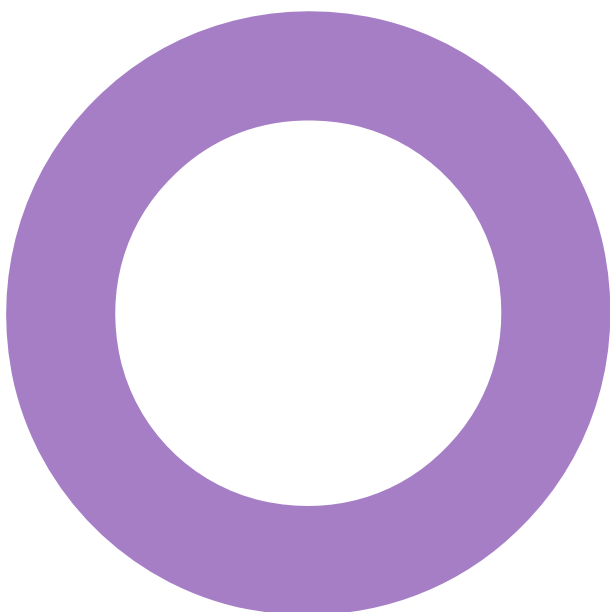


Mayfield Poulton, Manchester. Manchester. U+I.

MEP ENGINEERING

VENTILATION & EXTRACTION STATEMENT

REVISION P01 – 31 MAY 2023



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
P01	31/05/2023	For Review	EEG	LW	RCM

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1. Introduction

1.1 Background

This ventilation statement has been produced to support the planning application for Mayfield Poulton Office building, Manchester. It provides description of the supply and extract ventilation strategies employed throughout the internal areas within the proposed building, as well as the air intake and discharge strategies to external.

1.2 Development Overview

1.2.1 Existing Site

The building will be constructed on the Mayfield site located in Manchester City Centre, currently home to Mayfield Park and 'Depot'. The Poulton office will be constructed in the first phase of the wider site development. The site has been cleared of existing buildings, in preparation for development.

1.2.2 Proposed Development

The proposed development consists of a newly constructed 10-storey Class A office development, complete with rooftop amenity space.

An entrance lobby and reception are present at ground floor level. The ground floor and basement will also accommodate two split level retail tenant spaces. Designed as shell and core, for tenant fit out.

A mixed-use amenity space and external terrace is provided at level 9.

Ventilation plant space has been provided within the basement, level 9 and roof. Retail tenants are intended to locate their own ventilations plant within their demise.

2. Ventilation Strategy

2.1 Tenant Office Areas

Tenant office zones shall be provided with fresh air from central air handling units (AHU), located at roof level 9. The variable air volume (VAV) system shall provide sufficient outside air to avoid exceedance of maximum CO² levels within the occupied zones.

The provided AHUs will also be utilised remove vitiated air from each office zone. Air will be distributed to and from the office floor plates via ductwork located in risers within the central cores.

Heat recovery devices will be present within the AHUs to allow heat recovery required to meet Building Regulations Part L requirements. Air volumes extracted from the office zones will be variable, tracking the outside air rate to allow for a balanced system, therefore maximising heat recovery between the extract and supply air streams.

All air handling units will be provided with intake, discharge, supply, and extract attenuation with anti-vibration mounts as required to meet the requirements of the acoustic report by Hoare Lea.

2No. AHUs will be provided at roof level, each serving approximately half of each office floorplate levels 01-08.

The offices will also be provided with mixed mode ventilation via panel openings within the façade, adjacent to the windows, each concealed behind a perforated screen. Note central plant is sized for peak required ventilation if openings are sealed.

2.2 Landlord Core Areas

The landlord core areas, consisting of lift lobbies, WC and adjacent circulation will be provided with a central balanced air handling system.

Vitiated air will be extracted from the WC areas and fresh air shall be provided to the lift lobby and circulation areas, satisfying the requirements of Building Regulations Part F, whilst also providing 'make-up' air to the toilets facilitating the balanced system operation.

Air will be distributed to and from the core areas via ductwork located in risers within the central cores.

The provided AHU will contain a plate heat exchanger device, therefore mitigating the risk of cross contamination between extract and supply air streams.

The AHU will be provided with intake, discharge, supply, and extract attenuation with anti-vibration mounts.

1No. AHU will be provided at roof level, serving core areas across levels ground to 09.

2.3 Landlord Ground Floor and Basement Areas

The ground floor areas, including the open plan reception areas are to be provided with full fresh air mechanical supply and extract ventilation to meet the employer's requirements and building regulations Part F, these will also be served by the landlord AHU on the roof.

The basement plant rooms/stores consisting of the following areas will be provided with general extract ventilation, with supply 'make-up' air to allow sufficient air turnover to avoid overheating/humid environments:

- Domestic water tank room
- LV switchroom
- MER room
- Comms intake room

The ductwork systems provided at basement level shall be capable of operating in fire conditions, providing sufficient smoke clearance ventilation for compliance with Building Regulations Part B.

2.4 Ground Floor Back of House (BoH) Areas

The utility owned substation located on the South façade will be naturally ventilated via external louvres.

The bin store will be naturally ventilated via external louvres, with mechanical assistance from an extract fan serving the deeper portion of the space, unreachable by natural air movement.

2.5 Basement Smoke Ventilation

The basement will be provided with smoke extract and makeup air fans and systems. Intake and exhaust will be ducted to the ground floor, connecting to louvers on the perimeter façade.

The ductwork systems provided at basement level shall be capable of operating in fire conditions, providing sufficient smoke clearance ventilation for compliance with Building Regulations Part B.

2.6 Tenant Ground Floor/Basement Areas

Two retail units are proposed, spanning the ground floor and basement. It is proposed that tenants will fit out their own HRUs within the space to provide ventilation. At ground floor a louvre band is provided at high level to enable flexibility for tenants to connect ventilation unit intake and exhaust. The basement will be provided with builders work routes adjacent to the façade, connecting to louvres located in discrete locations at ground floor for intake and exhaust.

If any kitchen extract is required by retail tenants, suitable filtration and air cleaning will need to be provided by the tenant within their demise with consideration of requirements of the Environmental Agency Officer. No kitchen riser has been provided to roof level.

2.7 Rooftop Amenity Area

The rooftop amenity area shall be provided with full fresh air mechanical supply and extract ventilation, via a local high level HRU, to meet the employer's requirements and building regulations Part F. Separating this system from the central system will also enable it to operate more efficiently when used at different times to the office.

Heat recovery devices will be present within the HRU to allow heat recovery required to meet Building Regulations Part L requirements. Air volumes extracted from the amenity space will be variable, tracking the fresh air rate to allow for a balanced system, therefore maximising heat recovery between the extract and supply air streams.

The heat recovery unit will be provided with intake, discharge, supply, and extract attenuation with anti-vibration hangers.

2.8 Exhaust emissions

The building will employ a diesel powered life-safety generator located on the roof which will be operated for short periods monthly to ensure correct operation of the system.

Flues will be routed to terminate 1m above roof level, with sufficient distance provided between the exhaust flue outlets and ventilation intakes to mitigate risk of exhaust fume circulation.



ELLIE GRIFFITHS
SENIOR ASSOCIATE

+44 161 672 7234
elliegriffiths@hoarelealea.com

HOARELEA.COM

Royal Exchange
Manchester
M2 7FL
England

