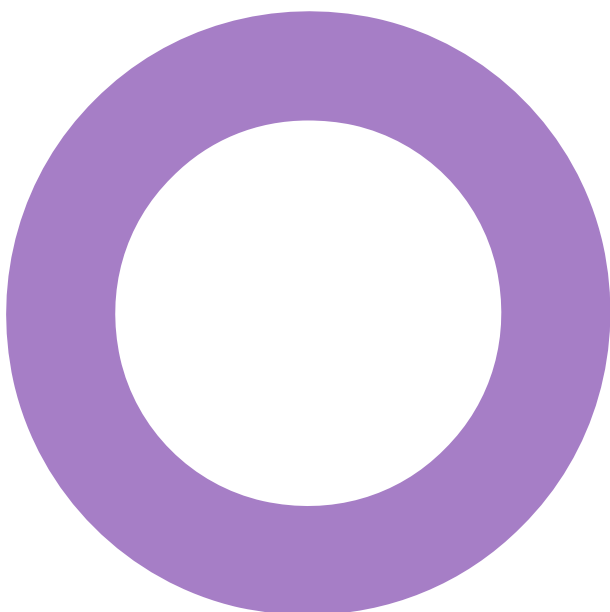


Lincoln House. High Holborn. Schroders.

MEP ENGINEERING
VENTILATION NOTE

REVISION P03 – 31 JANUARY 2023



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
P01	20/10/2022	Preliminary Issue	JIC	LK	CW
P02	10/11/2022	Client Name Updated	JIC	LK	CW
P03	31/01/2023	Updated to include NOx filters	JIC	LK	CW

This document has been prepared for Schroders only and solely for the purposes expressly defined herein. We owe no duty of care to any third parties in respect of its content. Therefore, unless expressly agreed by us in signed writing, we hereby exclude all liability to third parties, including liability for negligence, save only for liabilities that cannot be so excluded by operation of applicable law. The consequences of climate change and the effects of future changes in climatic conditions cannot be accurately predicted. This report has been based solely on the specific design assumptions and criteria stated herein.

Project number: 02/09873

Document reference: DOC-0209873-08-JIC-20221020-Ventilation Note.docx

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1. Introduction

This note has been prepared to summarise the ventilation strategy for the Lincoln House redevelopment to satisfy Planning Condition 8. A written description of the mechanical ventilation system, including air inlet location and details of filters are given for the different areas within the building. Stage 2 drawings marked up with intake positions are provided as an appendix.

2. System description

Office Areas

General ventilation to the office areas building will be provided by two roof-mounted air handling units (AHUs). Fresh air intakes and exhaust discharge ductwork will be located at roof level. Intake locations will be located directed away from High Holborn. Intake and exhaust locations will be separated to minimise recirculation.

Supply and extract ductwork will be extended down the building through dedicated ventilation risers. Separate connections on to each floor will be made for the landlord areas and to serve the office floor plates.

Each AHU will generally comprise of

- Integral DX heat pump to temper the air
- Thermal Wheel heat recovery
- Panel and bag filters
- High efficiency fans
- Attenuation located within ductwork.
- Motorised dampers

Dedicated NO_x filters will also be provided integral to the Air Handling Units. The filterers will be of the carbon type to ensure the NO_x concentration in the fresh air supplied into the building are significantly below the maximum permitted concentrations of 60 µg/m³.

Capped supply and extract connections will be provided within the ventilation riser on each floor for the tenants' installation. Each branch will be provided with a fire/smoke damper, variable air volume terminal unit ("VAV box") and an attenuator. This arrangement will allow the whole building to be commissioned without any on-floor equipment installed and will enable tenants to fit out individual floors without impacting on any other floors.

At this stage it is proposed to install VAV units linked to CO₂ sensors that modulate the VAV units dependent on demand, and then AHU's to save on energy.

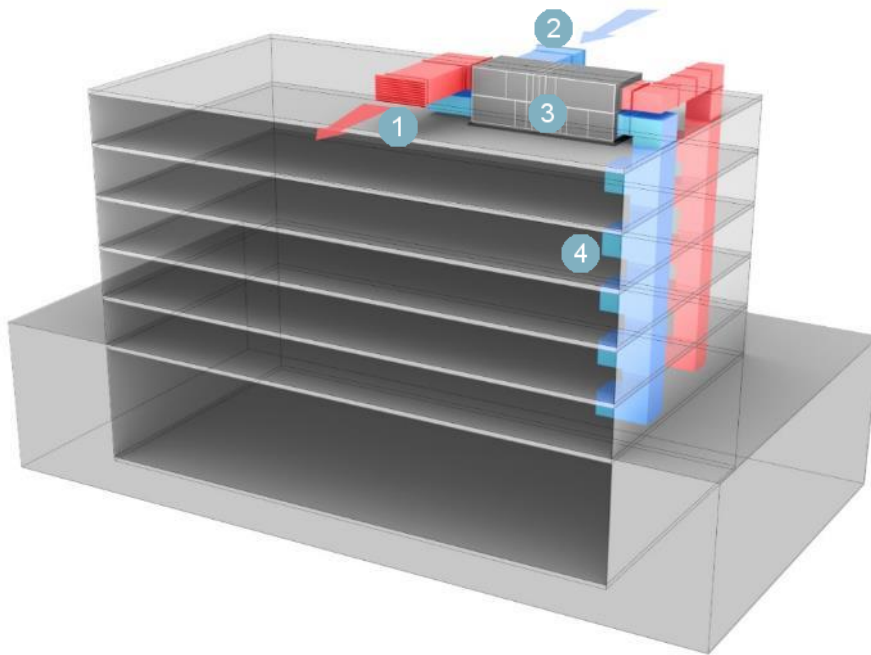
This could be adapted to motorised dampers and CAV boxes to serve each tenanted space, with the tenants responsible for installing VAV units if they desire.

Openable Windows

Openable windows will be provided on the façade that overlooks Lincolns Inn.

Generally, openable windows allow users to open up during the 7 or 8 months where outdoor air is a benign source of ventilation and temperature control, when outside noise levels permit. It also increases occupant satisfaction rating by providing connectivity to the outside.

A control strategy will be developed to ensure that the mechanical ventilation, heating and cooling systems operate in a way that will not result in wasted energy, comprising of CO₂ sensors and temperature sensors. However, due to the down flow system functionality will be limited.



- | | |
|--------------------------|--|
| 1. Extract air discharge | 3. Air handling unit with heat recovery |
| 2. Fresh air intake | 4. Supply and extract air connections on to floors |

WCs

A dedicated supply and extract AHU will be provided to serve the toilet areas within the core, located at roof level. This is to prevent air recirculation from the office areas into the common WCs and lobbies. It has the added benefit of providing heat recovery on the WC ventilation system and will balance the supply and extract air flows on the office AHUs improving the heat recovery efficiencies.

Supply and extract ductwork will be extended down the building through dedicated risers with connections onto each floor. Air will be extracted from each Super-Loo via a dedicated extract grille in the ceiling. Supply air will be supplied into the lobby areas via dedicated ceiling diffusers.

The AHU will comprise of twin fans (duty standby) and a plate heat exchanger to prevent any mixing of the air streams.

Lower ground floor

Due to the smoke extract requirements for the lower ground floor, a dedicated supply and extract system will be installed for the LGF rooms. Ventilation will be provided by a lower ground floor-mounted air handling unit (AHU). Fresh air intakes and exhaust discharge ductwork will connect via plenums to louvres on the façade at ground and first floor, ensuring sufficient separation to minimise recirculation.

In a fire condition, smoke dampers in the ductwork will allow extract from just the affected zone, to ensure the installed system has sufficient capacity to provide the necessary extract rate for that zone.

All ductwork in the lower ground floor area shall be fire rated

Retail units

The ground floor retail units will require supply and extract ventilation for general purposes. High level louvres in the façade will be provided to allow future tenants to install their own systems.

The tenants will be required to provide their own NOx filters to satisfy planning requirements.

Bin Store

A mechanical ventilation system will provide extract ventilation to the enclosed bin store. The system will be designed to ensure a negative pressure within the bin store with respect to the adjacent spaces, to control the spread of contaminants and odours.

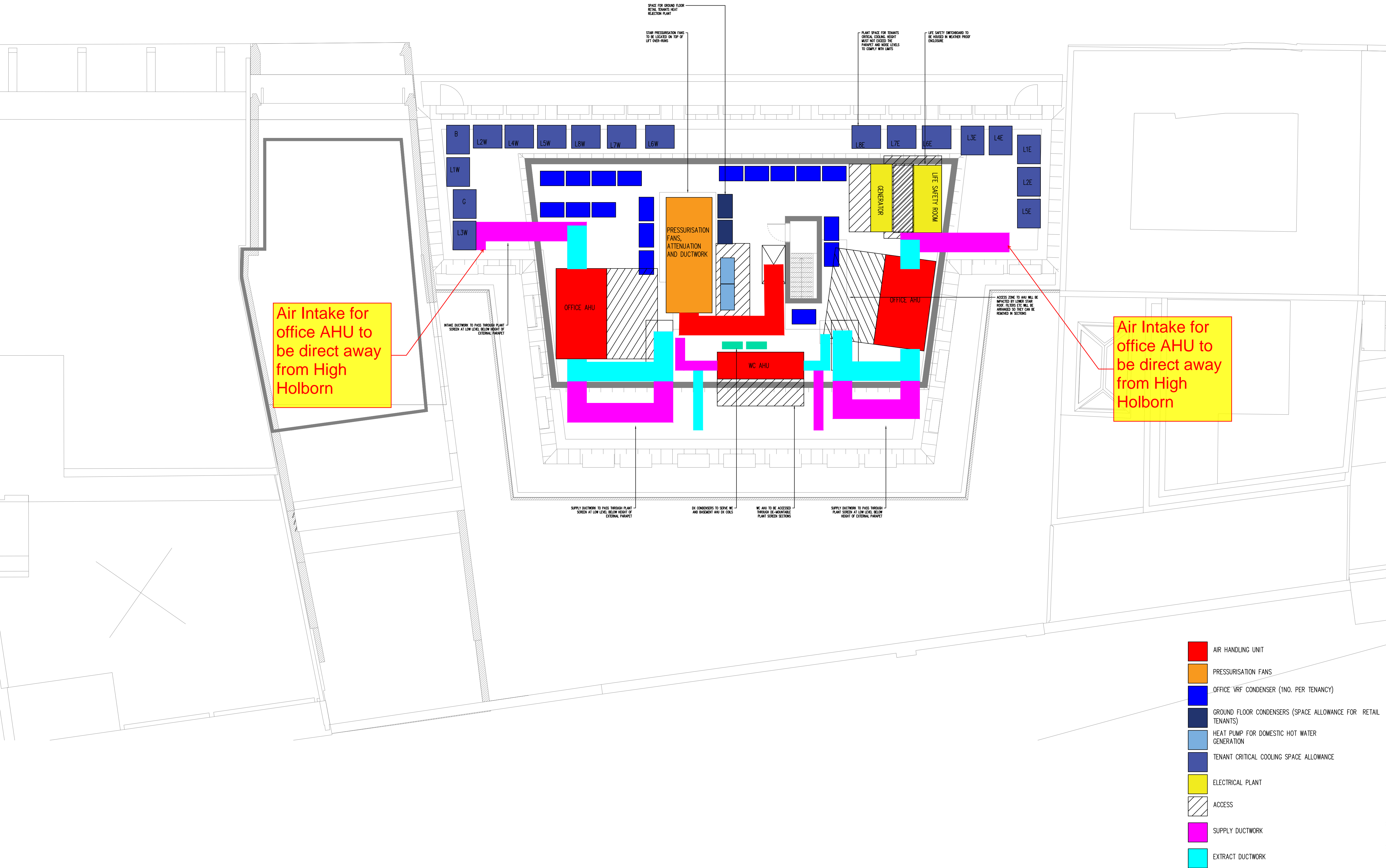
Appendix A – Marked up roof plant drawing

This drawing shall not be scaled.
Work from the dimensions shown in the
drawing or given in relevant specifications

CDM Regulations:
In addition to any information included in this drawing or
the model from which it is derived, refer also to the project
CDM Risk Register for information on residual risks.

- General Notes:
- The drawing does not necessarily show all the information needed to interpret the design intent or the construction details.
 - The drawing contains information from more than one source and must be read in conjunction with all relevant specifications.
 - Any apparent drafting errors and differences between other drawings and specifications shall be brought to our attention.

Project Notes:



HOARE LEA

Sketch mark up.

jack.carlisle

20/10/2022

0209783-HLA-XX-RF-SK-CS-100001

Disclaimer: These sketches are purely illustrative and prepared during design phase to be discussed. They are not for construction and they are not replacing the full set of drawings.

P01	STAGE 2 ISSUE	EG	JIC	LK	12/21
Index	Description	Designed	Reviewed	Authorised	Date

REVISIONS:

HOARE LEA

ARCHITECT:
EPR ARCHITECTURE
30 MILLBANK
LONDON

CLIENT:
ABERDEEN

PROJECT TITLE:
LINCOLN HOUSE

DRAWING TITLE:
ROOF LEVEL PLANT AREA

STAGE 2

PERSON RESPONSIBLE FOR:

Design: EG	Review: JIC	Authorising Issue: LK
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Project No: 0209873	Date: DEC' 21	Scale @ A1: NTS
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DRAWING NUMBER:	Status:	Rev:
0209873-HLA-XX-RF-SK-CS-100001	S3	P01



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