Dolphin Square

Planning Application No.1

16 November 2021

GRID
architects

Project Vision

AXA-IM Real Assets (AXA-IM RA) purchased Dolphin Square in September 2020, on behalf of its clients, with the intention of returning this much-loved estate to its best in line with our core values, ensuring clear, consistent consideration to Environmental, Social and Governance principles. The restoration programme will be guided by the following vision:

- **To preserve** the building.
  Our approach takes inspiration from Dolphin Square's heritage to retain the character and enhance the estate's built environment.

- **To modernise** the mechanical services and the environmental performance of the building.
  Investing in the utilities infrastructure, harnessing innovation and technology, combined with good estate management
  to reduce the carbon footprint of the building, during the restoration programme and future day to day operations.

- **To improve** the interiors, amenities and apartments for contemporary living.
  The design of amenities, the introduction of new services and the adoption of evolving technologies will enhance the experience for residents and visitors alike, improving attraction and accessibility to the wider community.

- **To protect** the residents, gardens and the community.
  Safeguarding Dolphin Square's long-term future, well-being of residents and making a positive contribution to the local community.

- **To include** and value diversity in our community.
  Welcoming a cross section of society and reflective of London as a whole, Dolphin Square will play an active role in our neighbourhood as a housing provider and as a catalyst for investment and short and long term job creation in Westminster. Our restoration programme will be shaped and guided by clear community engagement.

- **To restore** the attraction of living at this quintessential London address.
  The restoration programme will preserve all that we value about the estate, whilst incorporating all that it needs to be a special place to live, work and visit in the heart of the Pimlico community.

Document Purpose

The project team have reviewed how to deliver AXA-IM RA's vision and have established that it will involve making some material amendments to the estate. The purpose of this document is to describe these amendments in detail for approval by the City of Westminster. This application relates to material changes to the existing building fabric to facilitate the following.

- Amendments resulting from reducing the carbon footprint / energy strategy
- Amendments resulting from improvements to the estates fire strategy

This document has been structured accordingly.

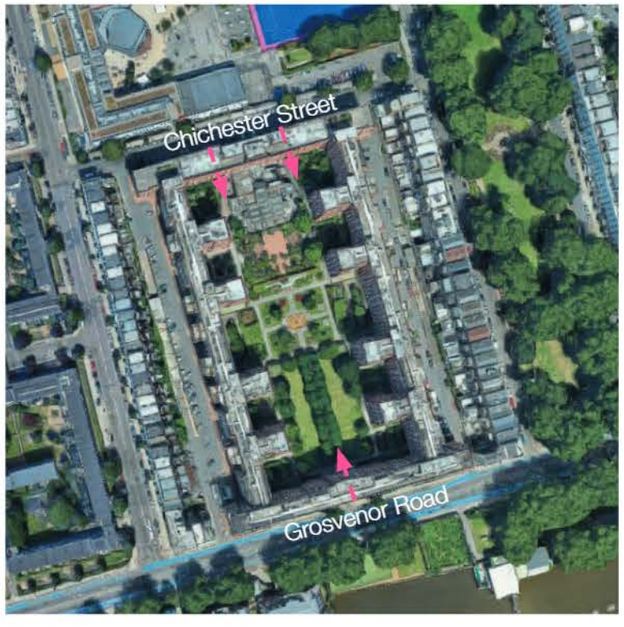
00 Introduction

Site

Dolphin Square is located a short walk from Vauxhall Bridge, close to the River Thames. It forms a large block that has a significant presence along the street.

The building is laid out as a quadrangle around a square internal courtyard. The large internal gardens are accessed through pedestrian archways and are completely separated from traffic and the routes around.

This is in contrast to Grosvenor Road which is a wide and busy primary route along the Thames. On its east and west sides, Dolphin Square is bounded by traditional residential streets laid out as part of Cubitt's development of Pimlico. On the north side, Chichester Street is opposite the Pimlico Academy.



Pedestrian Arched Access

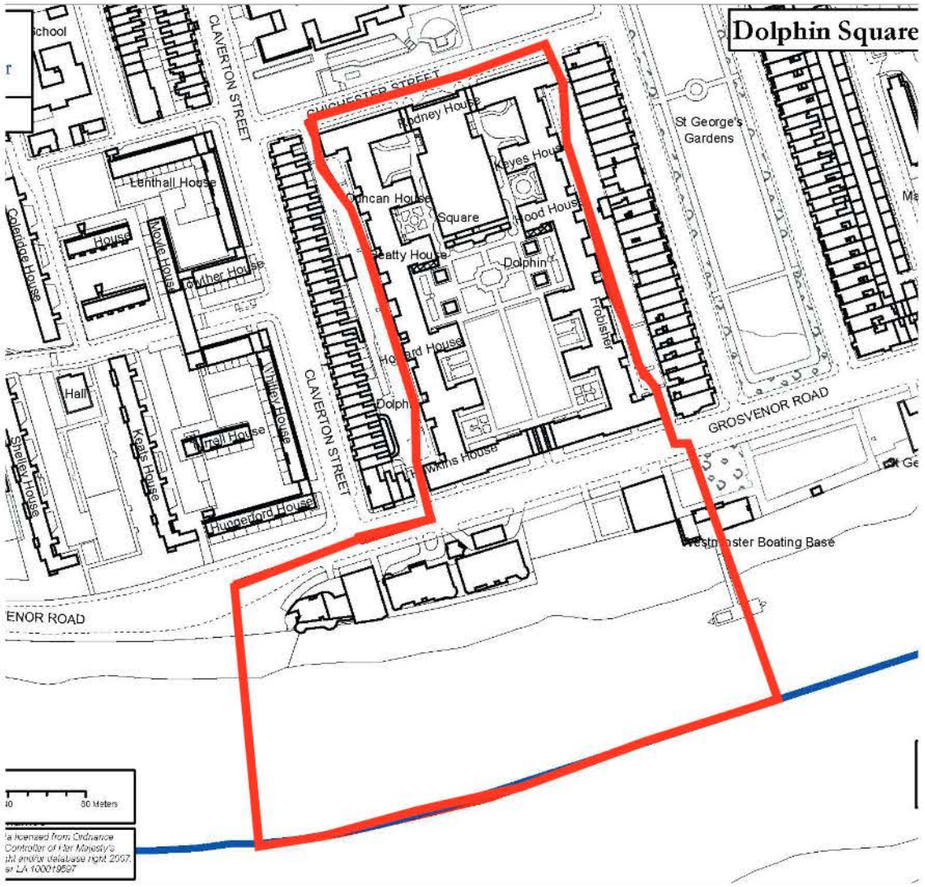
Site

Grosvenor Road

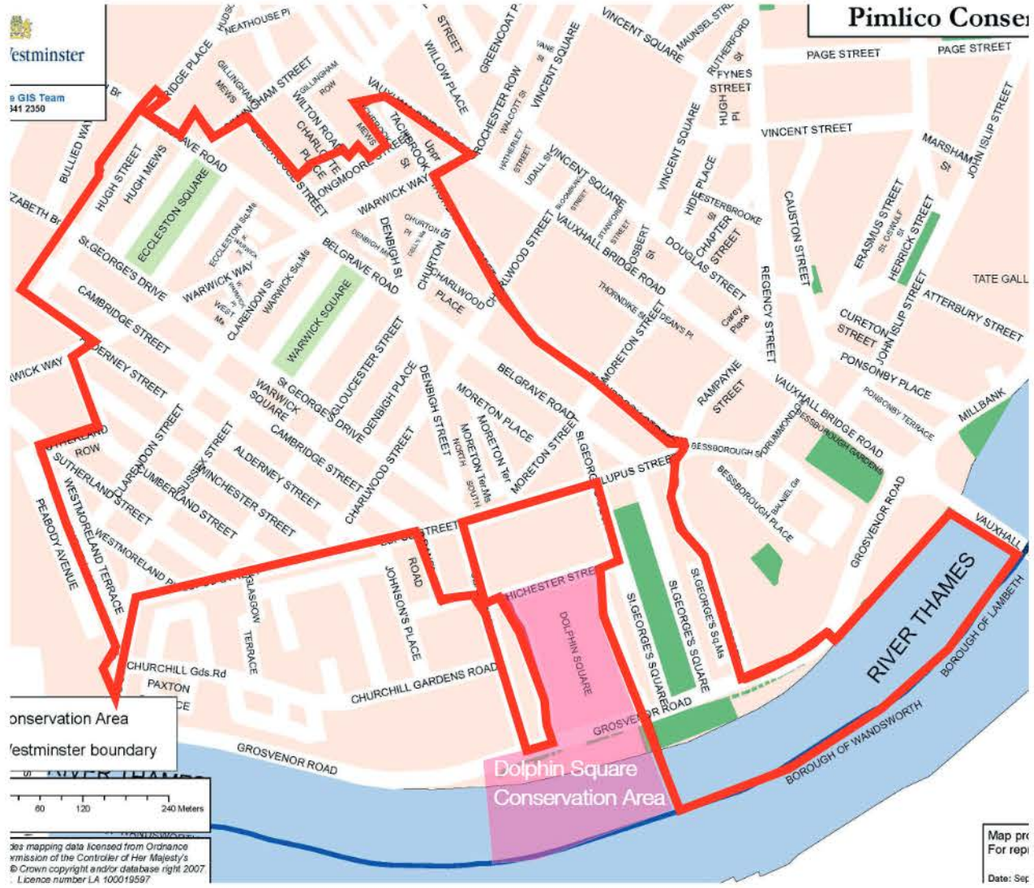
The Dolphin Square Conservation Area

The Dolphin Square Conservation Area was designated in 1990 and stretches from Chichester Street to the north down to a section of the Thames to the south.

The Pimlico Conservation Area lies to its east and west and the Churchill Gardens Conservation Area lies just beyond to the west. To the south the Dolphin Square Conservation Area shares a boundary along the middle of the river with the London Borough of Lambeth.



Dolphin Square Conservation Area



Pimlico Conservation Area

Dolphin Square / Conservation Area

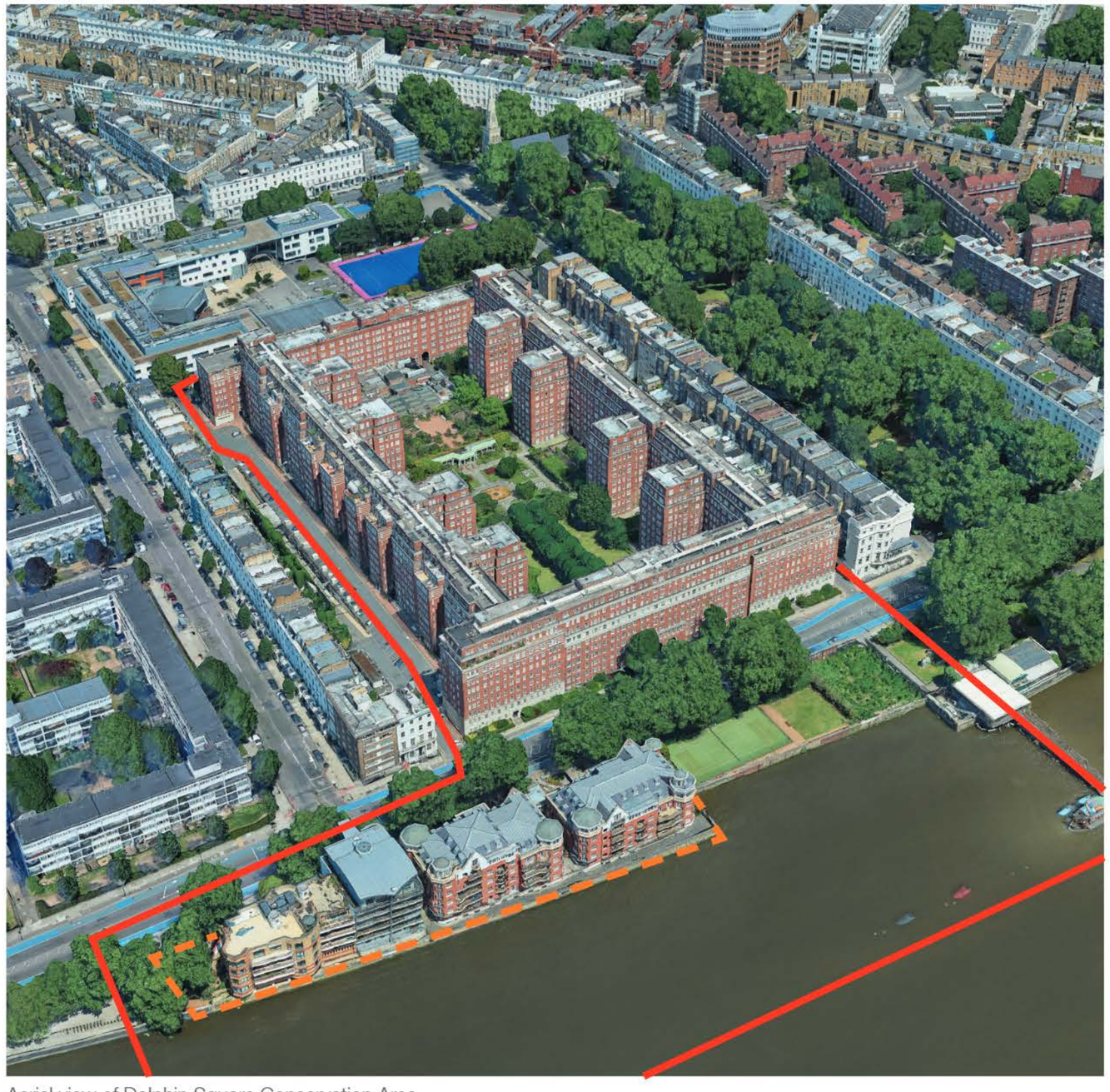
The Dolphin Square Conservation Area

The Dolphin Square Conservation Area is dominated by the imposing, red brick, 1930s residential development of Dolphin Square, designed by Stanley Gordon Jeeves and built in an neo-Georgian style. There are a number of other, modern, properties located along the riverside that are included in the conservation area.

Unlisted Building of Merit

Dolphin Square is not statutorily listed, but has some architectural and historical significance as an early development providing high density housing.

It is identified as an 'unlisted building of merit' contributing positively to the character and appearance of the conservation area.



Aerial view of Dolphin Square Conservation Area

Dolphin Square Conservation Area boundary line

Series of modern properties within the conservation area

Dolphin Square Gardens

The gardens, designed by Richard Sudell, were added to Historic England's Register of Parks and Gardens in 2018 at Grade II. The reasons for designation include its design interest and rarity as one of few landscaping schemes for a private housing estate. Its overall structural layout has largely survived, except for the Moroccan gardens (formerly the Spanish/Mexican gardens) which were significantly remodelled in the late 1990s.

Historical image of the garden's design

Recent photo of the Moroccan Gardens

Recent photo of the gardens

The Estate

Dolphin Square was designed by Stanley Gordon Jeeves and built in the 1930s by builders Costain on the former site of an army clothing factory as a bold, modern, inclusive way of living in Central London for people who wanted to live close to their work.

Residents were attracted to the stylish flats with integrated plumbing and electrics, on an Estate which included a garden, leisure facilities and shops. For over 80 years Dolphin Square has attracted a diverse range of residents, from actors, taxi drivers and military personnel to businessmen and women, barristers, and MPs.

Dolphin Square / The block

Today, Dolphin Square is one of the most well-known addresses in London. The 7.5-acre estate is home to over 1,500 people and remains the largest privately owned single residential block of apartments in the UK. It includes;

1,069 residential apartments

165 serviced apartments

A private members gym, pool, spa and squash courts

A restaurant

A retail arcade

Over 250 car parking spaces

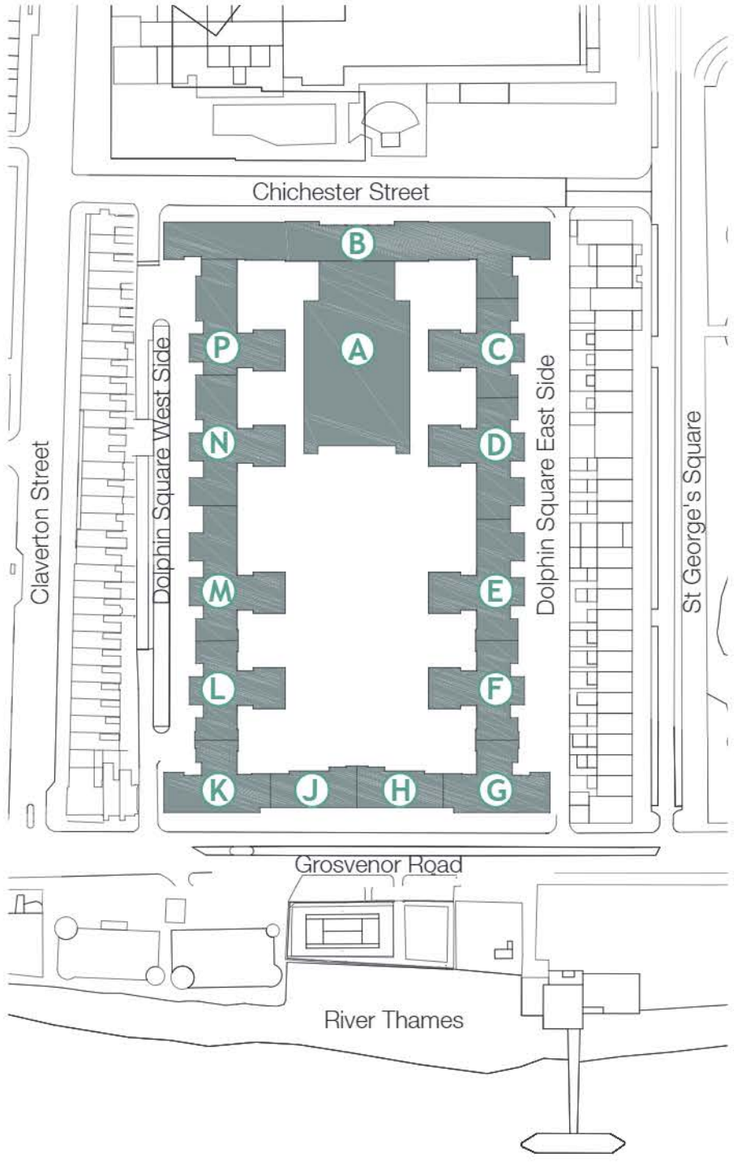
A tennis court

3.5 acres of Richard Suddell landscaped gardens

The accommodation is divided into 13 blocks, known as houses, each named after historical maritime navigators or admirals. To the north, is Dolphin House (also known as Rodney House) which contains the serviced apartments, management offices and leisure/amenity facilities.

To the east side and carriageway are, Keyes, Hood, Collingwood and Frobisher Houses. On the South adjacent to Grosvenor Road are Grenville, Drake, Raleigh and Hawkins Houses. The western portion of the site includes Nelson, Howard, Beatty and Duncan Houses.

- (A) Lobby / Amenity Block
- (B) Rodney House
- (C) Keyes House
- (D) Hood House
- (E) Collingwood House
- (F) Frobisher House
- (G) Grenville House
- (H) Drake House
- (J) Raleigh House
- (K) Hawkins House
- (L) Nelson House
- (M) Howard House
- (N) Beatty House
- (P) Duncan House



01 Energy Strategy Implications

Existing Building Fabric

Constructed in the 1930s in a concrete frame with masonry external walls, the entire estate is in the main completely un-insulated. Some of the existing sash windows have been refurbished or replaced with double glazed versions, however a large proportion remain single glazed. Tests undertaken also show that the building fabric experiences high levels of air leakage. The majority of apartments on the estate have an EPC rating of C or D.

In summary the existing building fabric suffers significant heat losses. Currently, to provide acceptable comfort levels for residents, high quantities of heating are required that in turn results in high energy use and a very poor carbon footprint for the estate.

Existing Energy Use

Energy to provide heating for heat and hot water is by far the largest proportion of energy usage for apartments in a building of this age. This is currently provided by gas fired boilers that consume 315 kwh/m^2yr of energy per year.

To put this in context, new build regulations require not exceeding more than 80-100 kwh/m^2yr of energy usage.

In addition to the inefficiency of the heating plant, further heat loss occurs in the way the hot water is distributed around the estate.

Legionella

Historically the hot water generation for the estate has led to cases of *Legionella*. The refurbishment works provide an opportunity to prevent *Legionella* occurring within the estate in the future.

Client Brief

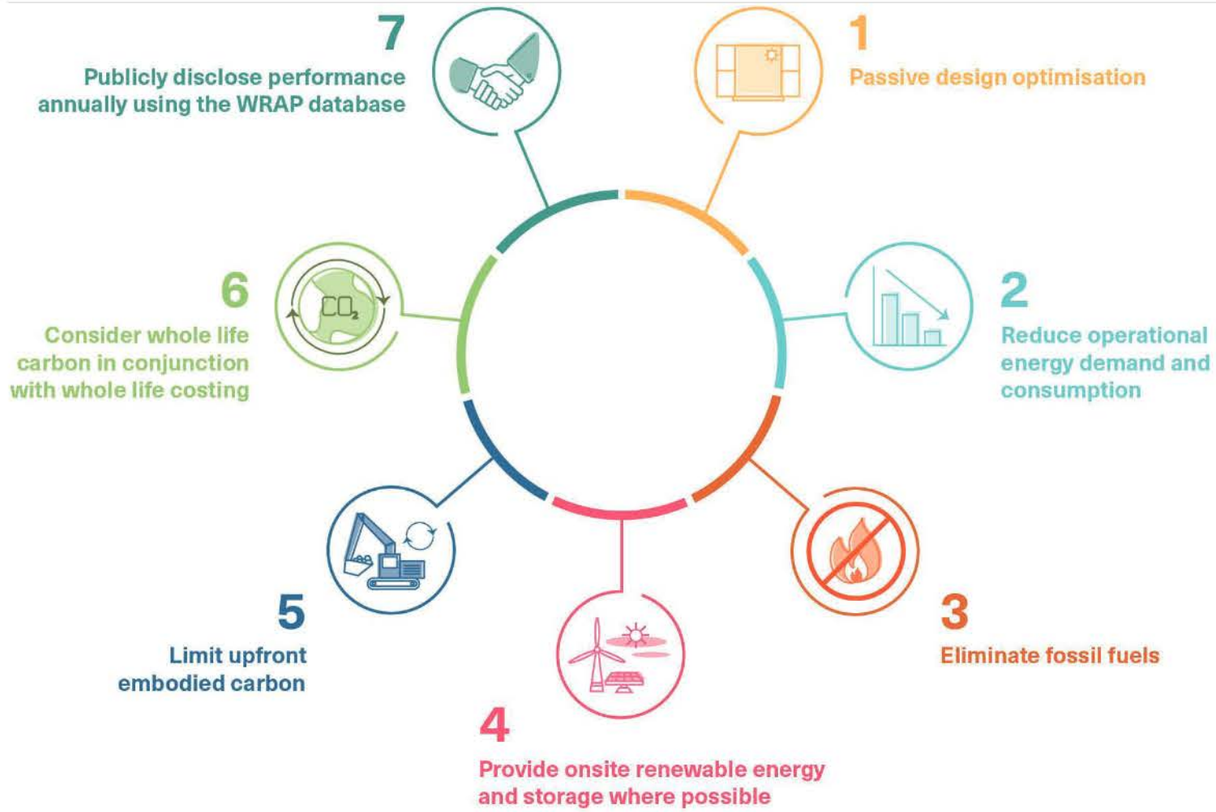
Presented with these issues AXA-IM RA's brief required the project team to review what energy reduction measures are feasible during the planned refurbishment of the estate. In addition to other improvements the intention is for the estate to achieve a BREEAM 'Excellent' rating and address the *Legionella* topic.

Proposed Improvements

Our MEP consultant led a study to assess what changes could be made as part of the refurbishment works to lower energy use.

They have produced a proposed target range which will be feasible within the constraints of an existing building in a Conservation Area. The changes include the following:

- Reduce air permeability into the apartments to <3m^3/m^2/hr @50Pa
- Install mechanical ventilation with heat recovery (MVHR) to allow good air quality during cold periods without opening the windows
- Replace all windows with double glazed timber framed sash windows to match appearance of the existing.

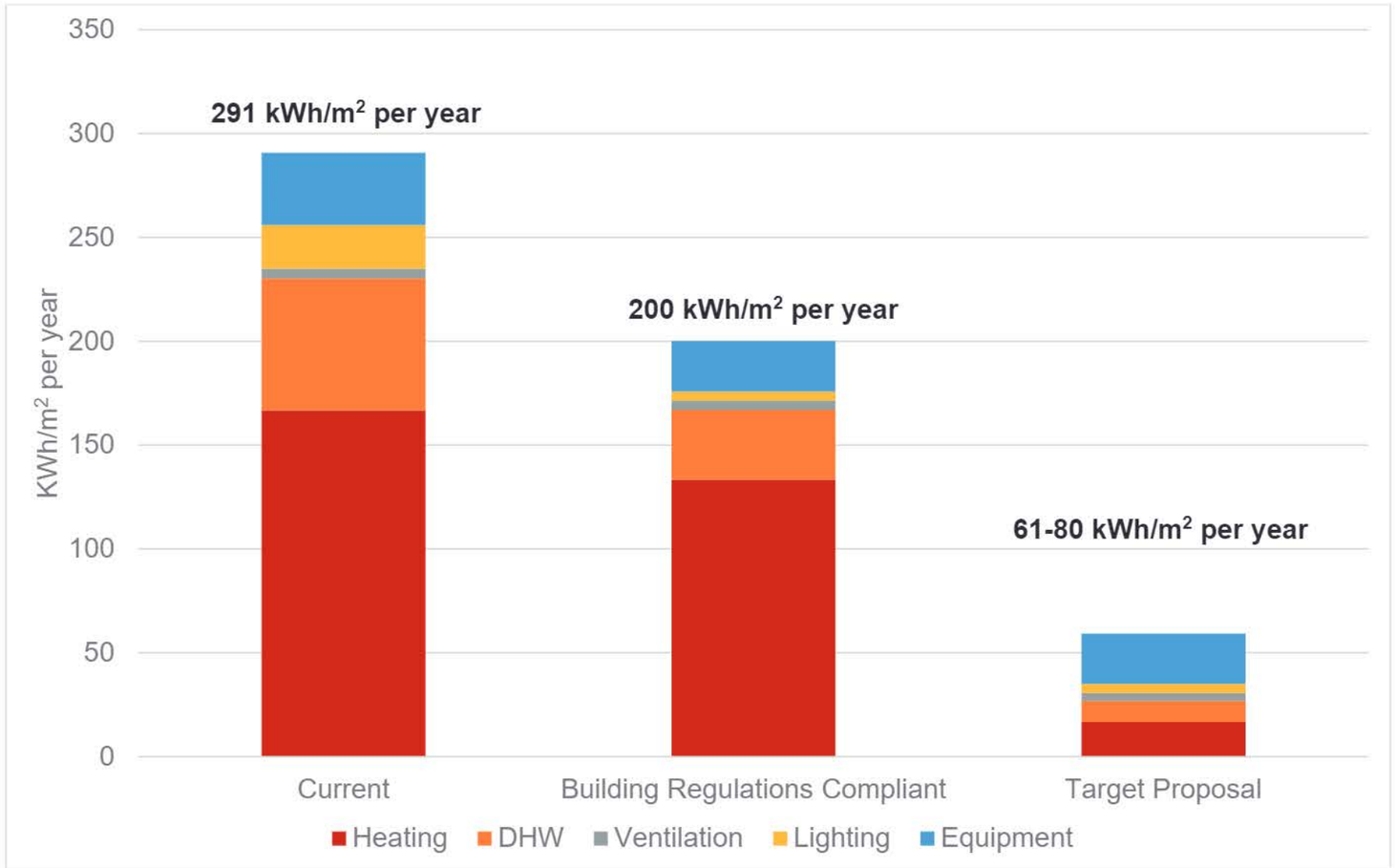


MEP Consultant's approach to reduced carbon emissions

- Insulate all roofs to achieve a u-value of 0.12 W/m^{2}K
- Complete replacement of the central heating plant, distribution, and apartment emitters
- Complete replacement of the central hot water plant, distribution, and apartment sanitary ware / appliances
- A replacement energy centre utilising a bivalent heat source which is a combination of efficient boiler plant and air source heat pumps.
- Target 'fossil fuel' free with the conversion to fully electric technology
- The ability to utilise existing boreholes via heat pumps (subject to further surveys) at a later date to become 'Net Zero Carbon'
- Install photovoltaic panels to the roof spaces.

Carrying out these improvements will have some impact on the appearance of the building and the first section of this document outlines our proposals for these as follows:

- **Roofs**
- **Windows**
- **MVHR**



02 Roof Amendments

Main Roofs

The existing roofs to the houses are not insulated and have an asphalt roof covering.

They currently have a series of lift over runs and plant rooms. Building services transfer between plant rooms and risers via a raised covered 'culvert' (refer to photo's on next page).

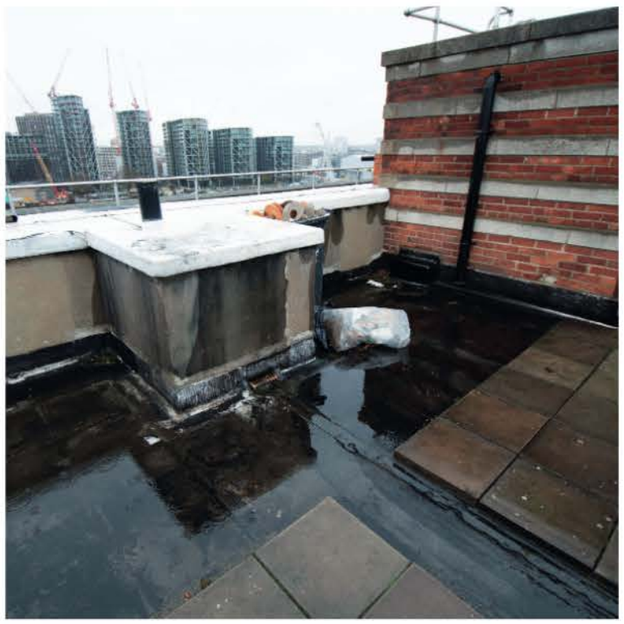
The culverts will become redundant as part of the new energy strategy and therefore there is an opportunity to remove these along with the visual duct work to 'de-clutter' the roof scape.

Dolphin Square aerial view

Typical roof environment

Typical roof environment - Services compartment

Typical roof environment



Typical roof environment - Services compartment

Typical roof environment - Parameter guarding

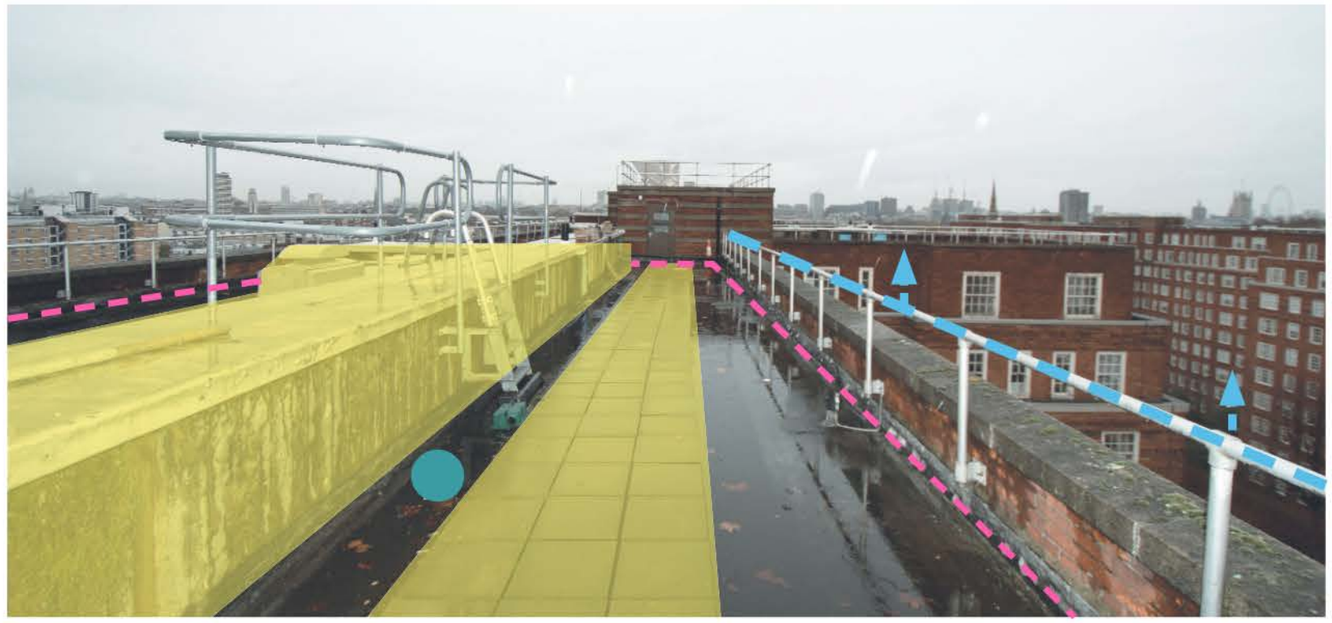
Typical roof environment - Services compartments

Strategy

It is proposed to retain the existing plant rooms as built forms as they contribute to the composition of the building and we are reviewing how these can be re-utilised for new plant.

Providing a new roof covering to all the main roofs that is insulated offers the simplest and most effective means of improving the thermal properties of the building fabric.

Aerial diagram - Roof intervention opportunities



Typical roof - Intervention opportunities

PV Panel Opportunities

Roof Upgrade

Removal

Raised Guarding

Smoke Extract

It is intended to utilise the refurbishment of the estate to enhance fire safety for residents. Currently there is no smoke ventilation in the common corridors of the houses. In the event of fire spread there is a strong likelihood that these will fill with smoke impairing residents means of escape.

Therefore it is proposed to introduce vertical smoke ventilation shafts to the common corridors of each house. These will be powered by extract fans on the roofs which in the event of fire will pull smoke from the corridors to create a safer means of escape for residents.

Due to constraints of the existing building structure and layout there are limitations as to where the vents can be located that will pragmatically work. However we have worked extensively with the design team to mitigate their impact by locating them as close to the centre of the existing roofs as possible.

We are proposing to shield these from view via a louvred enclosure ca 2.3m high in a similar way to the photographs shown. The louvres would be finished in a PPC paint and we'd wish to discuss the colour of this.

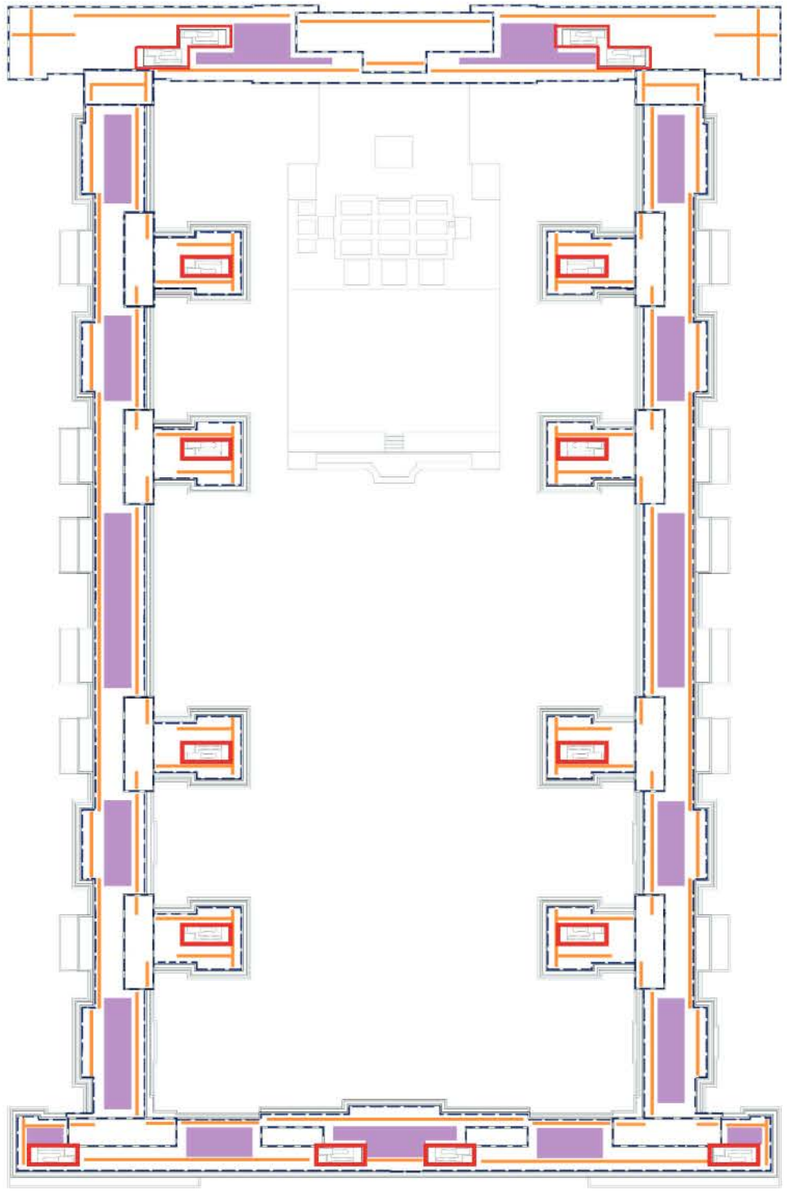
Proposed locations and footprints are shown on the next page.

The proposed finish is a light grey PPC.

Photo of a similar smoke extract fan louvred enclosure

Smoke Extract Fans within Enclosure

Removal diagram



Proposed Roof Plan

- Smoke Extract Fan Location
- Abseiling Rail
- Parameter Guarding
- Paving Removal
- Services Removal
- Masonry Removal
- Hatch Infill
- PV Opportunities

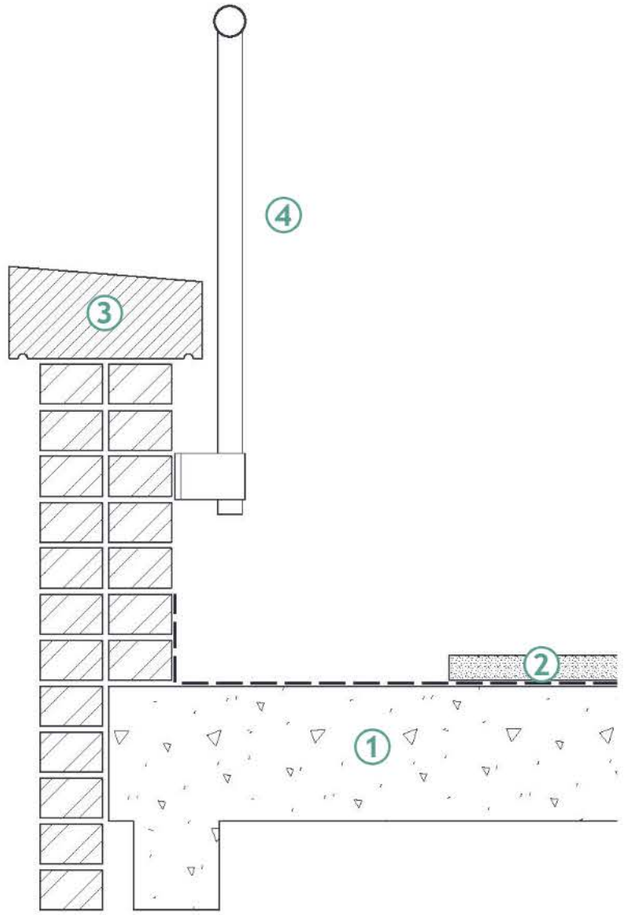
Effect to Perimeter Guarding

Several new roof systems were reviewed for the project. To provide a fall to the new roof we propose to install a 'warm' roof single ply membrane system. We propose to use mineral wool insulation to avoid any combustible materials. The system proposed will achieve a new u-value of 0.12 W/m2K and has the ability to be walked on for maintenance of the roof including providing access to new photo voltaic panels.

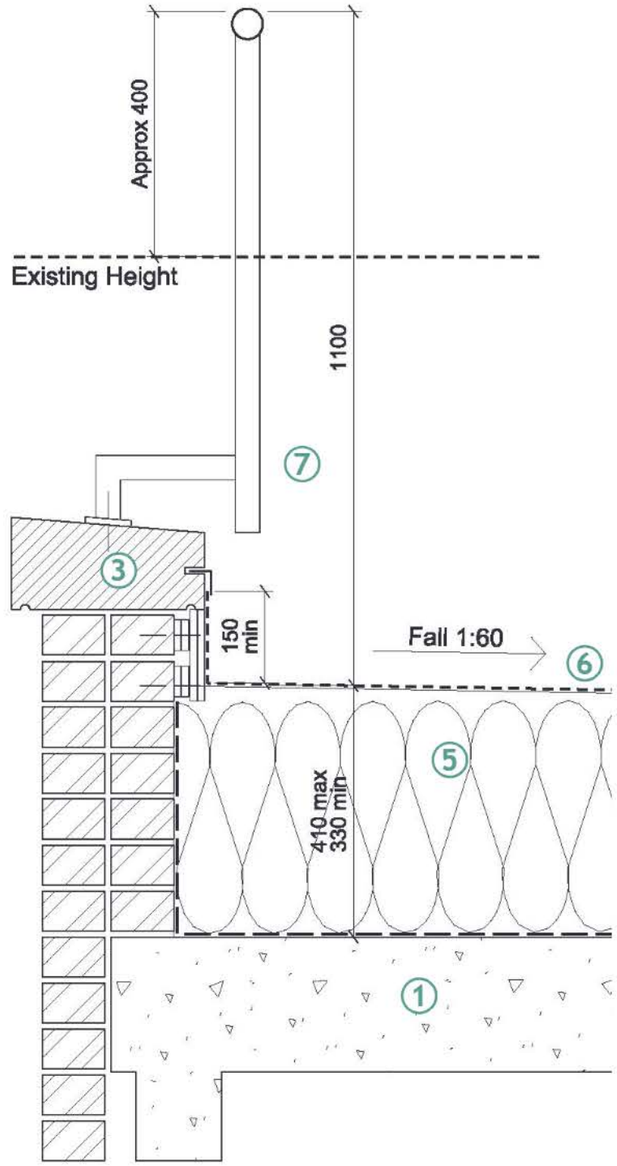
There is an existing guardrail to the perimeter of the main roofs which acts as guarding for maintenance access. The new roof build up is thicker and as a result the height of guarding will not be high enough to comply with building regulations. Therefore, it is proposed to replace the balustrade with a replica to the compliant height which has a planning implication.

The inclusion of bio-diverse roofs was reviewed. They were discounted as the further depth of to the roof construction would result in amending/extending the coping detail to retain the build-up and the imposed loads upon the existing structure.

1. Existing concrete slab (No falls)
2. Paving slabs
3. Existing coping stone
4. Existing railing system
5. New mineral wool insulation, tapered for falls
6. New waterproof layer
7. Railing system bolted to top of coping



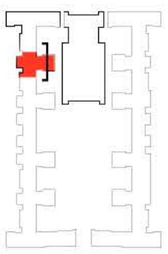
Existing



Proposed

Existing

Proposed



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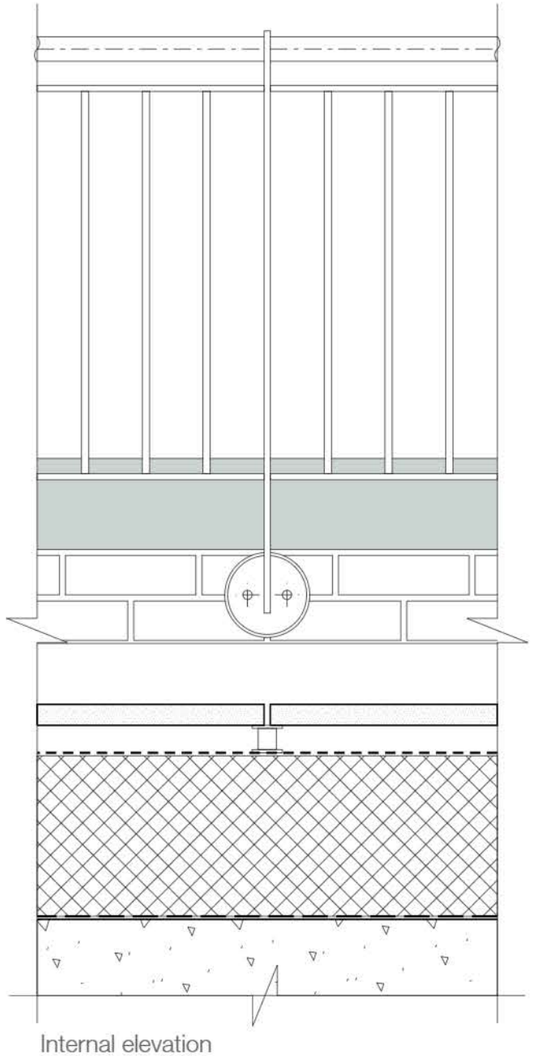
Roof Amendments - Balustrades

Revised Proposal

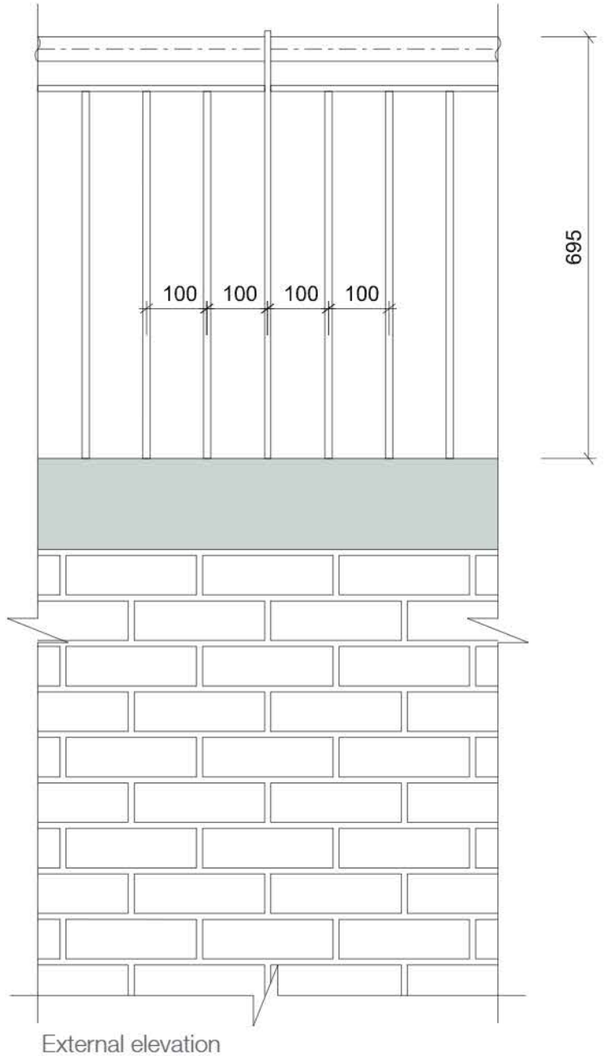
The tubular handrail has been retained in the design with two horizontal metal 'flats' at compliant heights. To prevent children falling nominal 12mm rods are welded between the flats at max. 100mm centres.

The balustrades will be finished in an off white colour like the existing handrails and this along with the new design is intended to have nautical overtures and therefore shares the narrative of the original building and estate.

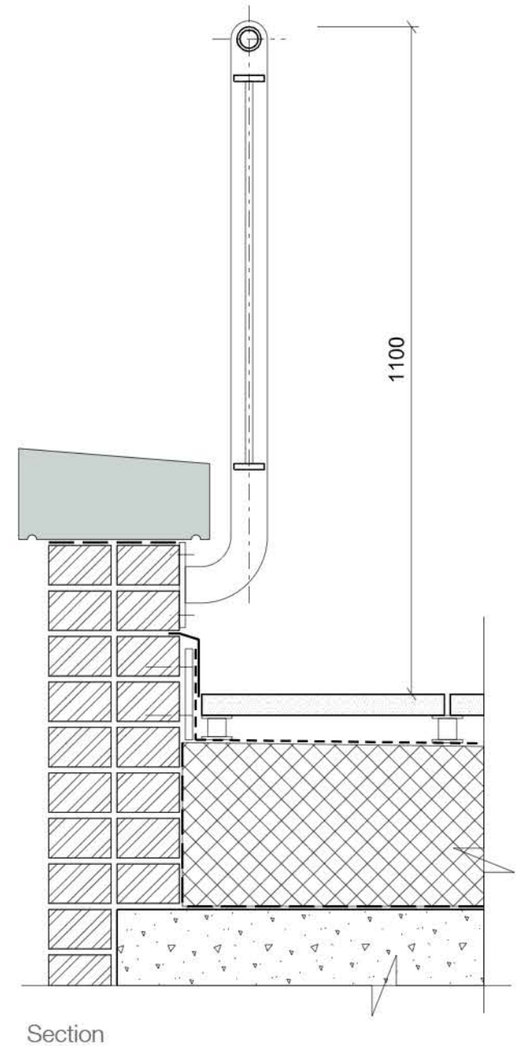
This design will be applied to all residential accessible flat roof areas.



Internal elevation



External elevation



Section

Roof Amendments - Terrace Screens

Roof Terraces

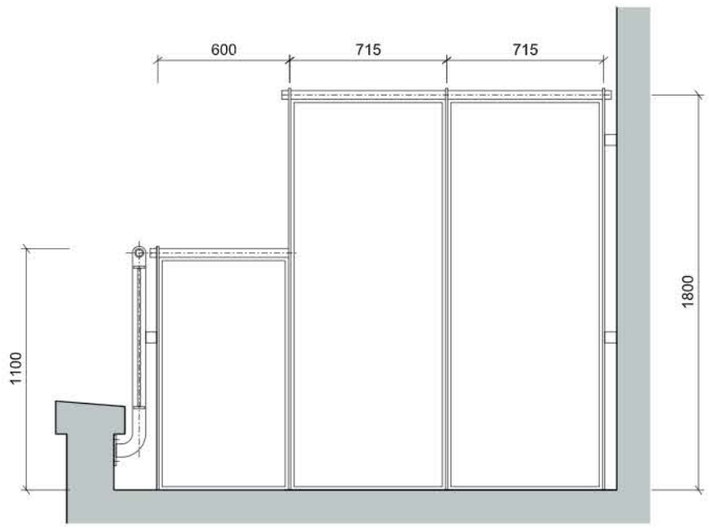
A number of the setbacks at 8th & 9th floor on the east and west elevation along with some areas of the main roof to Rodney House are used as small terraces for the adjacent apartment. Over the years these have been occupied by the tenants in different ways with some of the longer leaseholders personalising them with awnings, screens, and different floor coverings.

It is proposed to remove awnings where they are not owned by long leaseholders (Option B), replace the terrace flooring and replace the screens with a consistent design in keeping with the style of building.

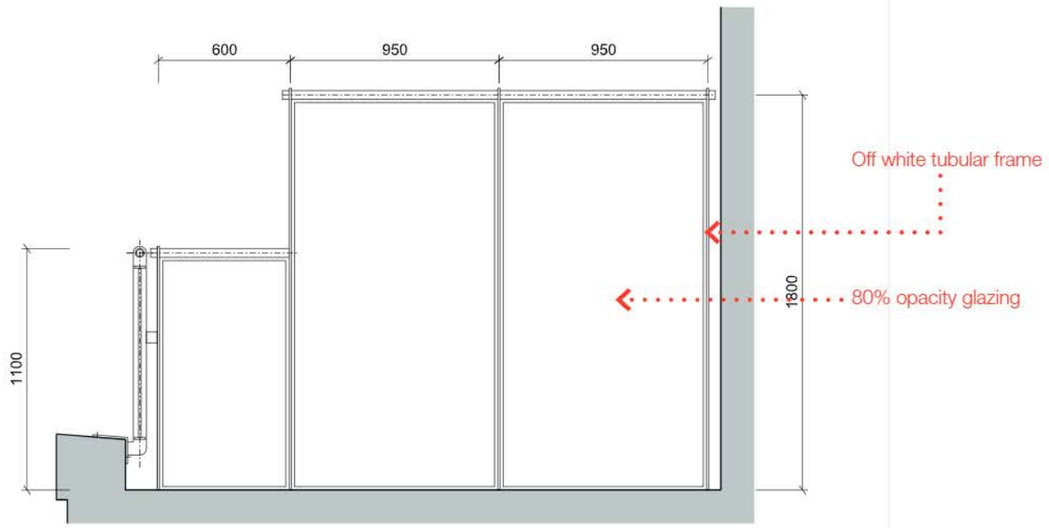
A separation screen design has been developed that is of the same style as the balustrades using a tubular frame and with 80% opacity glazing between to minimise their visual impact whilst providing privacy between tenants.

Terraces - Existing

Terraces - West facing



Proposed Screen Elevations

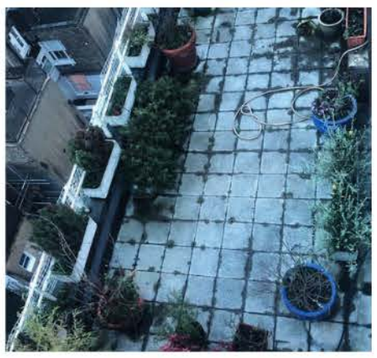


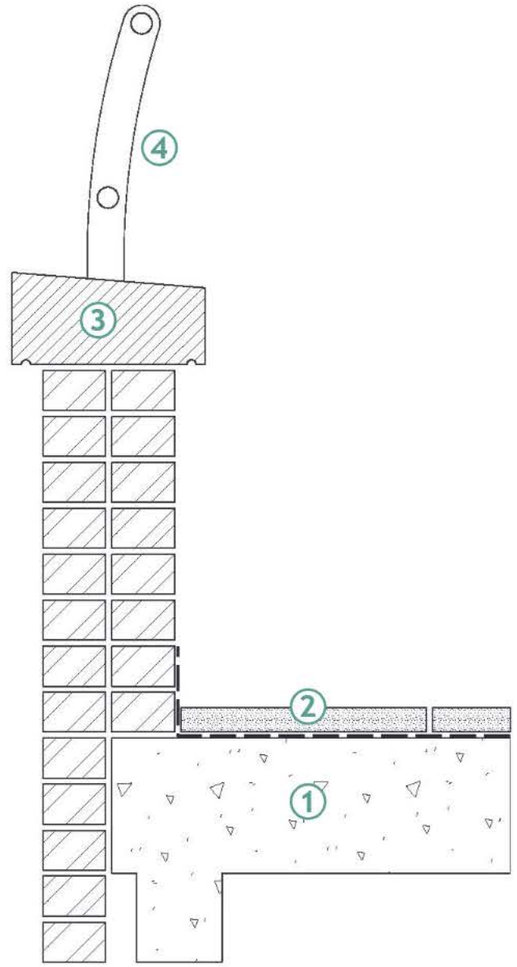
Effect to Terrace Balustrades

It is proposed to provide a new insulated roof covering to these areas too in the same way as the main roof areas. The resulting additional floor build-up again requires the existing balustrade to be replaced with a replica to a height that meets the current building regulations.

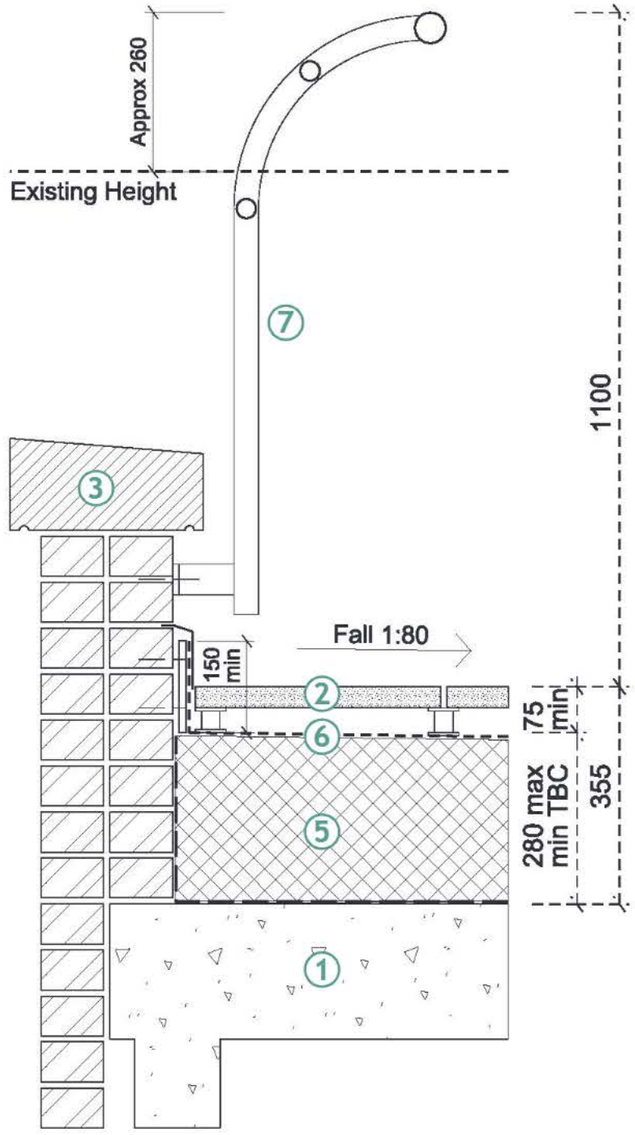
It is proposed to provide visual consistency to these roofs with the awnings removed, a separation screen design and identical flooring materials.

1. Existing concrete slab (No falls)
2. Paving slabs
3. Existing coping stone
4. Existing railing system
5. Foam glass insulation, tapered for falls
6. New waterproof layer
7. Railing system bolted to top of coping

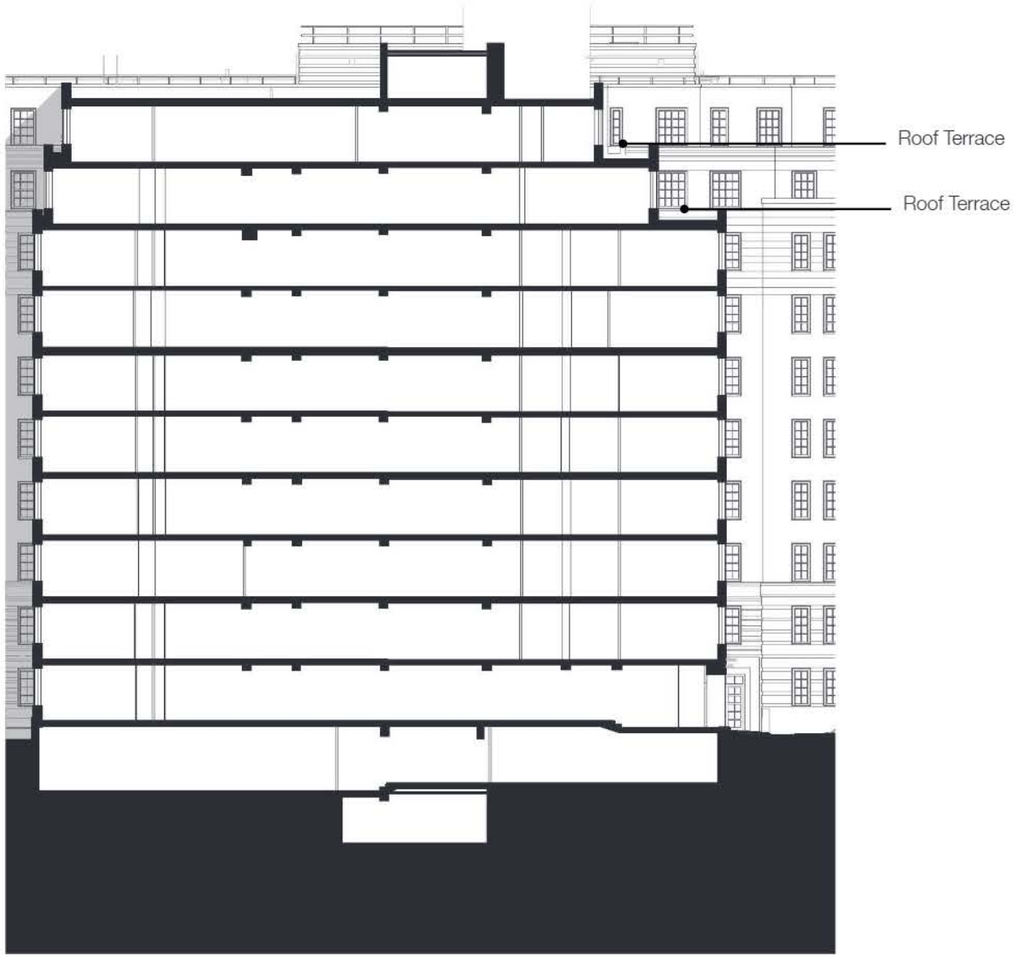




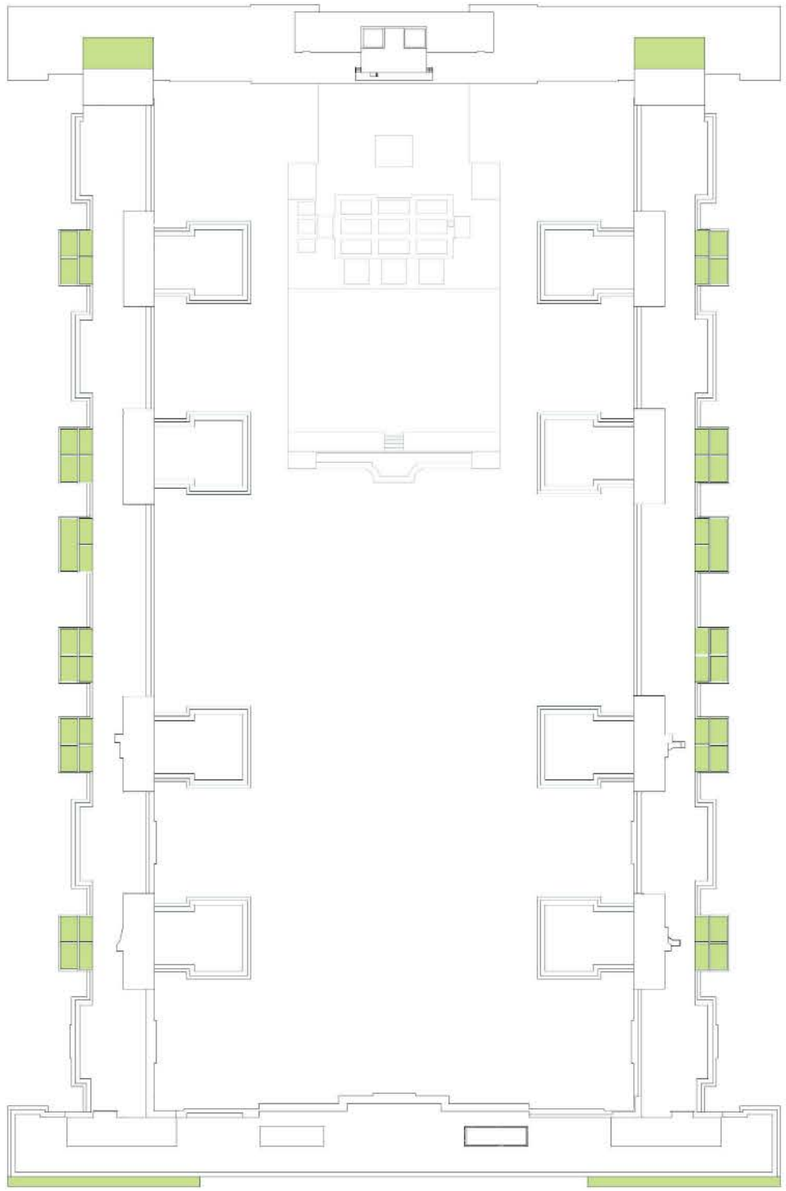
Existing - Residential terrace



Proposed - Residential terrace

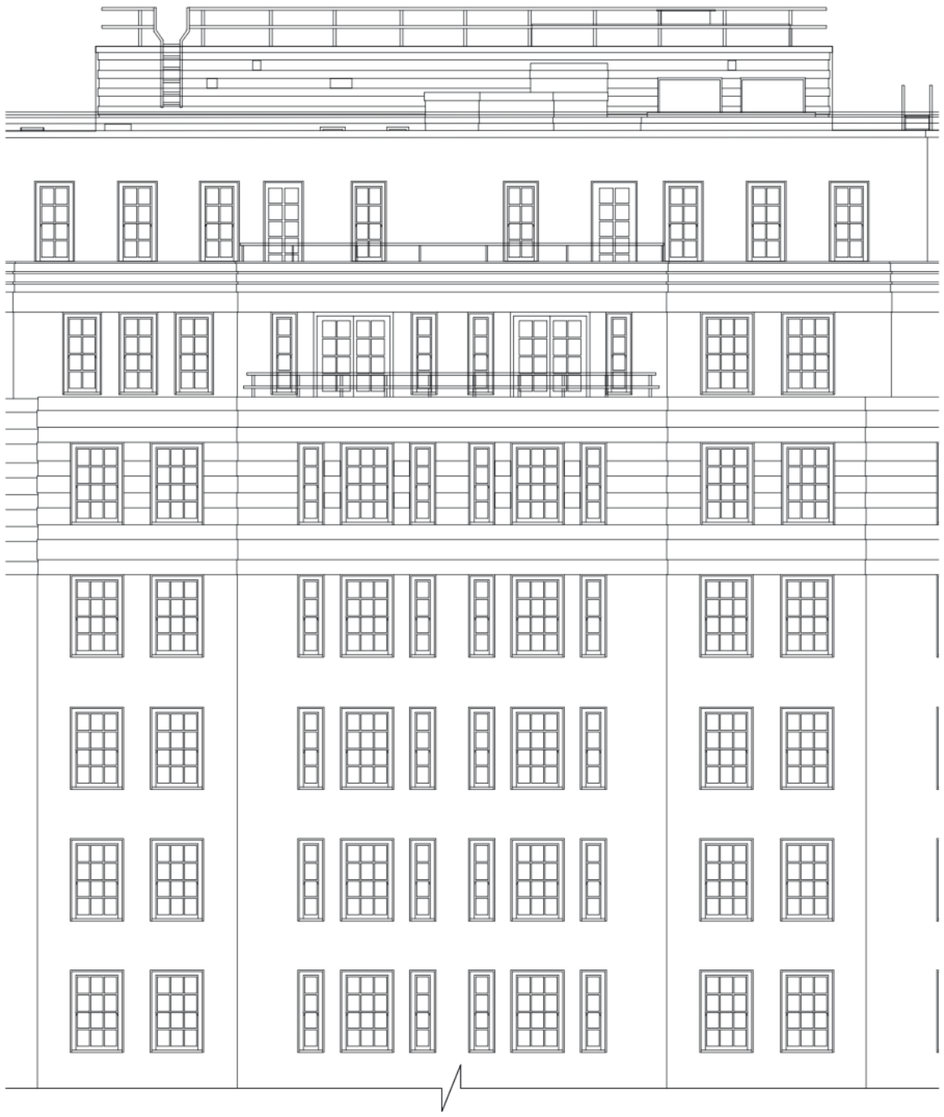


Existing roof terrace locations - Typical section cut

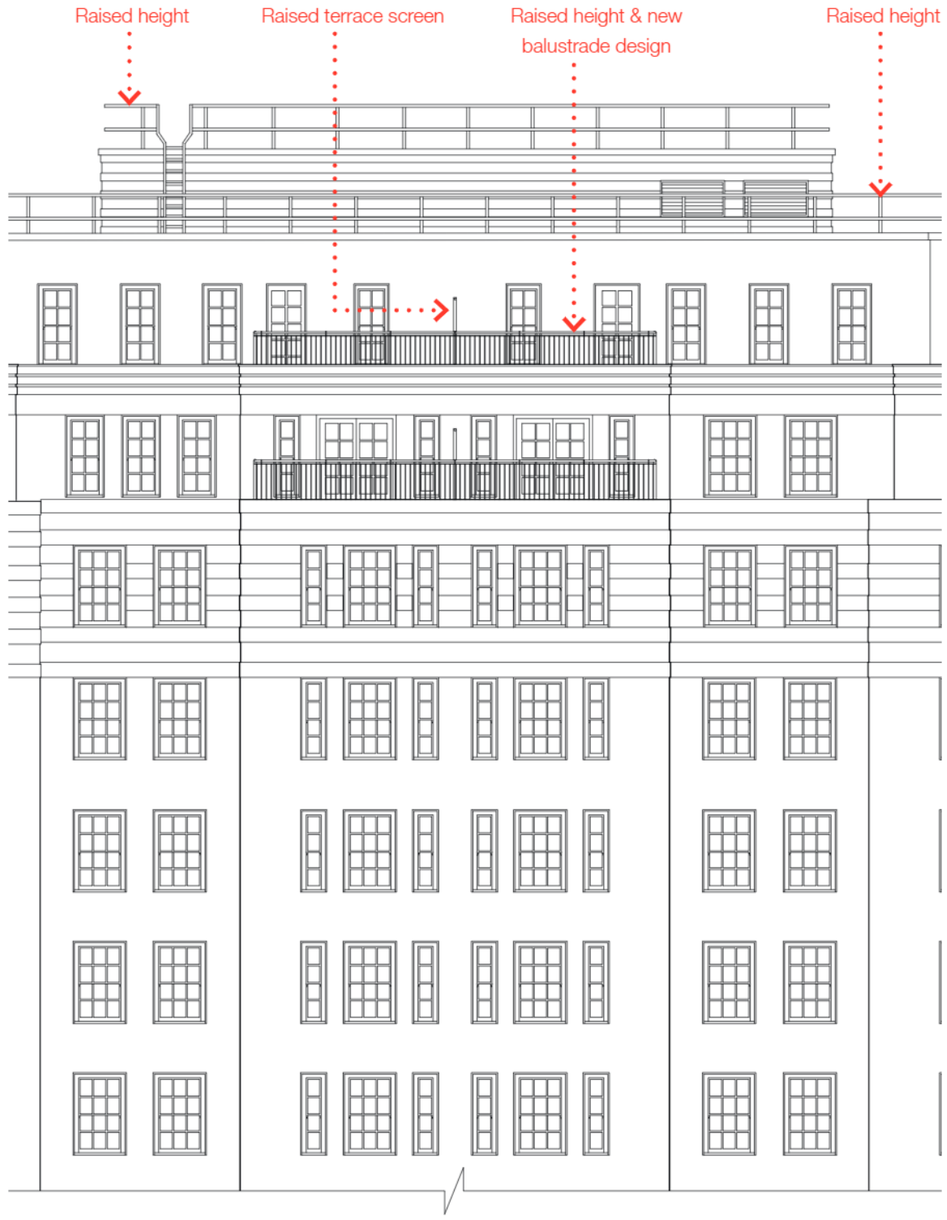


Existing roof terrace locations - Plan

Roof Amendments - Comparison Elevation



Existing



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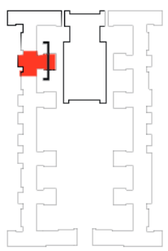

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Roof Setbacks

The building steps back at 8th and 9th floor to the east, west and south block elevations. It is proposed to replace the existing felt waterproofing that is not insulated with a similar warm roof construction to the main roofs, laid to falls. Currently the setbacks have guarding in most locations which we assume is to prevent falls should tenants access these areas from their windows. We propose to replace the guarding (where it currently occurs) with a replica to the complaint height which has a planning implication.

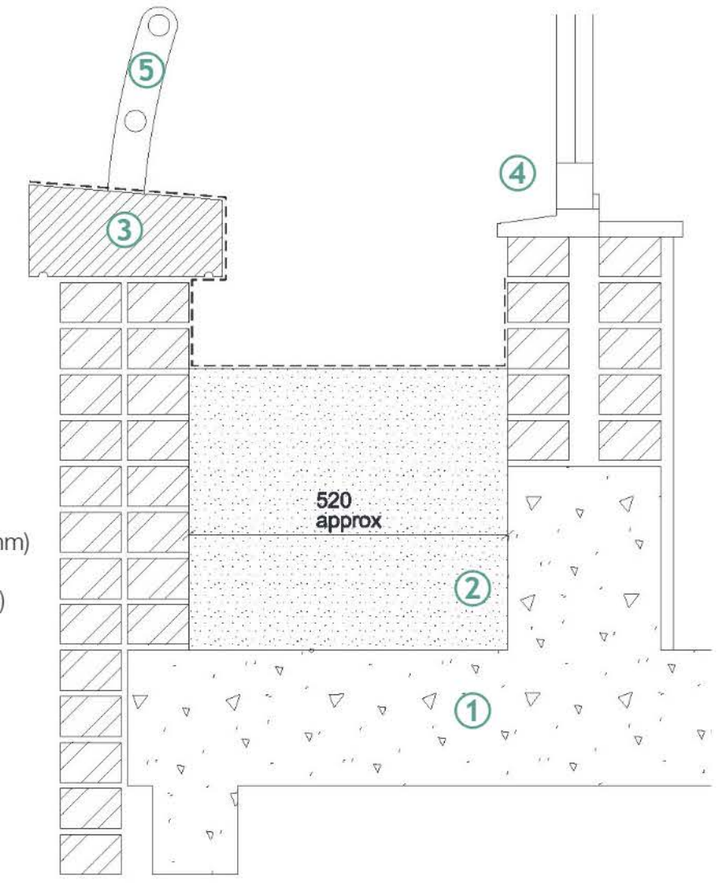
Roof setbacks- Without guard

Roof setbacks - With guard

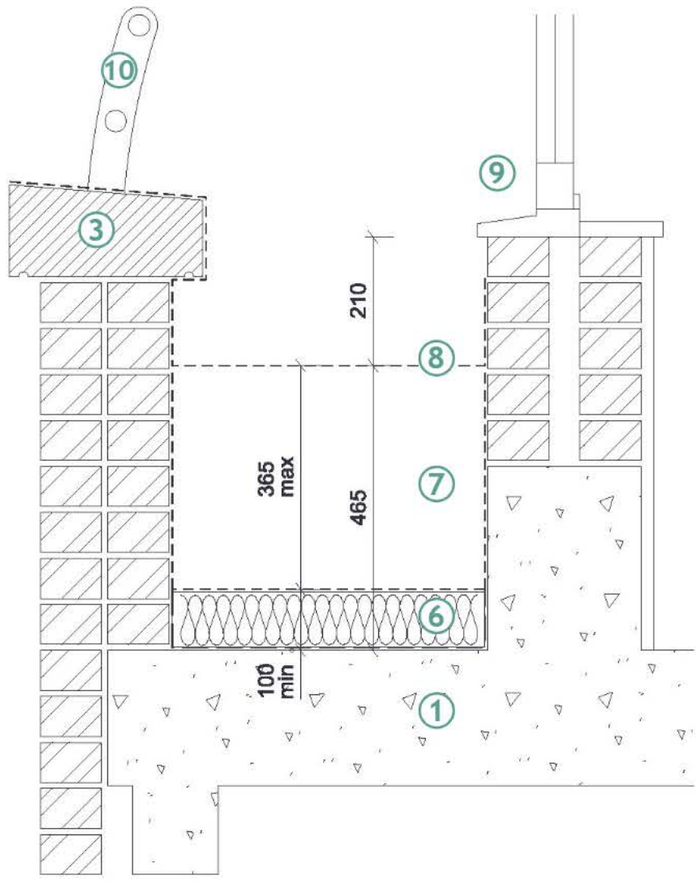
Roof setbacks

Roof Setback Details

1. Existing concrete slab (No falls)
2. Existing build up
3. Existing coping stone
4. Existing window
5. Existing guarding (where it occurs)
6. New mineral wool insulation, tapered for falls (100-465mm)
7. Tolerance zone for drainage falls (insulation 100-465mm)
8. New waterproof layer (laid over insulation)
9. New window
10. New replica guarding (where it previously occurred)

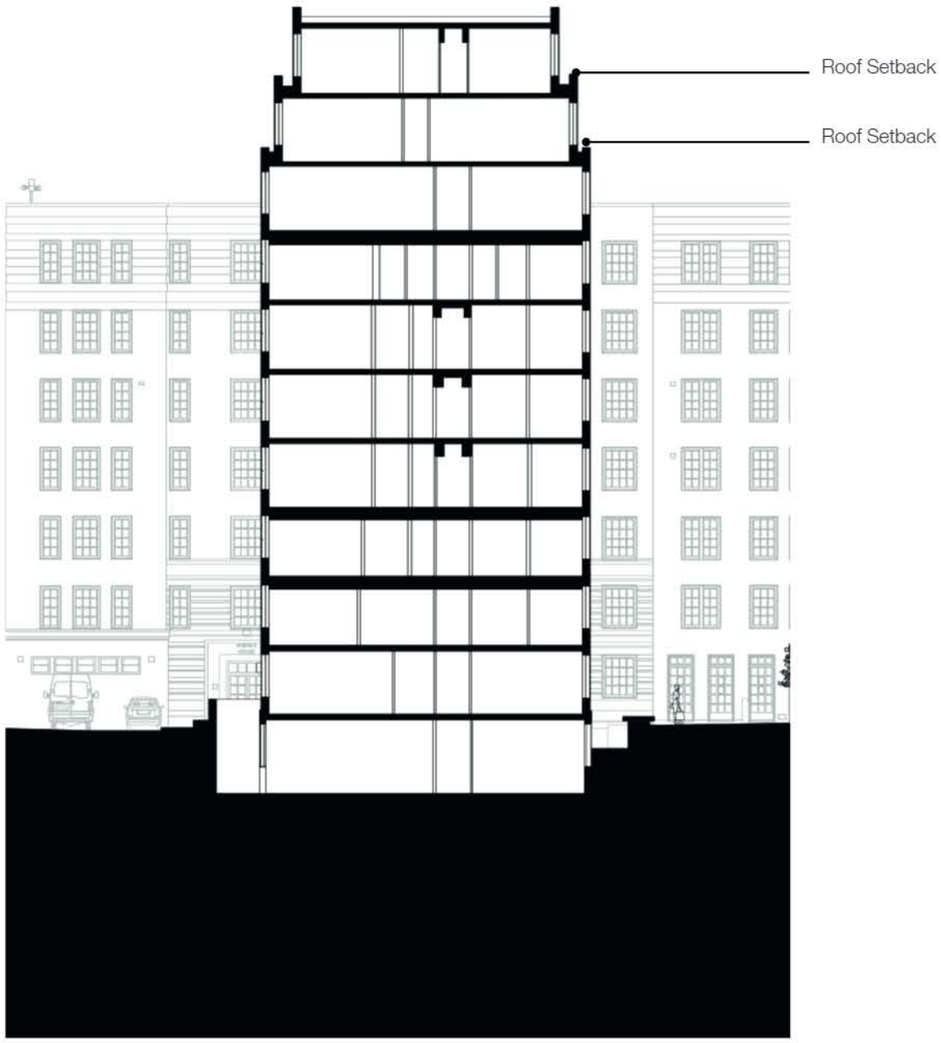


Existing - Roof setback

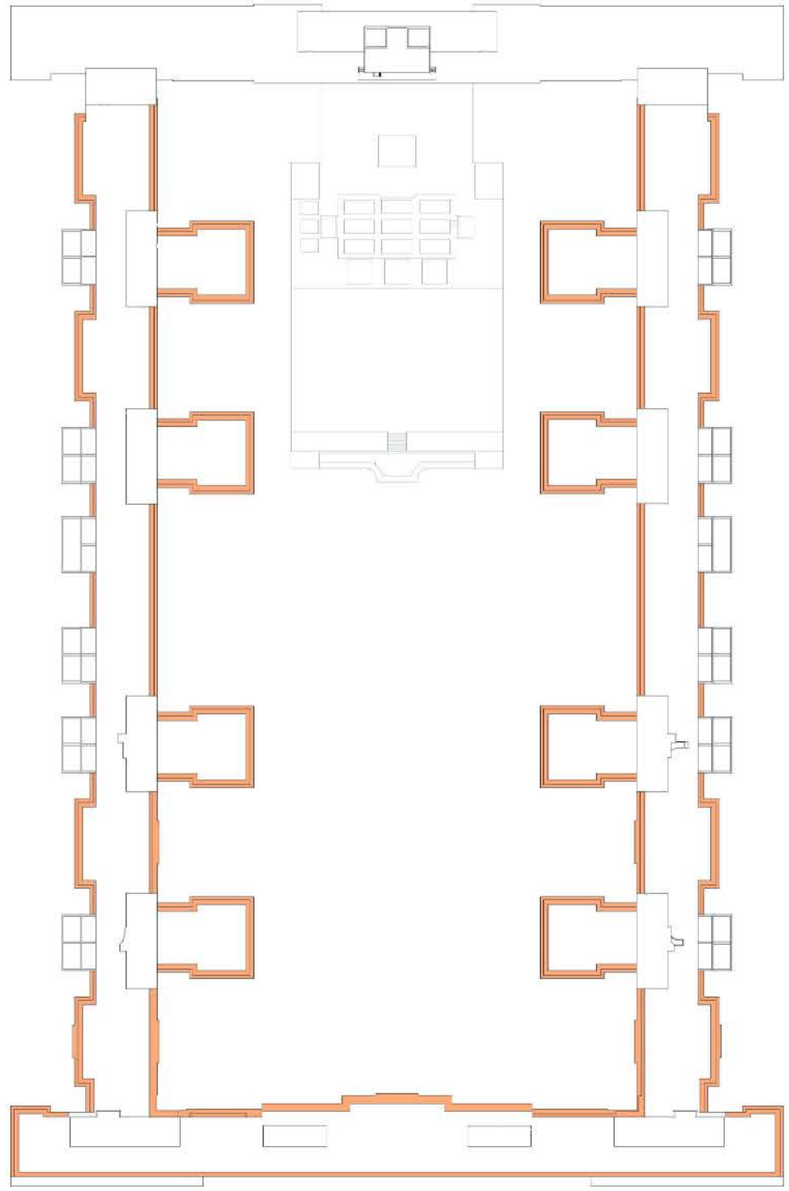


Proposed - Roof setback

Roof Setback Locations



Existing setback locations



Existing setback locations

03 Replacement Windows

03 REPLACEMENT WINDOWS

Existing Windows

Opportunities

The energy strategy study identified that improving the windows thermal performance could be a major contributing factor in reducing energy use on the Estate. Currently the windows suffer high levels of air leakage through a lack of adequate seals to the sash as well as openings at the interface of the window and masonry. Secondly the thermal performance of the window system varies. Some of the windows have been replaced with double glazed systems and perform better but others are still single glazed and in need of replacement.

Existing windows

Double glazed replacement window

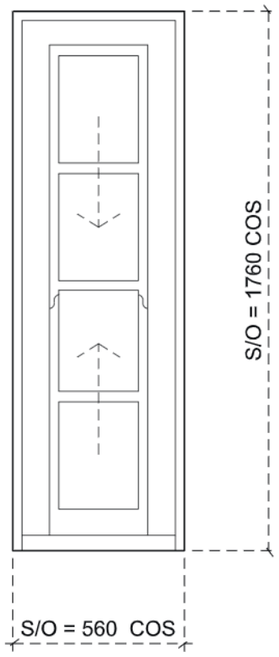
Example of existing window degrading

Example of existing window degrading

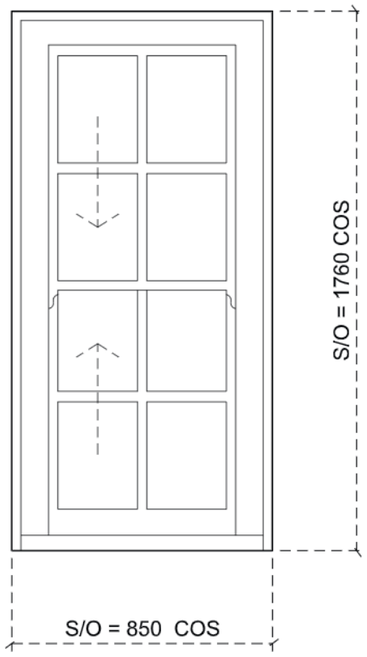
03 REPLACEMENT WINDOWS

Existing Typical Windows Types

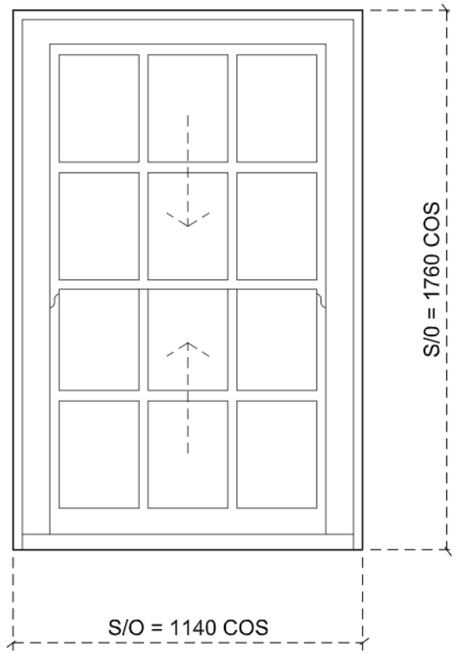
Despite the thousands of windows on the building there is a basic set of six sash window types used across all the houses. All the types are configured from a common ‘pane’ module that is used to form a variety of sizes ranging from a 1 pane sash through to a 5-pane sash.



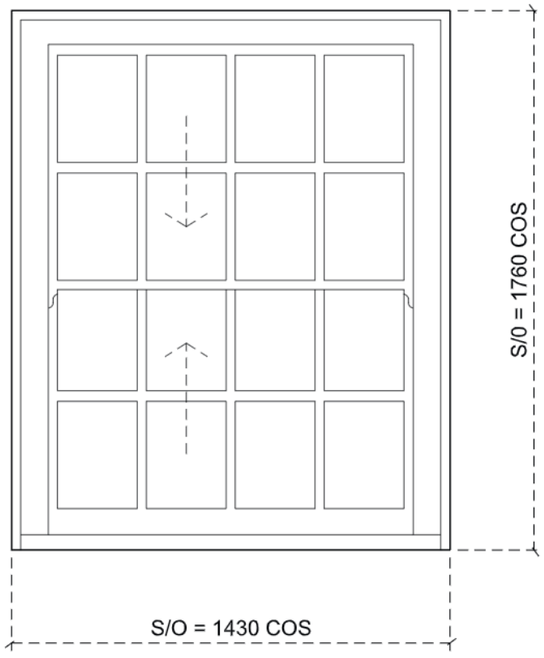
Typical Window Type 01



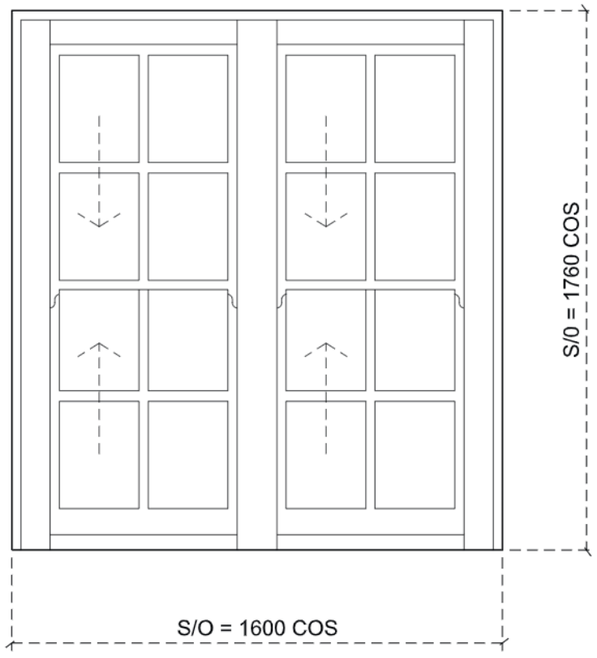
Typical Window Type 02



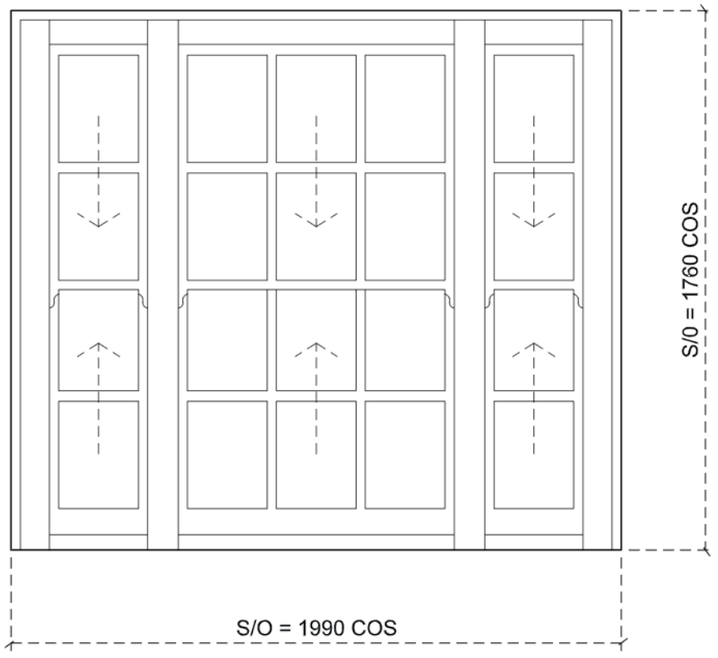
Typical Window Type 03



Typical Window Type 04



Typical Window Type 05



Typical Window Type 06

Approach

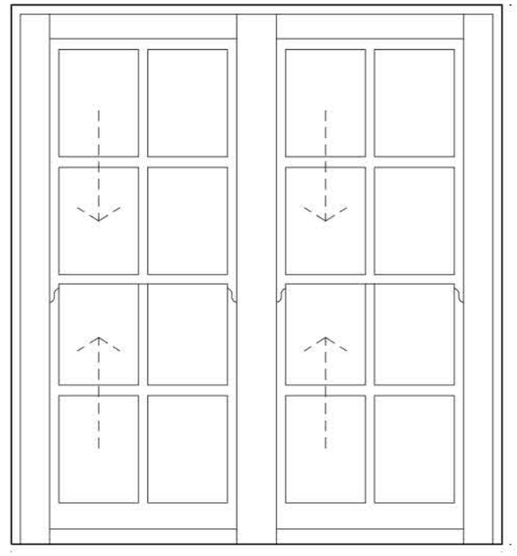
Reducing air leakage is straightforward on any replacement window system. This can be achieved through better quality seals but primarily through the installation of a 4-sided EPDM between the window frame and masonry that will not be seen and will be covered by the internal fit-out works.

In terms of window replacement, 3 options were reviewed along with the thermal performance they can achieve and the resulting impact on the energy reduction of the estate. These options were refurbishment, double glazed and triple glazed replacement.

In the pre-application process further design development work has been undertaken with suppliers and it has been found that a triple glazed window cannot be manufactured to the sizes and style of the existing building.

Upon review the double glazed replacement option provided the optimum balance between energy performance and retaining the aesthetics of the existing building.

Precedent - A double glazed sash window



Window elevation example

Double Glazed Replacement

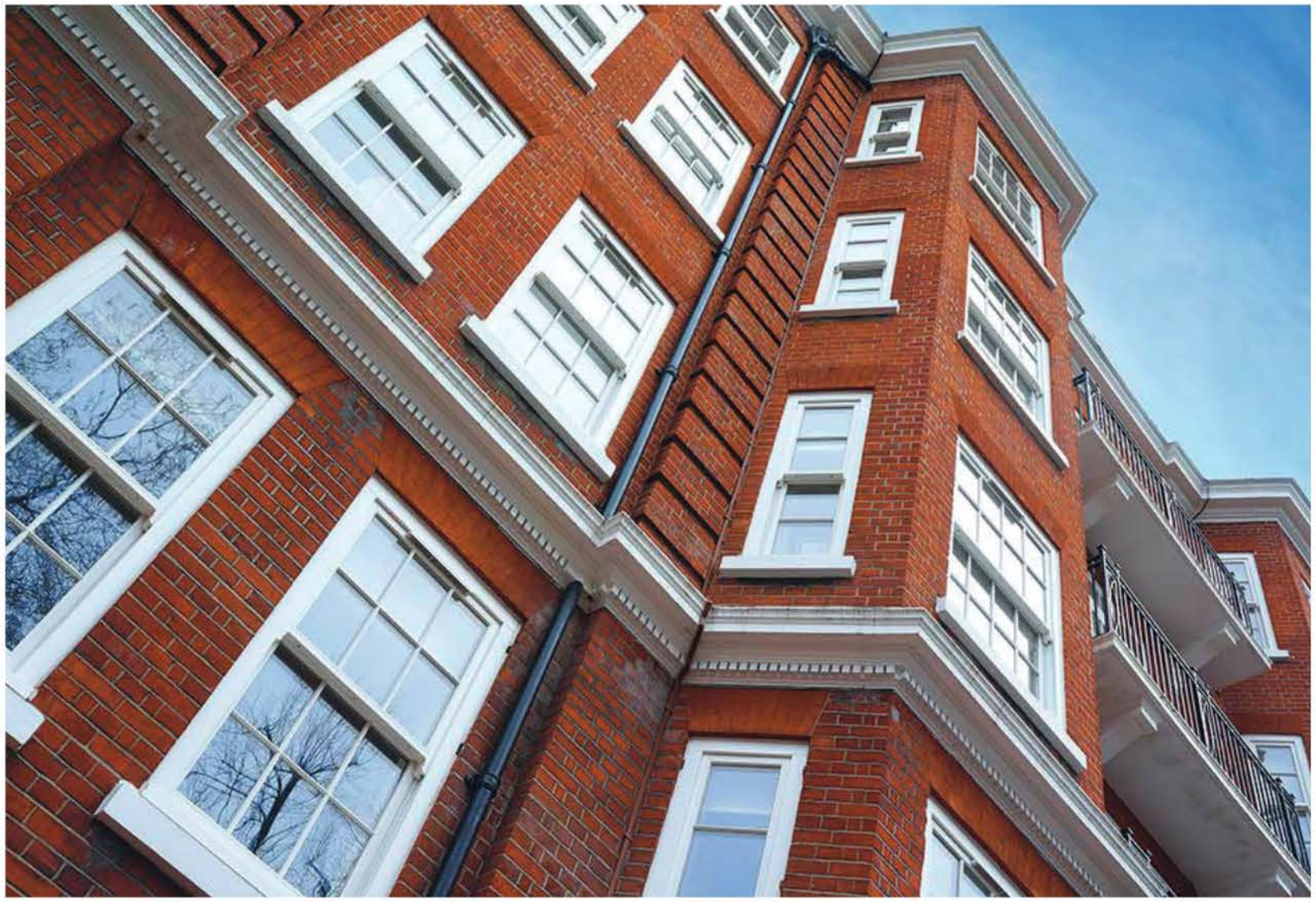
To improve the u-values each sash will have one sheet of glass instead of the individual 'panes'. The pane appearance is simulated by applying a bead to the glazing each side of the glass. To provide the appearance of individual panes a white gasket is included in the cavity of the glazing (refer to cut diagram) which replicates the external putty lines you would see on a single glazed window. It is this detail which is an element that historically was not included in this type of window replacements and led to criticisms of a 'false' appearance. This improves the u-value to 1.2 W/m2K.

A mock-up was constructed on site and viewed by the city of Westminster as part of the pre-application process. Existing windows will be surveyed and all profiles and beads on replacement windows will be fabricated to match the existing.

Double glazed replacement option example - Cut section

Window Design - Window Replacement Installed Example

The images on this page provide an example of the appearance window replacements can have on an existing building using sash windows, as described on the previous page.



Window replacement - Installed example

Window replacement - Installed example

04 MVHR

Mechanical Ventilation with Heat Recovery (MVHR)

Approach

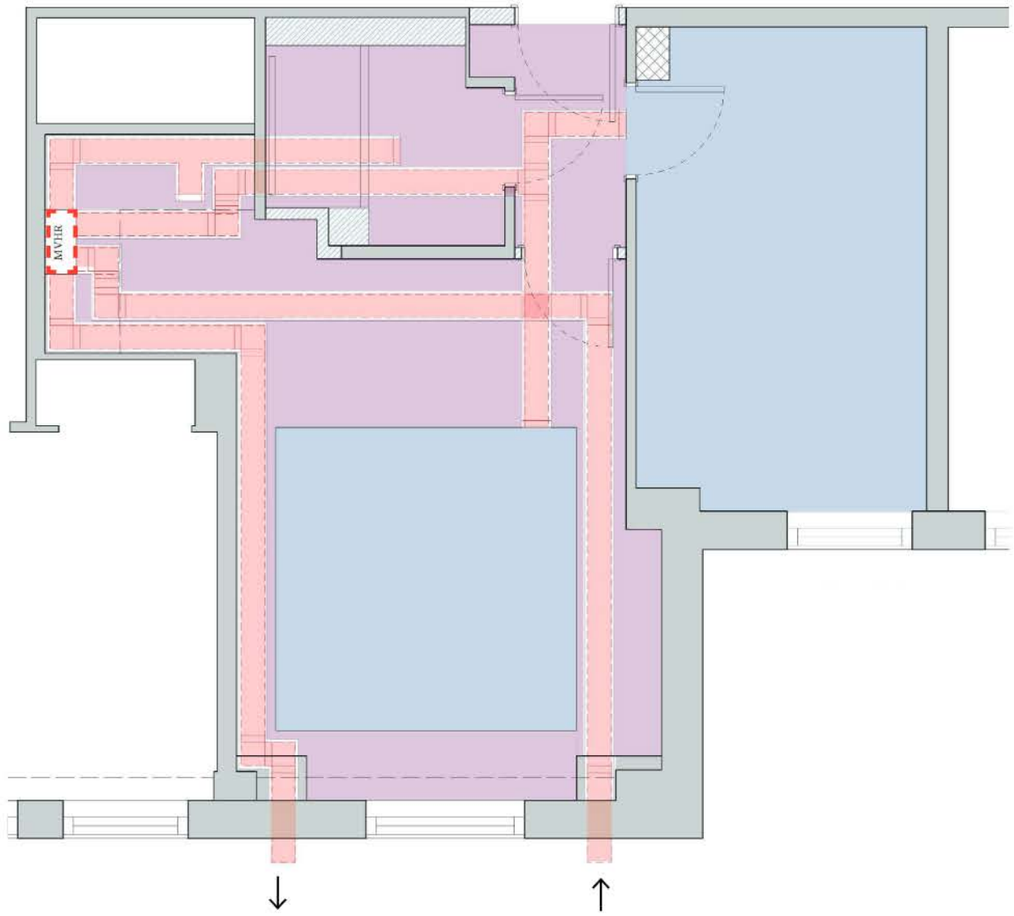
The future installation of MVHR will have the largest impact on reducing the carbon footprint of the estate. MVHR provides fresh filtered air into a building whilst retaining most of the energy that has already been used in heating the building. Heat Recovery Ventilation is the solution to the ventilation needs of energy efficient buildings. A heat recovery ventilation system fitted into an apartment provides a constant supply of fresh filtered air, maintaining the air quality whilst being practically imperceptible.

MVHR works quite simply by extracting the air from the polluted sources E.g. Kitchen, bathroom, toilets, and utility rooms and supplying air to the 'living' rooms E.g. Bedrooms, living rooms, studies etc. The extracted air is taken through a central heat exchanger and the heat recovered into the supply air. This works both ways, if the air temperature inside the building is colder than the outside air temperature then the coolness is maintained in the building

Planning Implications

MVHR systems require two ducts, one to supply air to the heat exchanger within the apartment and one to extract it. Both need to terminate to the external face of the building. We have explored several ways of achieving these terminations within the constraints of the existing building, but all influence the appearance of the building.

As this is an existing building area of lowered ceiling will need to be added to conceal the duct work as shown on the plan (include RCP).



Proposed - Typical apartment with MVHR strategy

Constraints

On new build residential developments there are two common approaches to integrating the duct terminations onto the façade:

Option 01 – Air bricks are incorporated into the building façade.

An air brick solution is typically a perforated or louvred moulded brick that is the same dimension as a brick, so it integrates into the bonding of the façade. Sometimes these need to be square format to meet the air flow requirements. There are examples of air bricks on the existing Chichester Street elevation which are of poor quality and something we would not wish to replicate. They demonstrate the difficulties in post installing an air vent into an existing facade.

There are constraints with replicating an air brick solution due to the existing fenestration design and limitations in extent of brickwork to some of the apartments.

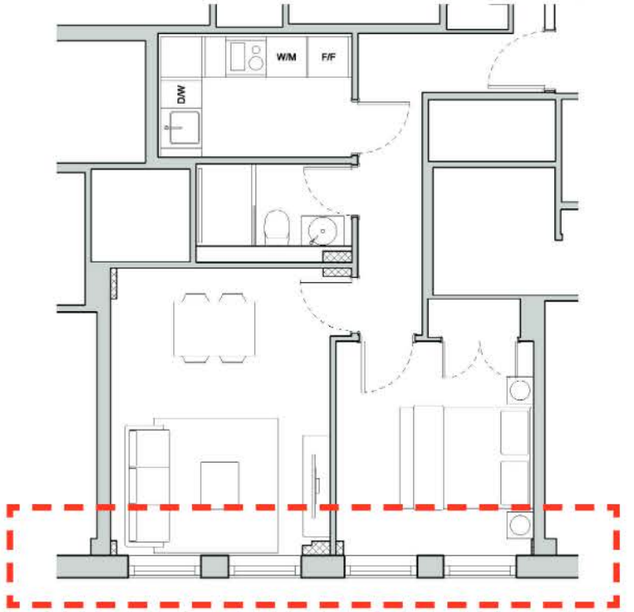
Option 02 – Louvre over window head

A termination louvre is integrated to the window head design. In a new build cavity construction this can be designed so it does not manifest itself visually on the face of the building.

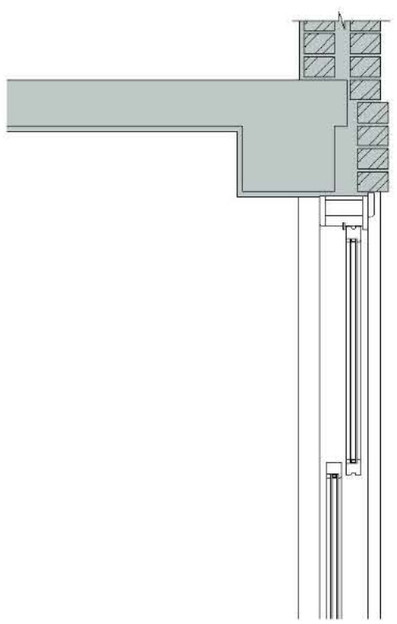
Due to the existing perimeter beams to the facades we are unable to replicate this detail at Dolphin Square.

Air bricks on Chichester Street show poor workmanship

Option 02 example - Louvre over window



Option 01 existing constraint - Limited brickwork to some flats



Option 02 existing constraint - Parameter beam

MVHR - Introduction

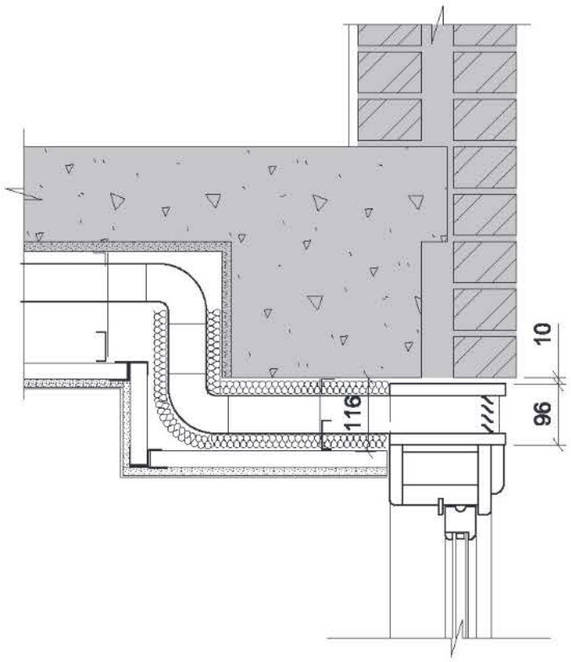
Design Development

In the pre-application process we have reviewed a number of potential solutions for the MVHR termination design. Adapting the window head design to incorporate a linear louvre was rejected due to the change of window proportion.

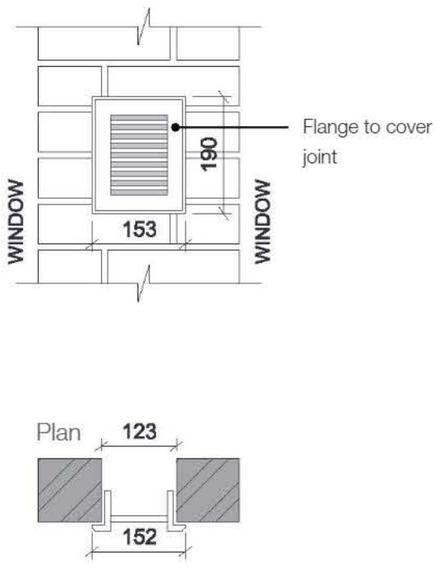
A number of air brick/louvre options were presented and we were encouraged to pursue design developing a metal cover grill with a flange to hide the joint trauma of the drilled hole through the wall. It was agreed that this would most likely overcome the poor workmanship issues that are evident on Chichester Street and other parts of the building when air bricks were installed.

A cast metal finish was preferred.

Rejected option - Incorporation of louvre into window frame



Cast metal cover plate.



Metal grill - With flange to hide joint trauma

Rejected option due to workmanship issues/colour - Clay air brick example

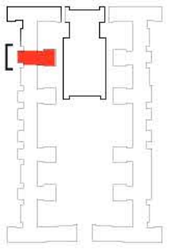
Option 01 / Duncan House Elevations / Constraint

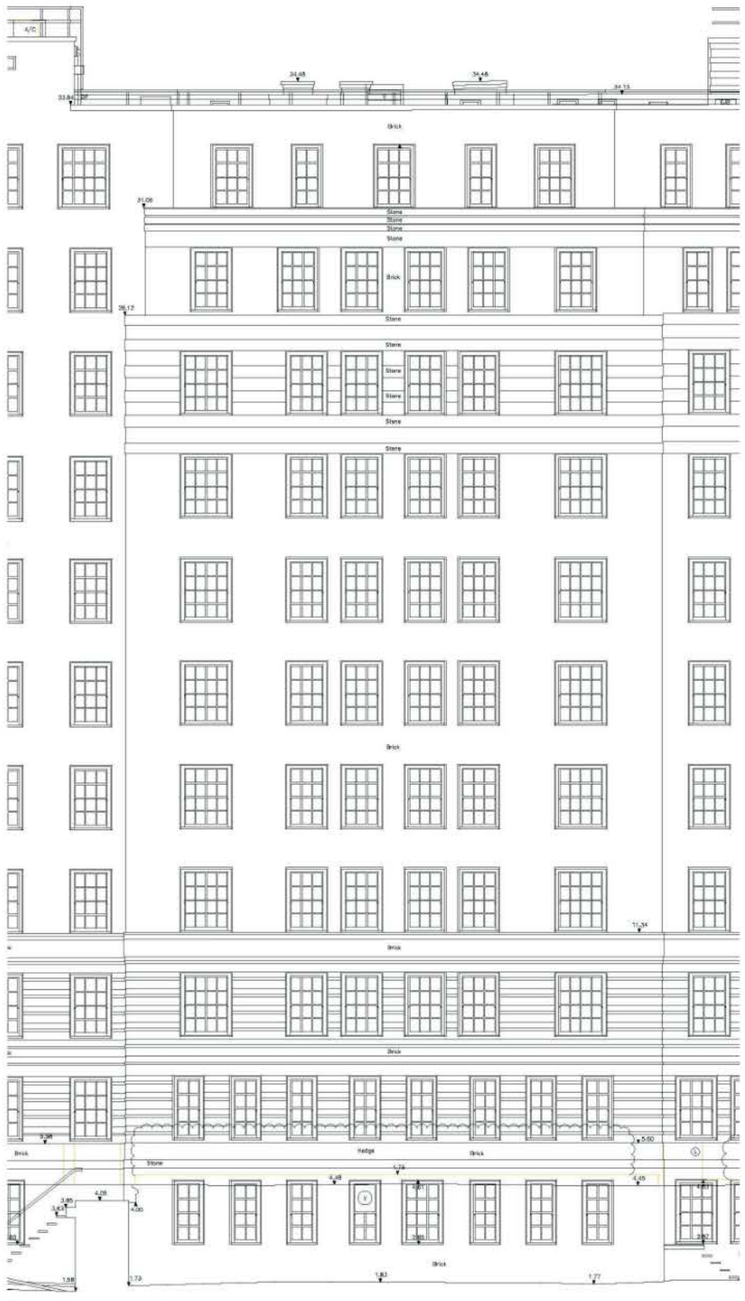
Due to existing column locations and extent of fenestration to a high quantum of apartments, the extent of brickwork where a MVHR duct work termination can be located is extremely limited. The elevation on this page indicates that in several instances the only location is to a brick pier between windows of 1.5 brick length.

Existing constraint - Limited brickwork between windows

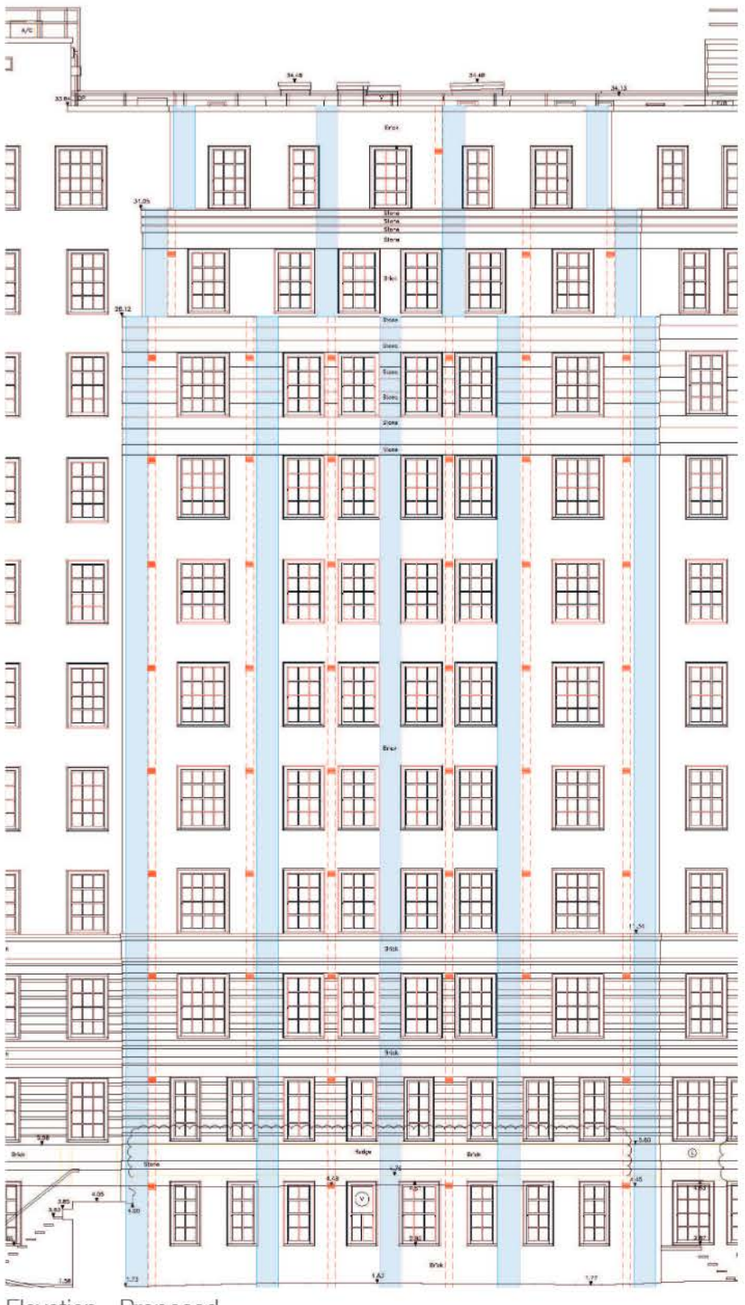
Air Brick

Existing Structure





Elevation - Existing



Elevation - Proposed

04 MECHANICAL VENT HEAT RECOVERY

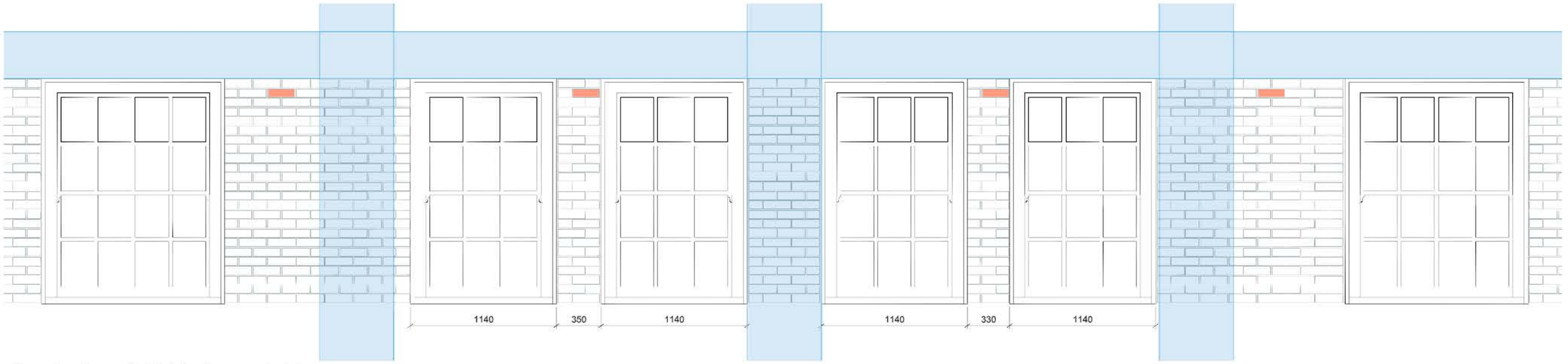
Option 01 / Bay Elevation

A solution to the brick pier constraints is to provide square profiles that are centred. This will give a more considered appearance.

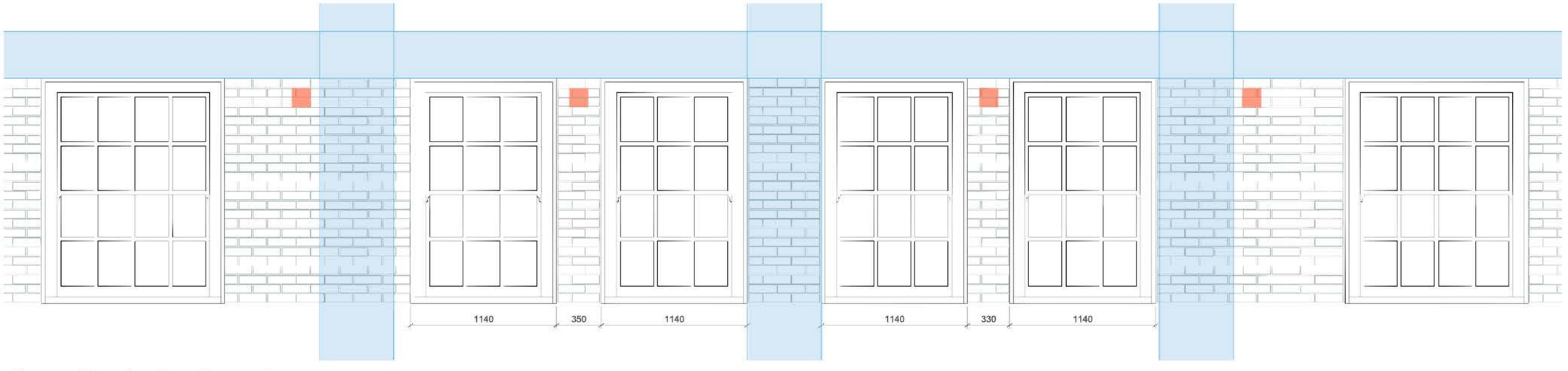
We believe that the frequency and location of the air bricks is well balanced and has a rhythm that can work successfully with the façade.

Air Brick

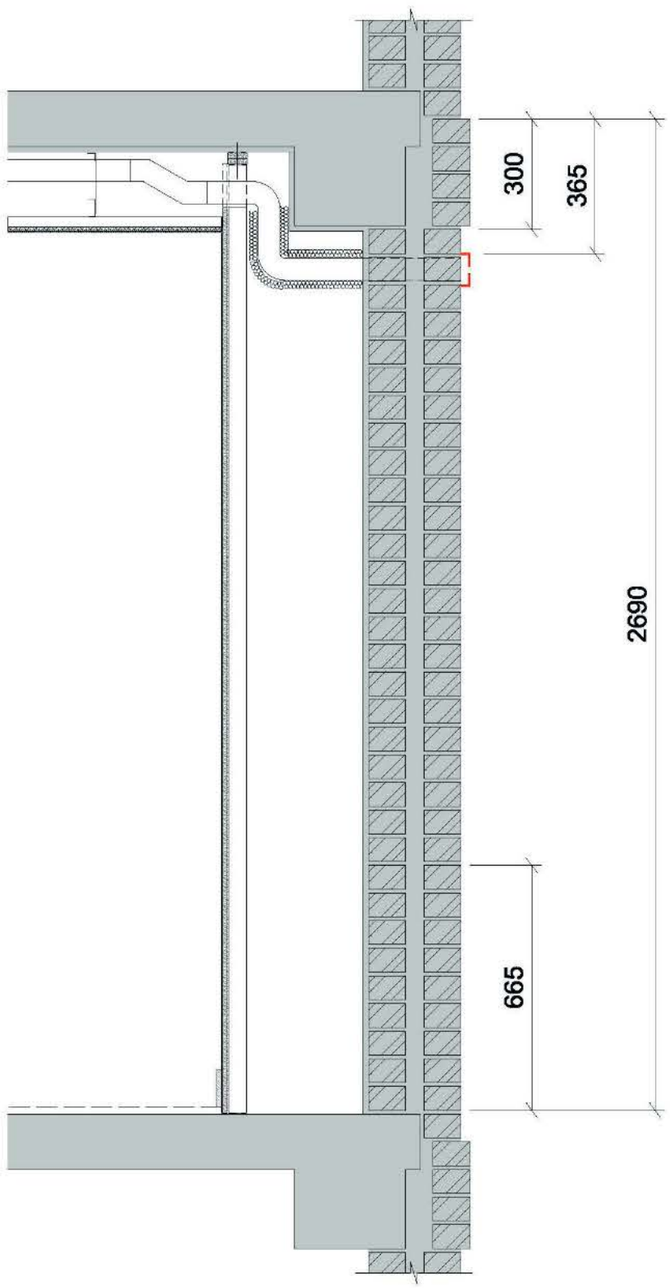
Existing Structure



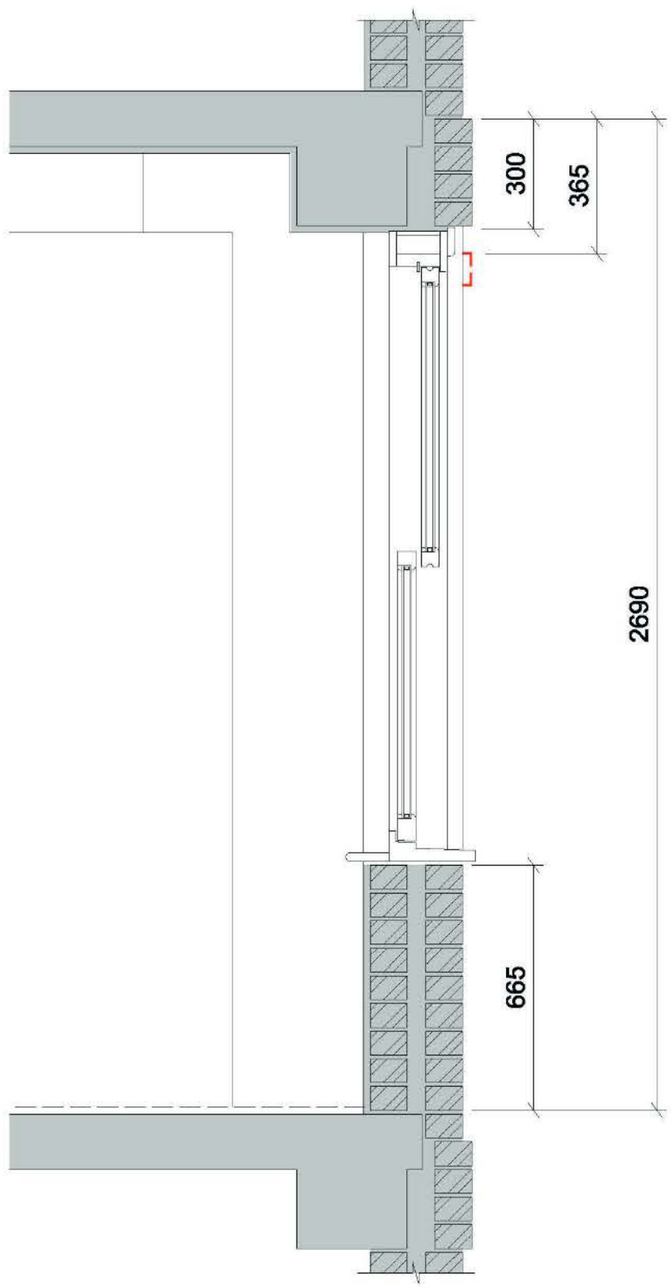
Bay elevation - Full brick size constraints



Proposed bay elevation - Square size



Option 01 - Air brick through wall

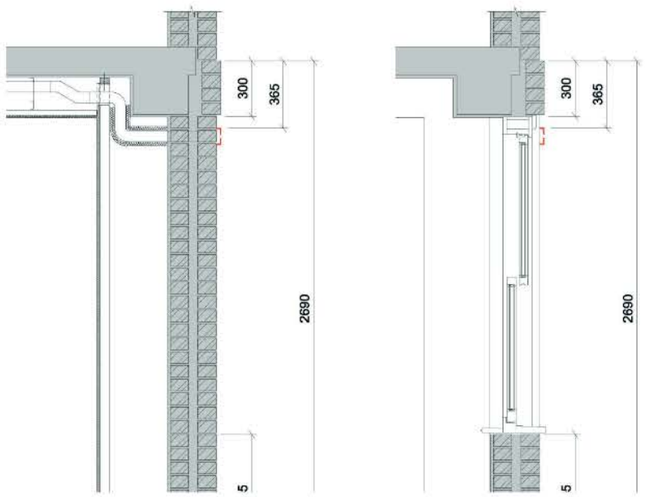


Option 01 - Air brick relationship with window

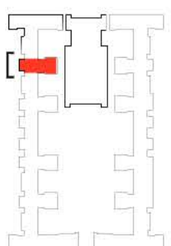
MVHR - Constraints

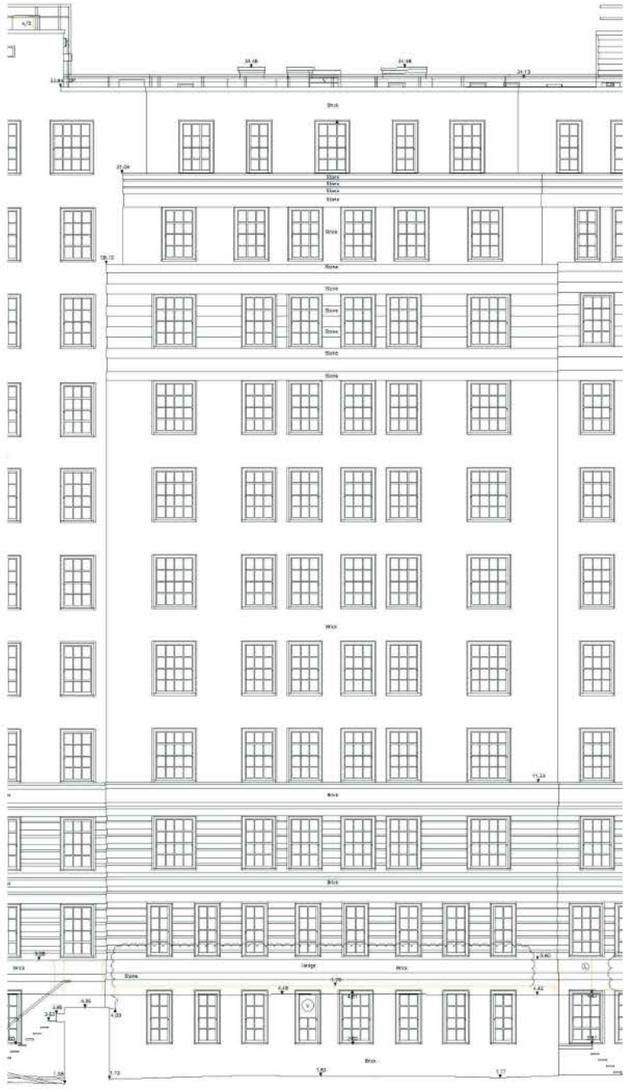
Due to existing column locations and extent of fenestration to a high quantum of apartments, the extent of brickwork where a MVHR ductwork termination can be located is extremely limited. The elevation on this page indicates that in several instances the only location is to a brick pier between windows of 1.5 brick length.

Existing constraint - Limited brickwork between windows



MVHR needs to avoid existing structural beams

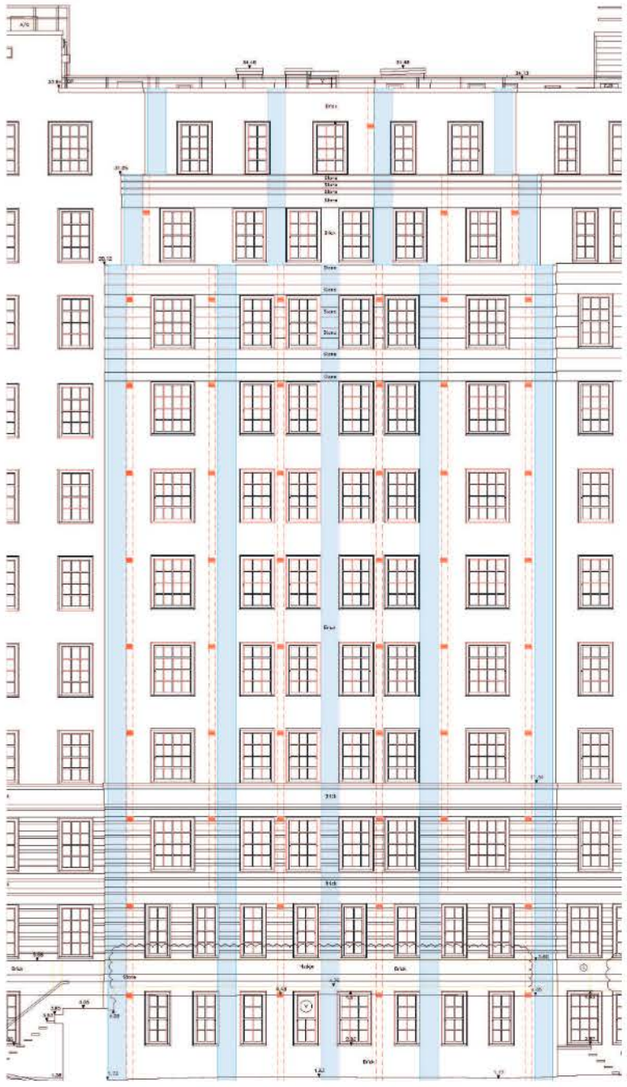




Elevation - Existing

Air Brick

Existing Structure

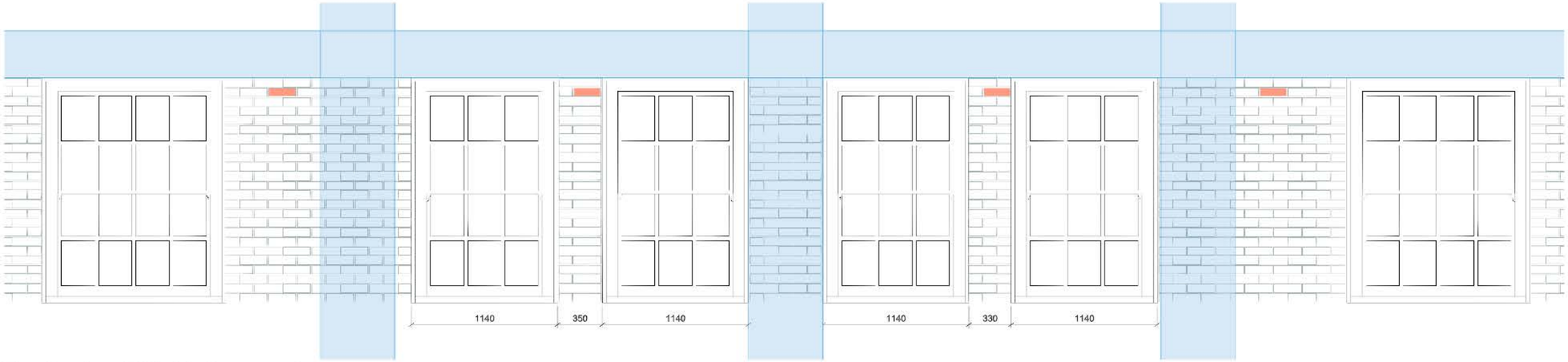


Elevation - Proposed

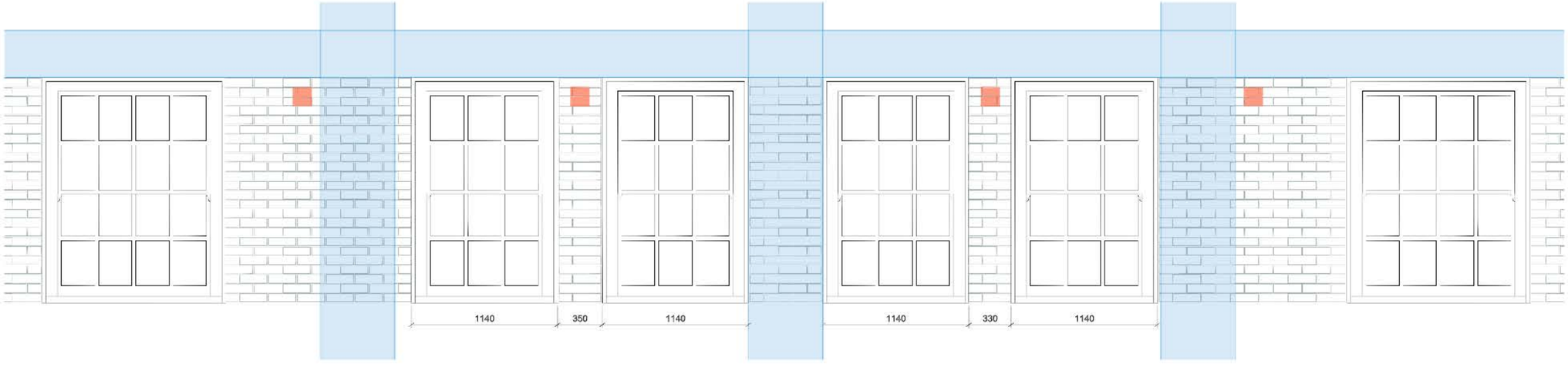
MVHR - Locations

A solution to the brick pier constraints is to adapt the linear profile of the vent to allow it to be centred on the thin pies. This will give a more considered appearance.

We believe that the frequency and location of the air bricks is well balanced and has a rhythm that can work successfully with the façade.



Bay elevation - Full brick size constraints



Proposed bay elevation - Square size

Air Brick

Existing Structure

MVHR - Design Development

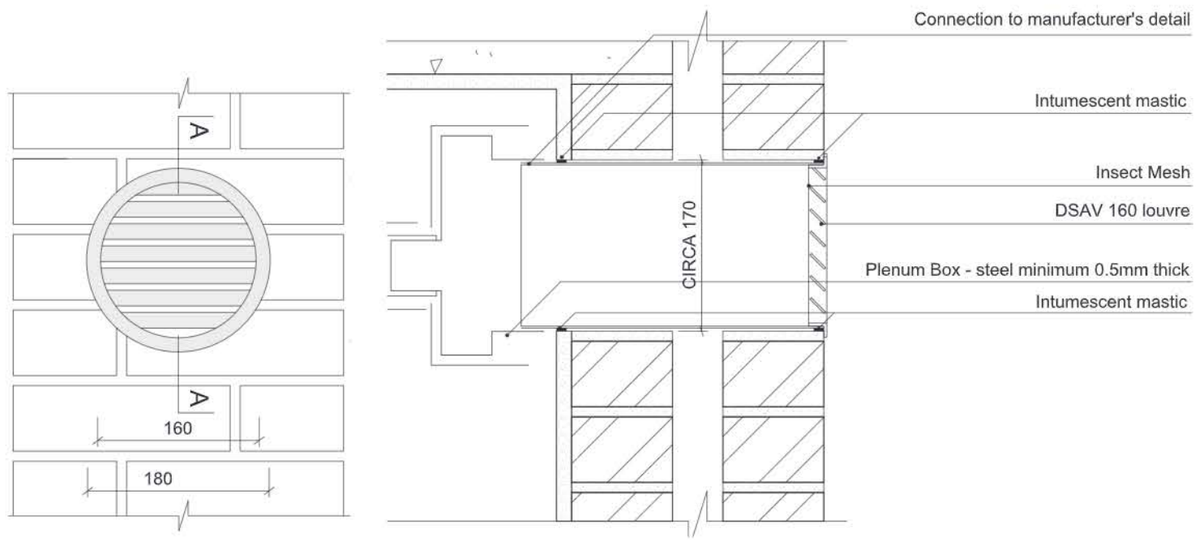
It is understood that the MVHR terminations will materially affect the appearance of the building. However we believe that if they are high quality and distributed carefully on the facade a detriment to the visual appearance of the building can be avoided.

At pre-application stage a cast metal cover to the louvre was considered. However due to the additional air resistance this caused the louvre and decorative cover to be oversized by 90mm in diameter. In addition the decorative cover would sit further proud of the facade.

Upon consideration we believe it would be better to install a smaller louvre without the decorative cover to mitigate their visual impact. Therefore an attractive circular louvre has been selected. A number of colour options were presented in the pre-application process and it was agreed that a charcoal colour to provide a traditional appearance. Where MVHR's need to be located on stucco or stone portions of the facade these will be an 'off-white' colour. The flange to the louvre covers the circular hole made in the existing wall.

The next pages provide illustrative views of a collective arrangement of the terminations in a bay and across an elevation.

In some locations 'fake' grills are provided to balance the facade where apartment layouts do not 'stack'.



Proposed louvre/cover detail

Proposed louvre/cover detail

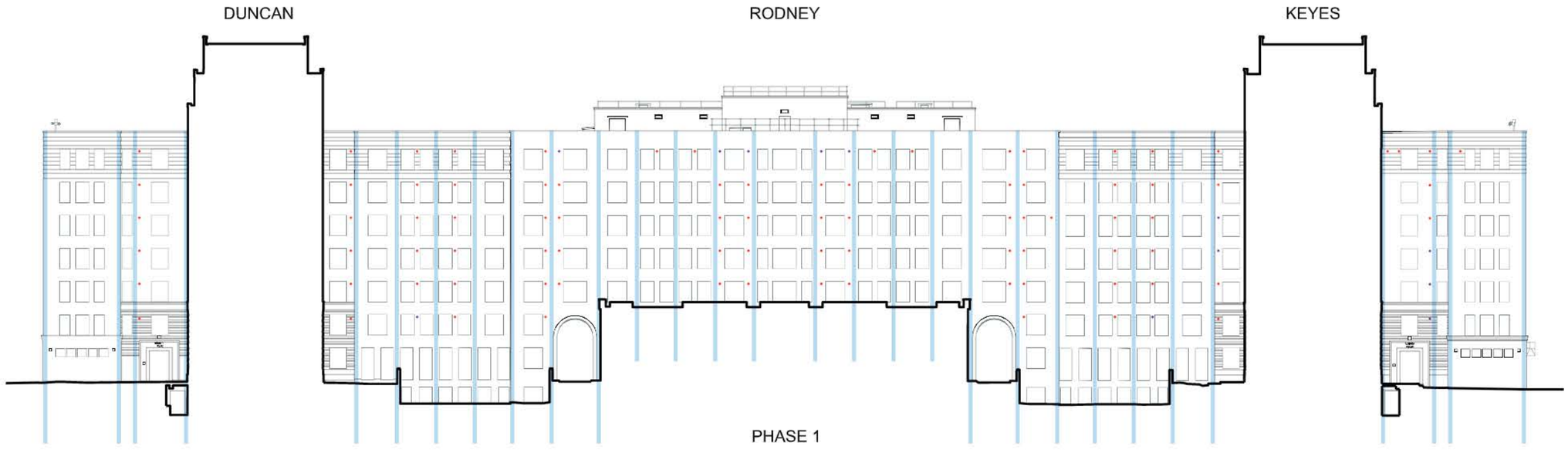
Illustrative CGI of louvre in brickwork

Typical Window Bay

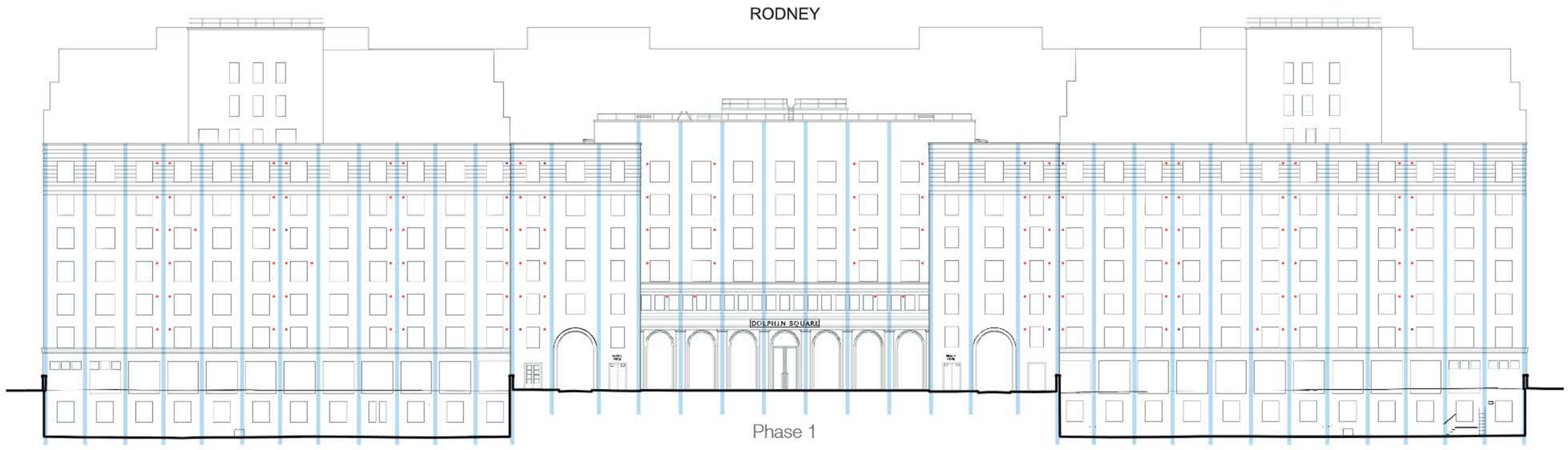
Proposed MVHR Locations

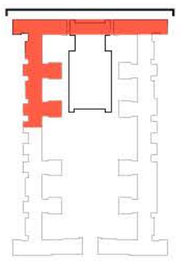
Key

- Structure
- Essential Grill
- Fake Grill



Proposed South Courtyard Facade - Rodney House





Proposed Chichester Street Facade