Technical Note – Building Ventilation Strategy

Project Name: Trinity Islands – D1
Design Phase: Stage 4/5
Ref: P7328/17.0/VTN
Date: 7th April 2026

Introduction

In response to Planning Condition 123 for the above development, this Technical Note details the ventilation solutions adopted to extract fumes, vapours and odours from the residents lounge, co working spaces, pool and gymnasium in phase D1 as indicated on drawings D1-SHP-G200-PL-GRD-B5D801 P04, D1-SHPG200-PL-01-B5D801 P03, D1-SHP-G200-PL-02-B5D801 P03 and D1- SHP-G200-PL-03-B5D801 P03.

The following solutions have been designed in accordance with current guidelines and will be installed and implemented prior to the first occupation of each of these spaces and thereafter retained and maintained in situ pursuant to policies SP1 and DM1 of the Manchester Core Strategy and saved policy DC10 of the Unitary Development Plan for the City of Manchester (1995).

Residents Lounge/Amenity

The ventilation design addresses the building regulation requirements described within Approved Document Part F, 2021 for ventilation to the various facets of the proposed development.

The ventilation design also provides complete, energy efficient, fully working and balanced ventilation systems that can:-

- Deliver sufficient outdoor fresh air to occupants;
- Deliver good indoor air quality;
- Ensure acceptable internal noise levels are not exceeded;
- Assist in the removal of heat gains;
- Remove odours, contaminants and moisture;
- Avoid cold draughts;
- Assist in avoidance of summertime overheating;
- Provide summertime nighttime cooling of the building fabric when required;
- Provide an easily controlled and maintainable system;
- To prevent cross infection (by full fresh air and negative pressure regime);
- To recover heat from the exhaust air stream for re-use in the fresh air supply.

Local Heat Recovery units shall be provided to supply tempered fresh air to each of these spaces. The units shall be located locally within the ceiling voids of the area served discharging to atmosphere via local louvres within the facade. The units shall be of the heat recovery type and generally comprise of the following sections:

- Return air fan
- Air intake louvre
- Motorised shut off damper
- Fresh air filter (F7 Grade Filter)
- Extract filter (M5 Grade Filter)
- Counter flow heat exchanger (providing heat recovery)
- Supply fan
- Local controllers provided on each office floor plate.

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The systems shall be controlled to supply a constant air volume during occupied hours to meet minimum fresh air requirements and be provided with manufacturers controls package to ensure fresh air rates and temperatures are maintained at comfortable levels and allow connection to the central building management system.

Heat recovery units shall be mounted within the ceiling void, and these will be routed via rigid ductwork to supply and extract grilles located in the ceiling. Intake and exhaust ductwork will be insulated to prevent condensation. Louvres on the façade shall be required for connecting the ventilation ductwork intake and discharge points to outside.

Attenuators will be installed to reduce external noise intrusion.

Outside air will be provided at 10 l/s per person as per the CIBSE guide recommendation. These areas will be served by filtered heat recovery supply and extract units located within ceiling voids of each space. Outdoor air intake and exhaust louvres will be formed at high level in the façade. These shall be separate at a distance from each other to minimise recirculation of intake and exhaust air flows.

The private kitchens are also provided with recirculation cooker hoods incorporating charcoal filters to comply with the requirements of Part F of the Building Regulations.

Pool Area

The internal swimming pool hall will be served by a dedicated air handling unit (AHU) specifically designed for pool environments, providing a fully controlled ventilation and environmental conditioning strategy. The system will supply tempered, dehumidified air to the pool hall to offset evaporation from the pool surface, maintain comfortable internal conditions, and protect the building fabric. The AHU will incorporate heat recovery and integrated heating to maintain the pool hall air temperature typically in line with pool water temperature requirements, while continuously extracting moisture-laden air to control relative humidity within recommended limits and prevent condensation risk. Air distribution will be arranged to promote effective air movement across the pool surface and glazed areas, minimising cold spots and surface condensation. This approach ensures a stable internal environment, energy-efficient operation, and compliance with relevant guidance for indoor pool ventilation and occupant comfort.