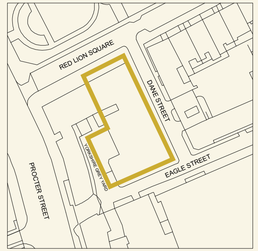
SUMMIT HOUSE

Roof Level Ductwork Alterations

Design and Access Statement

28/03/2018

BuckleyGrayYeoman | 2018



Foreword

This Design and Access Statement is submitted as part of a planning and listed building consent application for the proposed roof level ductwork alterations to Summit House, located within the London Borough of Camden. This application has been prepared following the implementation of consented application 2017/0077/PP & 2017/0814/L. For further information on the existing building and previously consented design proposals please refer to these planning application submissions.

The proposed alterations comprise modifications to the existing rooftop ductwork configuration, replacement of terrace lighting and the addition of low level ductwork screening.

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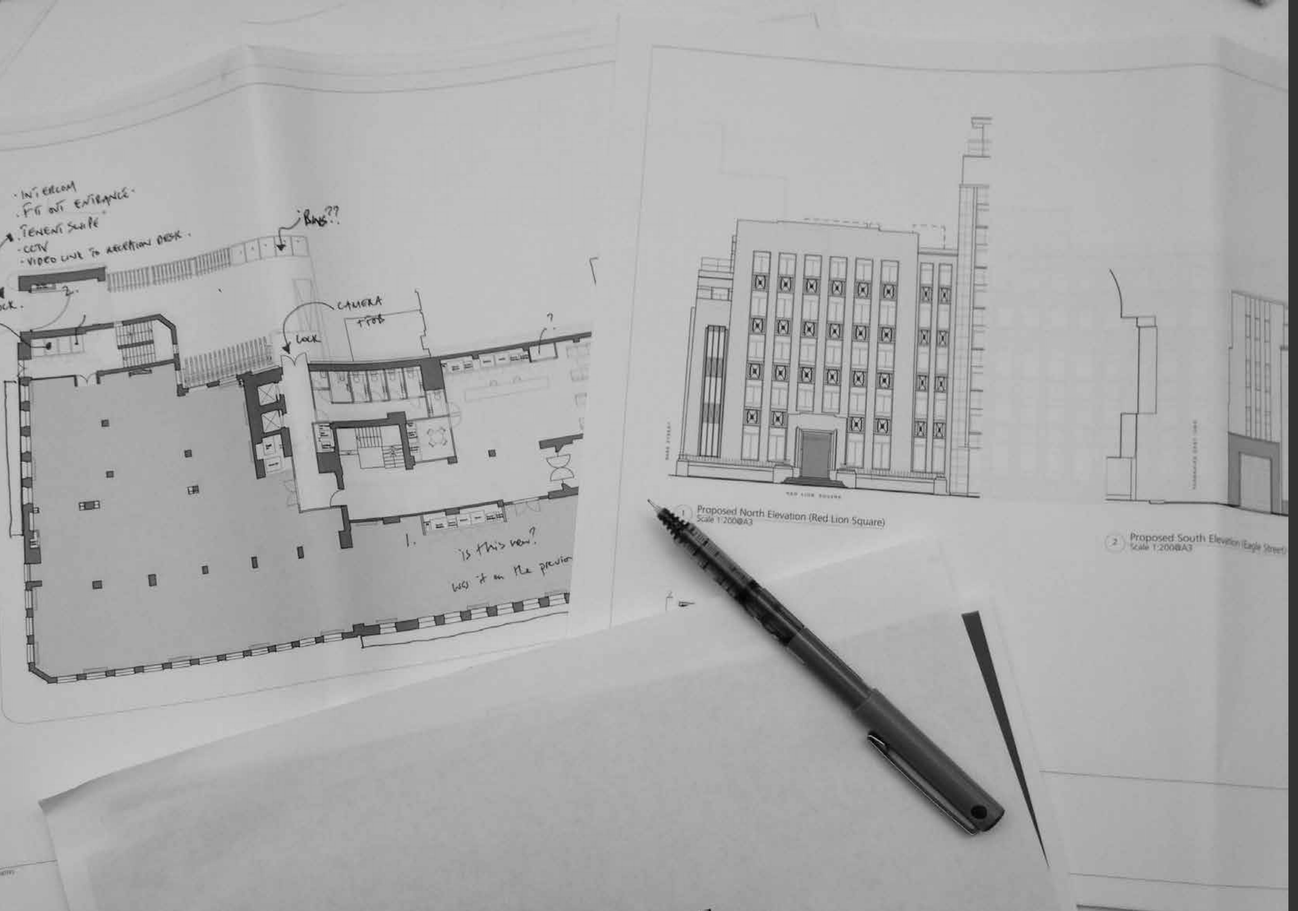


Section 1

Design Overview

Design Overview

Consented / As-Built Scheme

Under the previous planning and listed building application submission we received consent for alterations to the existing fabric, comprising in brief:

- Non-intrusive repairs to the facade of the building, retaining and making good the existing faience, windows and brickwork.
- Sensitive demolition of a number of spine walls and non-original partitions within the building to create flexible open-plan office space across 5 storeys (Basement, Ground, 1st-4th).
- Retention of original decorative features in the main entrance hall and reception area.
- Strip out and replacement of other non-original decorative finishes.
- Reconfiguration of sanitary accommodation throughout the building to provide unisex superloos.
- Introduction of new shower/changing areas at basement level for cyclists.
- New secondary glazing behind all existing windows to improve thermal and acoustic performance of the glazing.
- Replacement of all mechanical and electrical systems throughout the building to improve the overall energy efficiency of the building.
- Replacement of existing large roof plant in place with new modern plant equipment to meet current building regulations requirements.
- Replacement of existing pavement lights and roof waterproofing membranes.

These alterations have now been implemented on site, creating high quality contemporary office space and repositioning Summit House for the demands of contemporary tenants.

For further information on the as-built scheme please refer to consented planning applications 2017/0077/PP & 2017/0814/L.

Section 2

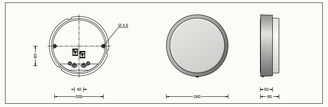
Design Proposals

BEGA **33 523**

Ceiling and wall luminaire IP 65

Project · Reference number | Date

Product data sheet



Application
LED ceiling and wall luminaire with high protection class for a variety of lighting tasks.
A luminaire made of die cast aluminium and impact resistant crystal glass.
The used LED technique offers durability and optimal light output with low power consumption at the same time.

Product description
Luminaire made of aluminium alloy, aluminium and stainless steel
Crystal glass with white matt finish
Silicone gasket
2 fixing holes ⌀ 4.5 mm
200 mm spacing
Two cable entries for through-wiring power connecting cable up to 10.5 mm in diameter, max. 5 x 1.5 qmm.
Connecting terminal 2.5²
Earth conductor connection
2-pole connecting terminal for digital control
LED power supply unit
220-240 V ∿ 0/50-60 Hz
DC 170-280 V
DALI controllable
A basic isolation exists between power cable and control line
Safety class I
Protection class IP 65
Dust-tight and protection against water jets
Impact strength IK07
Protection against mechanical impacts < 2 joule
CE – Conformity mark
Weight: 2.6 kg

Inrush current
Inrush current: 5 A / 50 µs
Maximum number of luminaires of this type per miniature circuit breaker:

B 10 A:	30 luminaires
B 16 A:	50 luminaires
C 10 A:	52 luminaires
C 16 A:	85 luminaires

Lamp

Module connected wattage	10.5 W
Luminaire connected wattage	12.6 W
Rated temperature	t_a = 25 °C
Ambient temperature	$t_{a\,max}$ = 40 °C

33 523

Module designation	LED-0381/930
Colour temperature	3000 K
Colour rendering index	R_a > 90
Module luminous flux	1730 lm
Luminaire luminous flux*	994 lm
Luminaire luminous efficiency*	78,9 lm/W

33 523 K4

Module designation	LED-0381/940
Colour temperature	4000 K
Colour rendering index	R_a > 90
Module luminous flux	1780 lm
Luminaire luminous flux*	1023 lm
Luminaire luminous efficiency*	81,2 lm/W

* preliminary data

Lifetime of the LED
Ambient temperature t_a = 15 °C
– at 50,000 h: L 90 B 10
– at > 500,000 h: L 70 B 50

Ambient temperature t_a = 25 °C
– at 50,000 h: L 90 B 10
– at > 500,000 h: L 70 B 50

max. ambient temperature t_a = 40 °C
– at 50,000 h: L 80 B 10
– at 246,000 h: L 70 B 50

Article No. 33 523
LED colour temperature optionally 3000 K or 4000 K
3000 K – Article number
4000 K – Article number + **K4**

Colour graphite or silver
graphite – article number
silver – article number + **A**

SUBCONTRATOR TECHNICAL SUBMISSION

EXISTING LIGHT FITTINGS TO DANE STREET TERRACE.

INSTALLED REPLACEMENT LIGHT FITTINGS TO DANE STREET TERRACE.

Terrace Lighting

Dane Street Terrace

The original light fittings to the Dane Street elevation were reaching the end of their functional life.

During the 2017 works on site these fittings were replaced with a 'like for like' IP rated alternative circular light fitting with black trim to match the window frames and balustrades. The position of the new fittings replicates the setting out of the original fittings exactly. The white containment was replaced with black.

The Dane Street terrace is accessed for maintenance purposes only Therefore, the lights will only be switched on as and when required to enable safe working access for cleaning or maintenance operatives who may be required to access the terrace or roof level.

All lights to the Dane Street terrace are wired to the same circuit and are manually switch operated from within the 4th floor office space.

Given the requirement to provide safe working access and the appropriate lighting levels for maintenance personnel, it is not possible to install the lights on a timer. This would result in a risk of the lights being switched off prior to operatives completing their tasks which may put them at risk.

Instead, the building management will be responsible for undertaking a visual site inspection at the end of each working day to ensure that all external lights are switched off. This approach will protect the amenity of neighbouring residents by ensuring that lights are not left on outside of normal working hours. In normal circumstances, there is no expectation that maintenance access to the roof will be required during nights.

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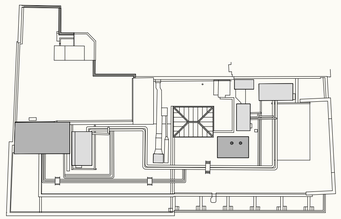
Original _ roof plan

Original ductwork / pipework at roof level.

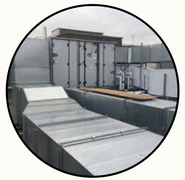


- Standalone plant equipment located across roofscape.
- Exposed low level ductwork / pipework visible at roof level.
- 2 no. existing enclosures housing boilers and pumps.

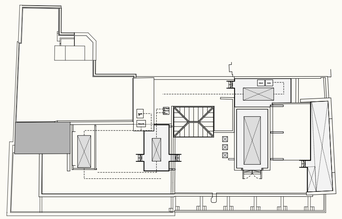
Existing rooftop enclosure

Standalone rooftop plant

Consented & As-Built roof plan

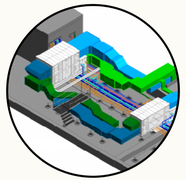


Installed ductwork to be modified under this application.

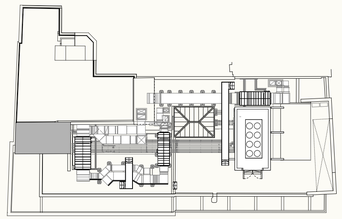


- Waterproofing layer replaced.
- 1 no. existing enclosure retained, 1 no. demolished.
- New standalone plant equipment located to align with existing layout.
- Acoustic enclosure provided to new chiller.
- Standalone plant equipment installed in line with this consented scheme.
- On site ductwork installation deemed non-compliant following neighbours complaint and subsequent Camden site inspection.

Proposed _ roof plan



Indicative 3D ductwork proposal



- No change to standalone plant locations from previously consented scheme.
- Revised ductwork configuration.
- Low level ductwork screening adjacent Dane Street parapet.
- Collapsible handrail to stepover adjacent Dane Street parapet.

Rooftop Plant

Consented / As-Built Scheme

During the previous planning and listed building application process we received planning consent for the installation of new standalone rooftop plant equipment to be located at roof level. Our strategy for these items was to keep as close to the existing footprint as possible.

Modern plant equipment is required to perform more efficiently than the original plant installation to meet current building regulations. To achieve this improved efficiency the new installed plant located at roof level is slightly larger than the previous plant equipment as was shown on the previously approved drawings.

During the consented works on site, 3 no. AHUs and 1 no. Chiller were installed at roof level as per the approved drawings. To comply with local authority design criteria the chiller was housed within an acoustic enclosure and acoustic attenuation was installed to the AHUs.

Due to structural constraints associated with the existing building and the increased weight of modern plant equipment, new steelwork plant decks were required to support the chiller and acoustic screen. The existing plant deck for AHU 01 was modified to support the new plant arrangement.

Non-Compliance of As-Built Ductwork

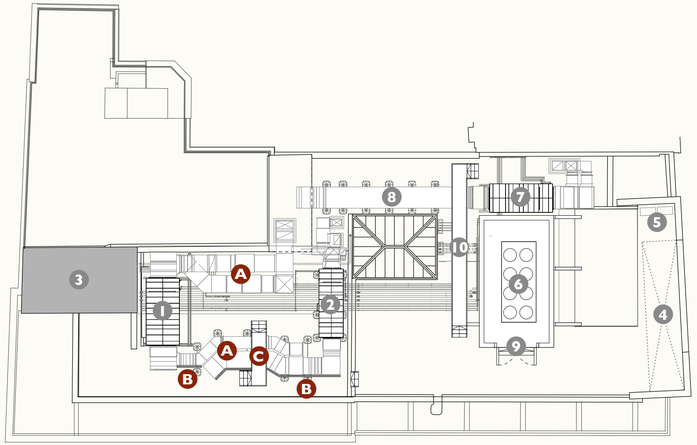
The consented planning permission included approval for 'low level ductwork' to serve the new plant equipment, thus replicating the principle of exposed ductwork/pipework established by the original condition on site.

Following correspondence from a neighbour and subsequent site inspection by Camden enforcement and design officers, the new as-built ductwork installation was considered to be non-compliant with the planning consent. This was due to the ductwork installation height which was deemed to have been installed too high to be considered as 'low-level' as per the approved drawings..

Proposed Modifications to As-Built Ductwork

The design team have subsequently worked with the contractor, a specialist sub-contractor, planning and design officers to develop an alternative technical solution to ensure the ductwork is kept as low to the finished roof level as possible. In this way we aim to minimise the overall visual impact on the listed building and conservation area, whilst maintaining the technical performance required for a functional B1 use office building.

For further information on the as-built scheme please refer to consented planning applications 2017/0077/PP & 2017/0814/L.



PROPOSED ROOF PLANT LAYOUT

KEY

(Consented installation as per previous planning applications)

1 Air Handling Unit 1.

2 Air Handling Unit 2.

3 Retained Boiler Room.
New flues to roof level.

4 Tenant plant space allowance concealed behind parapet wall.

5 Landlord communications and reception area plant concealed behind parapet wall.

6 Air Cooled Chiller.

7 Air Handling Unit 3.

8 Supply / Extract ductwork.

9 Acoustic louvred enclosure around Air Cooled Chiller.

10 Ductwork stepover

(Subject of this planning application)

A Modified arrangement of Supply / Extract ductwork and acoustic attenuation.

B Low level ductwork screening.

C Ductwork stepover with collapsible handrail.

Proposed Roof Plant Layout

Design Statement by Norman, Disney & Young (M&E Engineers)

Roof plant

Ventilation is provided to the office space of Summit House from three air handling units located at roof level and ducted to the floors below. The arrangement and plant locations are generally as was installed on the former building before the recent refurbishment was carried out.

There are a number of factors which influence the size of the roof plant. These include the minimum fresh air rates to be provided to the space (as dictated by the current Building Regulations, Part F and BCO guidelines) and a restriction on the power consumed by the fans of the AHU (as dictated by the current Building Regulations, Part L). In both cases, these have resulted in unit and duct sizes that are greater than would have been the case previously. An acoustic survey has been carried out as part of the BREEAM 'Very Good' score that has been achieved for the building. This acoustic survey confirms that the plant does not exceed noise levels that would adversely impact the surrounding buildings.

Care was taken in the design of the roof arrangement to minimise the bulk of the plant and ducts. Consideration was given to the existing sight –lines and roof plant massing. In all cases plant was located away from the perimeter and, where possible, ducts routed at low level.

An area of concern that has come to light with the new roof plant, is understood to be the bulk of the exhaust discharge duct attached to the air handling unit (AHU-RF01) to the South. To a lesser extent, the high level fresh air inlet duct on the smaller AHU (AHU-RF03), adjacent to the roof light. A revised arrangement has now been produced whereby these high level offsets are removed and more ducts run at low level. This revised arrangement has significantly reduced the height of the ductwork and ensures that the plant is lowered as much as possible without compromising its performance.

Internal Location of Plant

In considering the office ventilation and cooling plant location, the proposed design aimed at replacing existing plant at existing locations, albeit that the plant had to increase in dimensions to meet modern carbon efficiency targets and building regulations, as referenced above.

If the Air Handling Units and Chiller plant, which require access to large open air areas, had been located within the lower floors of the building; this would have resulted in large losses of net letable area. This would have a detrimental effect on Camden Council's Local Plan that sets out a forecast demand of 695,000sqm of office floorspace between 2014 and 2031. Therefore, the loss of one floor of office accommodation to plant would be considered inappropriate in terms of land use and would, no doubt, have affected the viability of the scheme.

Furthermore, for plant access and connection to fresh air, large facade louvers would have been required, which would have breeched planning and heritage limitations.

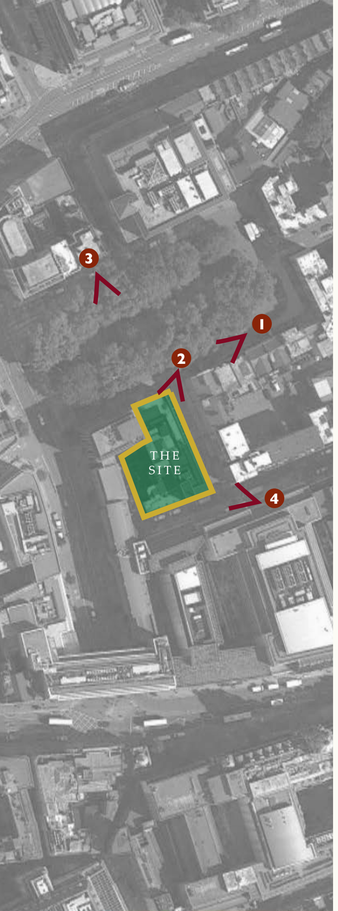


IMAGE 1

VIEW LOOKING SOUTHWEST FROM RED LION SQUARE (SOUTH).

IMAGE 2

VIEW LOOKING SOUTH FROM RED LION SQUARE (SOUTH).

IMAGE 3

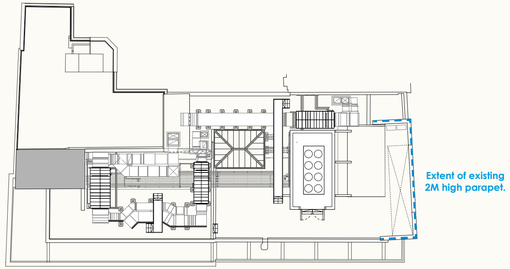
VIEW LOOKING SOUTH FROM RED LION SQUARE (NORTH).

IMAGE 4

VIEW LOOKING WEST FROM EAGLE STREET.

Street Views

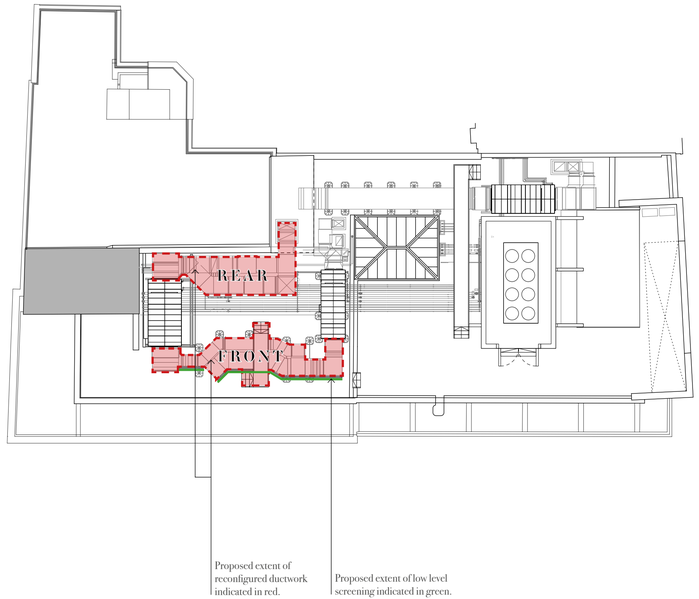
Coordination and Replacement of Plant Equipment



Plant Strategy

- The position and size of rooftop plant was carefully considered to remain out of sight from the adjacent viewpoints. These standalone plant items are installed as per the consented planning drawings.
- Standalone plant items are located to match the original plant footprints as closely as possible.
- The facade is stepped back at 4th floor on Dane Street and Eagle Street.
- From Red Lion Square a 2m high parapet obscures much of the roof behind.
- The following pages show consented and proposed elevations including the proposed ductwork modifications to the southern part of the roofscape.

EXTENT OF PROPOSED MODIFICATIONS

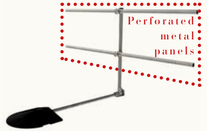


We do not proposed to make any alterations to the location of roof plant equipment which has been installed in line with the previously consented planning submission.

This planning application is purely associated with installation / modification of the following:

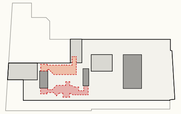
- Modification of ductwork to ensure it sits as low as technically possible to the roof finishes.
- Introduction of low level ductwork screening to reduce visual impact of ductwork when viewed from neighbouring buildings. (Weighted system with no penetrations to waterproofing)
- Replacement of stepover and handrail with new stepover at low level and associated collapsible balustrade to reduce visual appearance.

Black PPC Perforated metal for low level screening.



Design intent for perforated metal screening to sit on existing roof finishes with weighted supports under ductwork.

Example of white Ductwork Wrap.



KEY PLAN

Roof Plant & Amended Ductwork

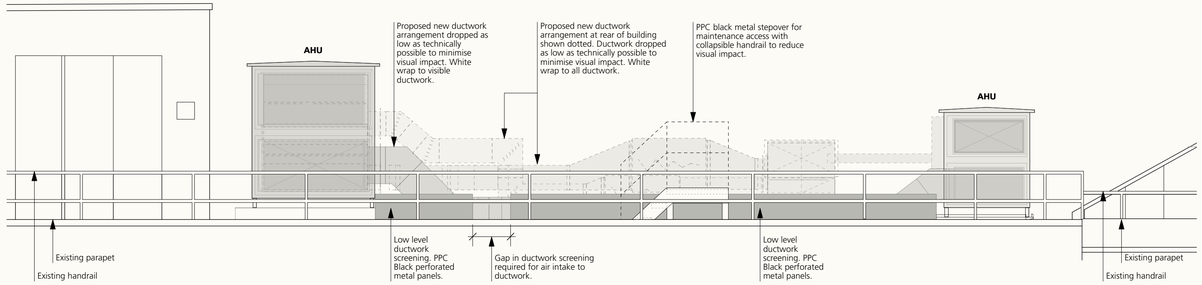
Proposed Arrangement (Front & Rear Ductwork)

The design team has worked hard to develop the lowest profile ductwork installation which maintains the technical viability of the installation.

The below diagram indicates the proposed reconfigured ductwork arrangement on site as viewed from Dane Street. This ductwork arrangement has been developed to mitigate concerns over installed ductwork heights. All visible ductwork is to be wrapped in a white adhesive ductwork wrap to reduce it's visual impact.

Low level Black PPC perforated metal screening will be provided locally to reduce the overall visual impact of the ductwork to neighbouring properties located on the opposing side of Dane Street.

The following pages show the height improvments that will be achieved by the modified arrangement when compared with the as-built condition.

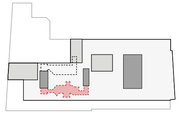


Dane Street Elevation Extract
1:50@A3

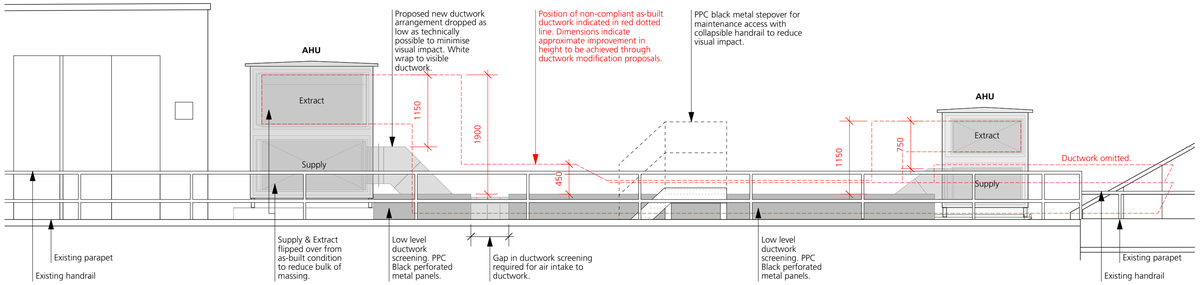
Roof Plant & Amended Ductwork

Proposed Arrangement (Front Ductwork)

The below diagram indicates the height improvement that can be made to the proposed ductwork arrangement adjacent the Dane Street parapet following modification of the current non-compliant ductwork installation on site.



KEY PLAN



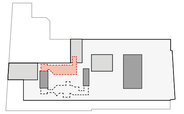
Dane Street Elevation Extract (Ductwork adjacent parapet)
1:50@A3

NOTE: Rear ductwork omitted for clarity.

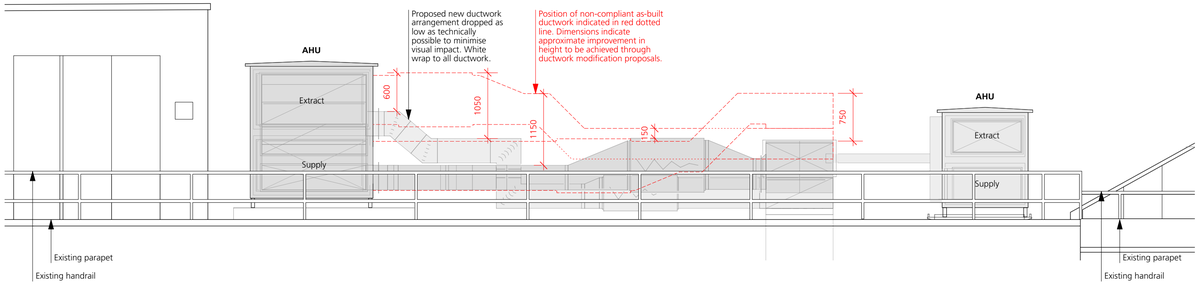
Roof Plant & Amended Ductwork

Proposed Arrangement (Rear Ductwork)

The below diagram indicates the height improvement that can be made to the proposed ductwork arrangement adjacent the 4th floor terrace (as viewed from Dane Street) following modification ofthe current non-compliant ductwork installation on site.



KEY PLAN

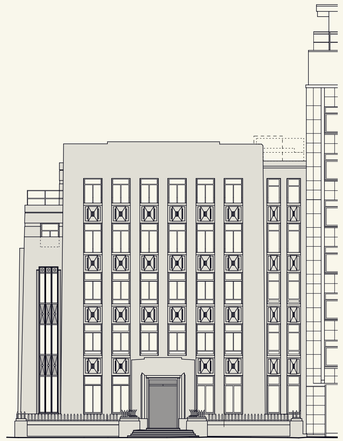


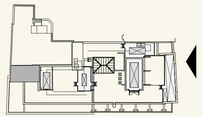
Dane Street Elevation Extract (Rear Ductwork adjacent terrace)
1:50@A3

NOTE: Front ductwork and ductwork screening omitted for clarity.

Consented / Proposed Elevations

Red Lion Square

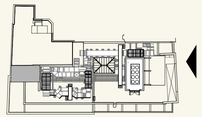




CONSENTED

The roof top plant arrangement has been installed on site in line with the previous planning approval. The plant equipment indicated on the elevation above is not visible from within the square.

The proposed ductwork modifications to the southern part of the building under this planning application will have no visual impact on this elevation.

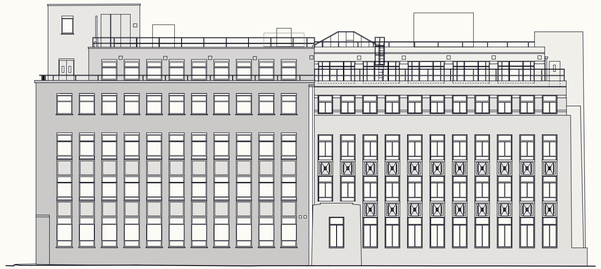


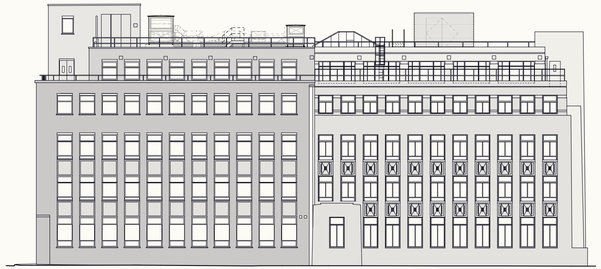
PROPOSED

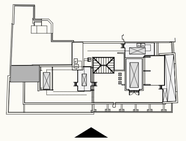
(AS-BUILT - NO DUCTWORK MODIFICATIONS PROPOSED)

Consented / Proposed Elevations

Dane Street



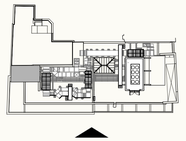




CONSENTED

The modified ductwork arrangement located closest to the Dane Street roof level parapet will be out of sight from street level.

The ductwork will also be concealed behind a low level perforated metal screen to improve the outlook from the neighbouring buildings on the opposing side of Dane Street.

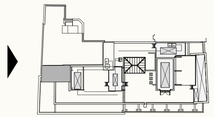


PROPOSED

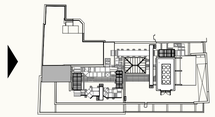
(INCORPORATING DUCTWORK MODIFICATIONS)

Consented / Proposed Elevations

Eagle Street

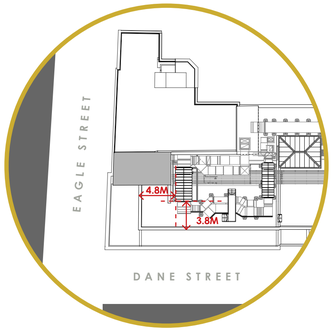


CONSENTED



PROPOSED

(INCORPORATING DUCTWORK MODIFICATIONS)



Under the previous planning consent we have replaced the rooftop plant located towards the corner of Dane Street & Eagle Street. The new AHU sits on top of the existing steel plant deck which was modified to suit.

The design team have worked hard to reduce the overall mass of the ductwork and plant attenuation as much as is technically feasible.

Although the reconfigured ductwork and attenuation sits forward of the AHU itself, this will remain out of sight from street level. A low level PPC perforated metal ductwork screening will be introduced to minimise the visual impact of the low level ductwork which runs parallel to the Dane Street parapet.

Street Views

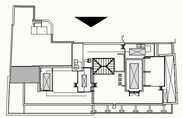
from Eagle Street

IMAGE 5

VIEW LOOKING WEST FROM EAGLE STREET.

Consented / Proposed Elevations

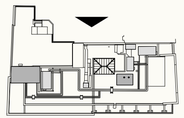
Yorkshire Grey Yard



CONSENTED

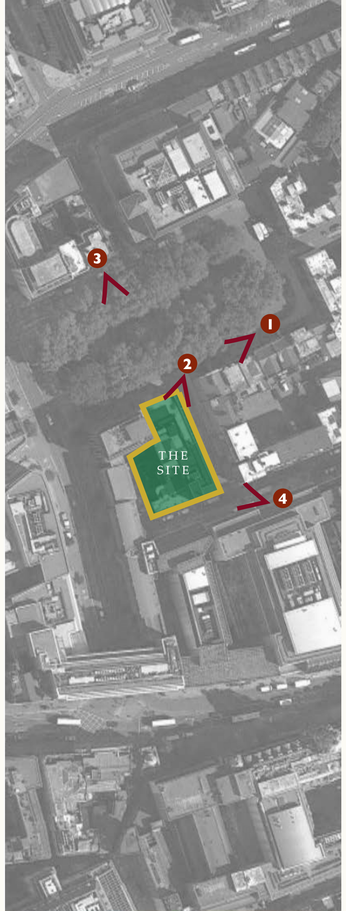
This is primarily a back of house elevation. Standlone plant items have been installed in line with the planning consent.

The revised ductwork configuration is kept as low as is technically feasible. This will not be visible from street level.



PROPOSED

(INCORPORATING DUCTWORK MODIFICATIONS)



Rooftop Plant

Conclusions

IMAGE 1

VIEW LOOKING SOUTHWEST FROM RED LION SQUARE (SOUTH).

IMAGE 2

VIEW LOOKING SOUTH FROM RED LION SQUARE (SOUTH).

IMAGE 3

VIEW LOOKING SOUTH FROM RED LION SQUARE (NORTH).

IMAGE 4

VIEW LOOKING WEST FROM EAGLE STREET.

All ductwork and attenuation associated with this planning application are located and sized to ensure no visibility from these locations.

BuckleyGrayYeoman

Studio 4.04
The Tea Building
56 Shoreditch High Street
London
E1 6JJ

T +44 20 7033 9913
F +44 20 7033 9914
E mail@buckleygrayyeoman.com
W buckleygrayyeoman.com