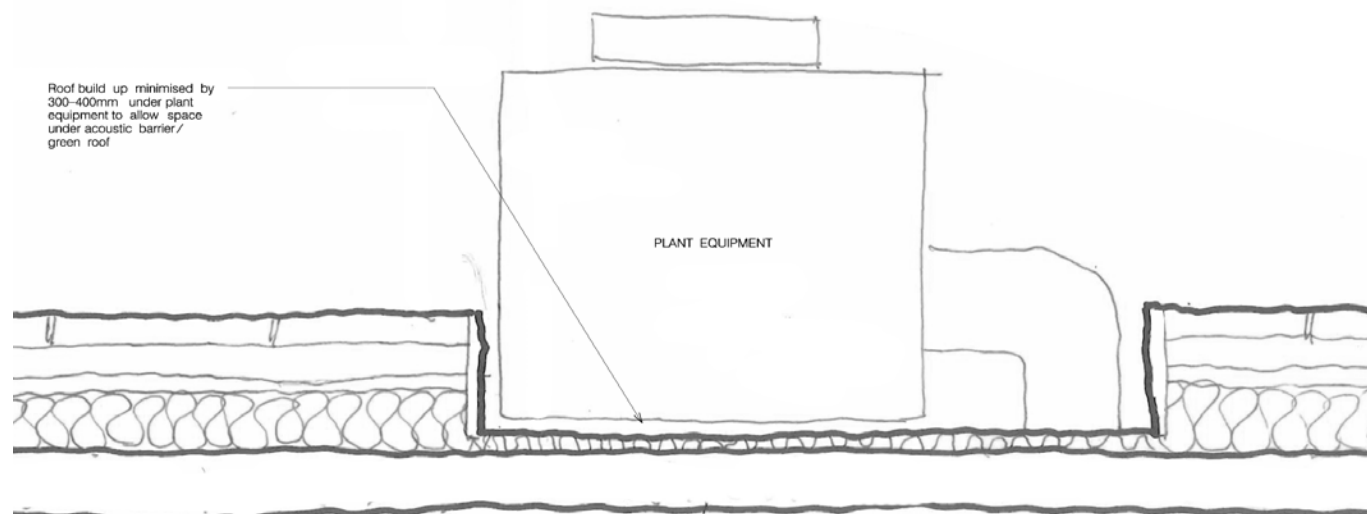


Fig. 145. Sunken Flooring - flooring sunken in required areas to reduce the overall plant height.

All mechanical and electrical equipment is to be placed at roof level. This is seen as a great improvement on the current position of the units at the basement level which are exposed to public view and back directly onto Bleeding Heart Yard.

The following measures will be taken to ensure mechanical and electrical equipment is not visible:

- **Overrunning facade**

At roof level, all equipment will be hidden behind an overrunning facade. From street level, the facade will be designed to sit in composition with the street but be acting as a visual barrier between the equipment and surrounding buildings.

- **Sized equipment**

Mechanical and electrical equipment has been carefully sized as to not exceed the facade overrun.

- **Acoustic panels**

Acoustic panels will surround any plant equipment to ensure during operating hours no excess noise is produced above the current assessment. These will be specified by an acoustic engineer.

- **Vibration control**

All plant equipment is to be placed on vibration pads to ensure vibration to the building and associated noise produced is prevented. These will be specified by an acoustic engineer.

- **Sunken flooring**

Where mechanical and electrical equipment is larger and placed toward the roof centre, areas of the buildup can be reduced to ensure no protrusions above the roofline occur.

Verified views of the building will be supplied as part of the application to demonstrate that there will be no detrimental impact on the Conservation Area, on locally protected views or on the setting of nearby listed buildings.



Fig. 146. Acoustic panels - screening to stop sound spreading.



Fig. 147. Vibration control - vibration pads of varying capacity specified to suit specific plant equipment.

4.6 Key Element 3 -

Activating Bleeding Heart Yard

4.6 Key Element 3 - Activating Bleeding Heart Yard -

Role of the Yard

This analysis looks to study the development of Bleeding Heart Yard, the role it currently plays in the area's urban grain and future potential of building types, uses, heights and materials. Pedestrian, bus and car journeys were undertaken to and from the site and into adjacent streets and public spaces. The aim is to analyse the site's context in relation to streetscape contribution and use this to inform the most appropriate massing options.

The following are extracts from the Historic Building Report prepared by Donald Insall Associates.

'Bleeding Heart Yard is one of the few surviving open spaces within the Hatton Garden Conservation Area. It has an urban character and is surrounded by three-storey brick-built industrial buildings dating from the late-19th century.

Many of them share common features and it is possible that they were constructed by the same builder. These features include large tripartite windows divided by brick piers, heavily-moulded string courses above ground floor and deep parapets; some retain their hoists. They have pitched roofs or flat roofs with roof terraces / plant areas. No.7 Bleeding Heart Yard features a two-storey glazed roof extension with a terrace at the upper level.

There are no listed buildings located in Bleeding Heart Yard but Nos.1-7 has been locally-listed by Camden Council. The rear (south) elevation of No.20-23 Greville Street faces onto the yard, and is the only modern building to do so. The land falls towards the south-west corner of the yard, where a brick

wall and gateway onto Ely Place are located. Much of the historic cobbled paving survives, although some has been replaced around the perimeter of the yard. The lightwells belonging to the buildings along the south side of the yard have been covered and contain modern glazing. Overall, the yard forms an attractive enclave, which is highly-demonstrative of the 19th century industrialisation of the area. Its present ground floor uses (restaurants and bars) and associated ephemera spill out onto the yard'



Fig. 149. Previous building's rear elevation at 20-23 Greville Street (shown on the left) occupying original footprint viewed from Bleeding Heart Yard, 1977.



Fig. 148. Original footprint 1872, 1886, 1894, 1914.

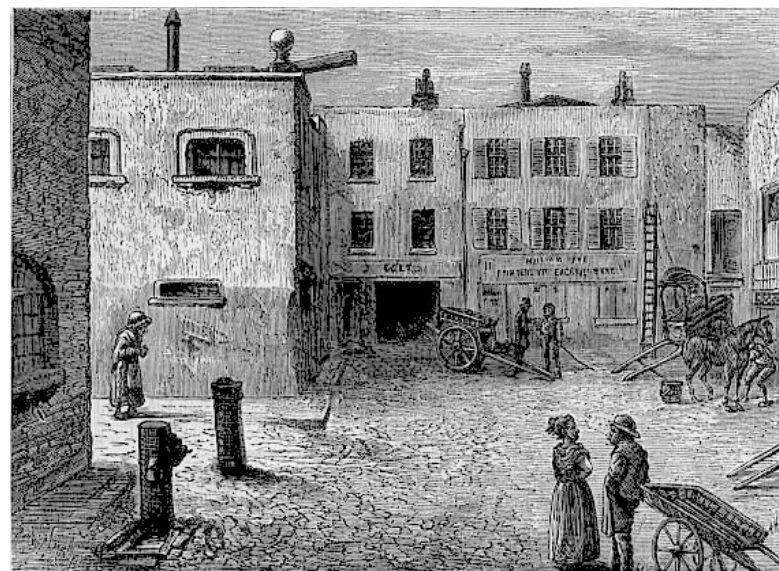


Fig. 150. Bleeding Heart Yard from Walter Thornbury's Old and New London, 1873.

4.6 Key Element 3 - Activating Bleeding Heart Yard -

Approach

We propose to reinstate the original building footprint with original rear facade to provide additional office accommodation and affordable area for the jewellery industry.

Before its demolition in 1976, the terrace of buildings occupying 20-23 Greville Street were recorded by Spencer W. Grant for a roof extension proposal to No. 20. Importantly, these drawings highlight the original building footprint dating back to the mid 18th century in which the entire site boundary was utilised, enclosing Bleeding Heart Yard as it was formerly planned. Furthermore, in the new Conservation Area Appraisal and Management Strategy, Camden state:

‘Bleeding Heart Yard and Hatton Place are important as large yards that have survived from the seventeenth-century street plan. They depend on...a strong sense of enclosure for their effect.’

In light of historical evidence of the building’s original form and Camden’s intentions to keep the authenticity of Bleeding Heart Yard, we propose to reconfigure the existing building to fill its former footprint, offering additional accommodation for small to medium business and the jewellery industry and reforming Bleeding Heart Yard’s intended former plan.

In form, the rear extension is to be cut back at high level to minimise any impact on amenity levels to the buildings facing Bleeding Heart Yard. A specialist daylight and sunlight engineer has been employed to ensure these impacts are minimised.

In structure, the rear extension is to be constructed from lightweight CLT slabs tied back to the existing concrete frame. This will keep construction duration to a minimum, lowering potential disruption to neighbouring and adjoining buildings.

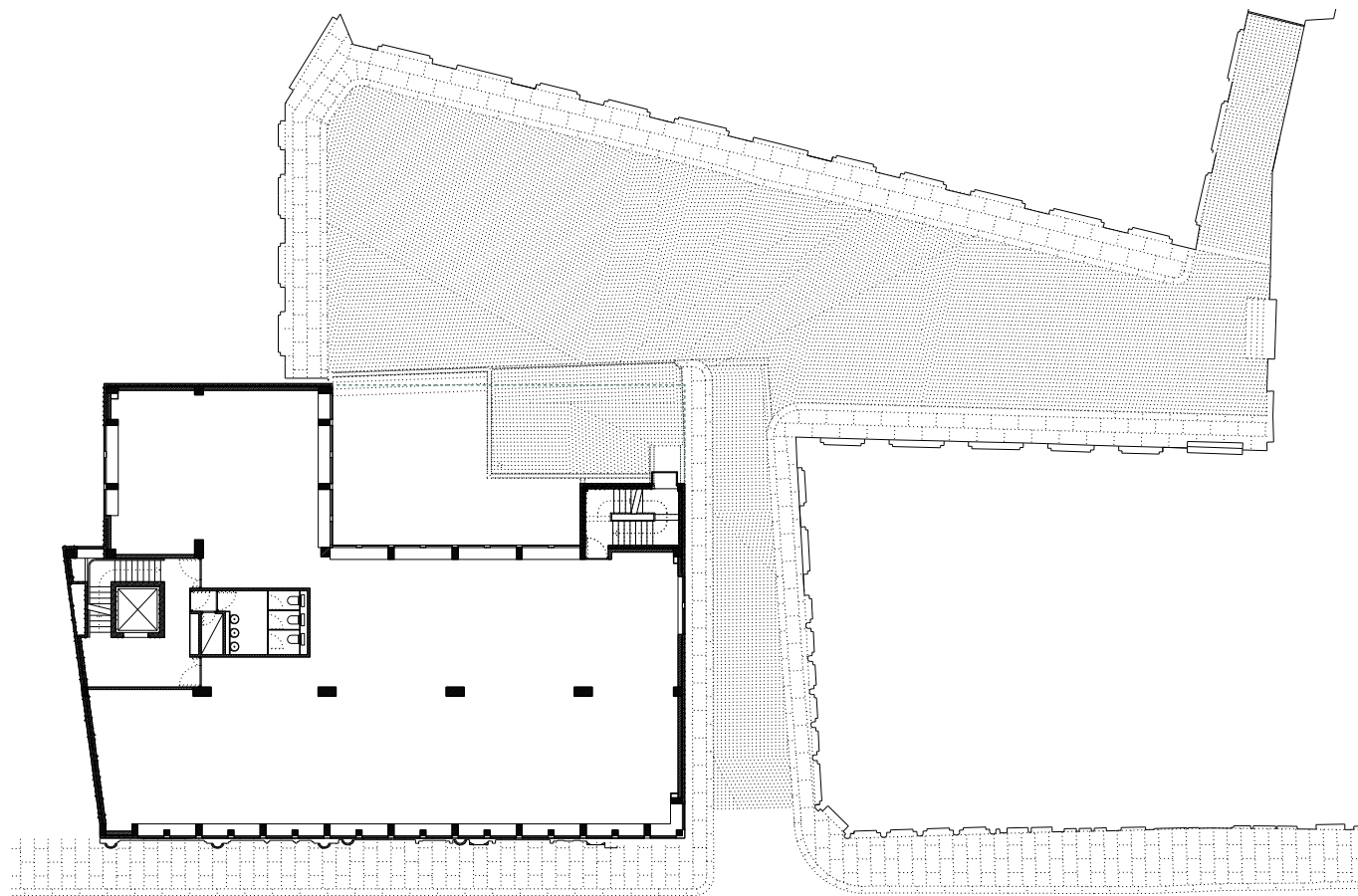


Fig. 151. Existing site plan with proposed infill to occupy the previous building’s site area, offering more floor space.



Fig. 152. Existing section with proposed infill to occupy the previous building’s site area, offering more floor space.

4.6 Key Element 3 - Activating Bleeding Heart Yard -

Approach



Fig. 153. Proposed view from Bleeding Heart Yard.

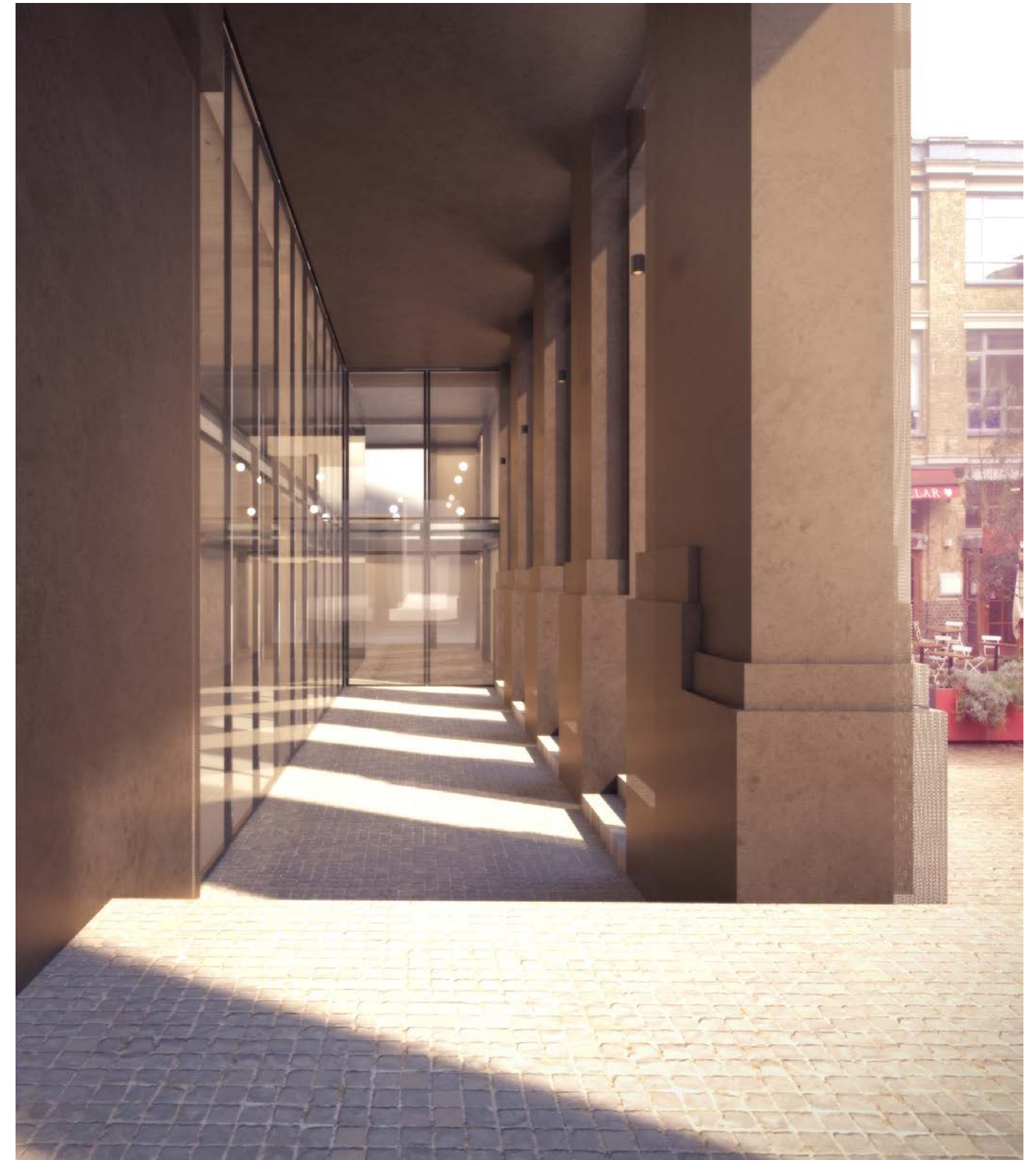


Fig. 154. Proposed view along Bleeding Heart Yard.

4.6 Key Element 4 -

Internal Area
