

Date:	27 th February 2026	
Subject:	Project Taverna Ventilation	
Circulation:	Holly Smith	Turner & Townsend
	Harvey Bowcock	Manchester City Football Club
	Henry Litherland	Manchester City Football Club
	Rachel Brown	Deloitte LLP
	Matthew Lam	Deloitte LLP

Revision:	P01	Author:	M. Chow
Date:	25.02.2026	Approved By:	K. Hatton-Jones
Stage 2 - For Information			
Revision:	P02	Author:	M. Chow
Date:	27.02.2026	Approved By:	K. Hatton-Jones
Stage 2 – Updated to address comments			

1. Introduction

This design note sets out the proposed RIBA Stage 2 (Concept Design) Ventilation strategy for Project Taverna, which is located within the Collar Site at the Etihad Stadium, 4 Alan Turing Wy, Manchester M11 3FF. The Site is bound by the Metrolink line to the north, Alan Turing Way to the east, Gibbon Street to the south, and Loverose Street to the west. The project involves the construction of a new immersive event space, designed to accommodate circa 600 occupants for an immersive dining experience, supported by ancillary front-of-house and back-of-house areas including a commercial kitchen and plant rooms. The strategy outlines the proposed ventilation systems, plant locations, distribution principles, and provides justification for system selection at concept stage. The information is intended to supplement pre-commencement planning conditions discharge, inform spatial coordination, cost planning, and progression to detailed design. All proposals remain subject to further development, coordination, and client approval.

2. Design Objectives

The RIBA Stage 2 Ventilation system design has been developed to meet the following key objectives:

Indoor Air Quality: To deliver adequate fresh air ventilation rates in compliance with UK Building Regulations, while simultaneously extracting stale air, ensuring good indoor air quality for occupant health and comfort.

Odour/Contaminant Mitigation: To extract air which may contain contaminants and/or odour causing substances.

Energy Performance and Carbon Reduction: To adopt energy-efficient plant and system configurations that minimise operational carbon emissions and support compliance with Part L and Part O of the Building Regulations.

Thermal Comfort & Overheating Mitigation: To provide internal environmental conditions that maintain occupant comfort in accordance with guidance from CIBSE, including appropriate temperature control in both winter and summer conditions. To reduce the risk of summertime

overheating through appropriate cooling strategies incorporated into the ventilation design, aligned with current regulatory requirements.

Buildability and Coordination: To ensure the proposed ventilation systems are spatially coordinated with the architectural and structural design, allowing for practical installation, maintenance access, and future adaptability.

Future Development: To establish a robust and flexible ventilation strategy that can be adapted to serve varying building uses without fundamental changes to the core system approach.

Acoustic Compliance: System operation to fall within required acoustic performance parameters (refer to project acoustic report).

3. Design criteria

Internal Design Temperatures

	Summer Temp. (°C)	Winter Temp. (°C)	Humidity (%RH)	Ventilation
General	24±2°C	21±2°C	Uncontrolled	10 l/s/person
Entertainment Space (Taverna)	24±2°C	24±2°C	Uncontrolled	min. 10 l/s/person, max. to achieve cooling
Toilets	No cooling	21±2°C	Uncontrolled	10 ACH

4. Ventilation Strategy Overview

The ventilation strategy has been developed to ensure accordance with:

- Building Regulations 2010
- Approved Document F (Ventilation)
- Approved Document O (Overheating)
- CIBSE guidance (including Guide B & TM59 where applicable)
- Local Authority planning and Environmental Health requirements

General Ventilation – central mechanical ventilation plant with heat recovery is proposed for the occupied spaces in the building including general front of house, back of house, toilet and office areas. Intake air filtration is particularly important due to the proximity of the building to Alan Turing Way– suitable filtration required to protect occupants from NO₂ and Particulate Matter (PM10/PM2.5).

Entertainment Space (Taverna) Ventilation – all air HVAC system supplying ventilation and space conditioning. Central mechanical ventilation plant with heat recovery. Supply and extract main ductwork at HL within space. Supply diffusers fitted to secondary duct branches are proposed for the Taverna ventilation supply. Extract from HL extract points. Intake air filtration is particularly important due to the proximity of the building to Alan Turing Way– suitable filtration required to protect occupants from NO₂ and Particulate Matter (PM10/PM2.5).

Specialist Catering Ventilation – Specialist catering ventilation is required for the L00 commercial kitchen. Intake air filtration is particularly important due to the proximity of the building to Alan Turing Way – suitable filtration required to protect occupants from NO₂ and Particulate Matter (PM10/PM2.5).

Ductwork distribution is proposed to be galvanised steel. Terminal and plant connections may be made in flexible ductwork in accordance with the requirements of BESA DW/144.

All ventilation exhaust points will be located at roof level. No low level exhaust terminals are proposed within the RIBA stage 2 design.

Refer to Appendix 1 for a simplified ventilation schematic sketch.

5. Ventilation

General Ventilation

Mechanical ventilation with heat recovery shall be provided to the following spaces:

- Office and administration areas
- Toilets and changing rooms
- Laundry and costume store
- Bar area
- Retail area

The ventilation Air Handling Units (AHU's) shall be located on the roof within allocated plant spaces. Primary ductwork distribution will be via dedicated general ventilation risers to continue at HL on each floor. Supply and extract will be via suitable diffusers/grilles at HL.

AHU's shall include EC fans, glass fibre filters to classification (F7) ePM1 60% filtration, appropriate heat recovery devices (thermal wheels, or counterflow plate heat exchangers), heating and cooling coils.

Entertainment Space (Taverna)

The Taverna is served by an all air, single zone, HVAC system, which provides fresh air supply and extract ventilation, as well as space conditioning via ductwork and diffusers mounted within the space.

The Taverna ventilation AHU's shall be located on the roof within allocated plant spaces. The primary distribution ducts for the entertainment space is proposed to be routed across the Taverna space at Gantry level. Secondary branches shall drop to supply ventilation plenums fitted with suitable diffusers to ensure optimal fresh air distribution and space condition. The system will extract from high level extract points.

AHU's shall include EC fans, glass fibre filters to classification (F7) ePM1 60% filtration, appropriate heat recovery devices (thermal wheels, or counterflow plate heat exchangers), heating and cooling coils.

Specialist Ventilation Systems

The kitchen will be served by a dedicated specialist catering extract system with an associated supply air system, providing controlled extract ventilation, odour/noise mitigation, and tempered make-up air in accordance with established UK kitchen ventilation standards. The system will operate independently of other ventilation systems within the building.

The catering extract main ductwork will be fire rated and routed to the L00 Kitchen via a dedicated catering ventilation riser. Primary extract ductwork from the kitchen extract canopy will rise through the dedicated riser directly to roof level, maintaining separation and compliance with fire, grease,

and hygiene requirements as defined in BESA DW/172 and TR19. Access and inspection panels will be provided throughout the ductwork to ensure full internal access for cleaning and maintenance in accordance with BESA DW/144 and TR19. These panels shall be located upstream and downstream of inline equipment, at changes of direction, and at appropriate intervals to enable comprehensive cleaning and inspection.

The extract canopy serving the cookline will be designed and selected by the Catering Consultant; however, it is anticipated that the canopy shall comply with the requirements of BESA DW/172 and BS EN 16282. Expected specifications include stainless-steel construction, integrated grease-separation filters (e.g., baffle filters), adequate overhang to ensure proper capture and containment based on the thermal-convection sizing method, and provision for suitably rated integrated lighting. These expectations align with the DW/172 design principles and EN 16282 requirements for canopy geometry, performance, and safety.

The catering extract canopies may include a fire extinguishing system, subject to Fire Engineers requirements.

Make-up air will be supplied through a dedicated supply air handling system delivering filtered and tempered air to the kitchen. This system shall incorporate a run-around coil (RAC) heat-recovery device to capture useful heat from the hot extract stream and transfer it to the incoming supply air without cross-contamination, providing an energy-efficient solution compatible with grease-laden exhaust air. The run-around coil arrangement consists of paired heating/cooling coils connected by a closed pumped loop, in line with best practice for kitchen systems where direct air-to-air heat recovery is not suitable.

The catering extract and supply AHUs shall be equipped with appropriate fans, filtration, coils, attenuators, and controls, meeting the performance and construction requirements of BS EN 13053 and EN 1886, and conforming to the Ecodesign Regulation (EU) 1253/2014 for non-residential ventilation units. Where required by the odour risk assessment and planning considerations, additional odour-abatement stages—such as fine filtration, ESP, UV/ozone, or carbon filtration—may be incorporated in accordance with DEFRA's guidance on the control of odour and noise from commercial kitchen exhaust systems.

Extract discharge shall occur at high level above roof, achieving suitable vertical discharge velocity and dispersion to mitigate odour and noise impacts on surrounding receptors, consistent with DEFRA guidance and typical planning authority requirements. The system shall also comply with Approved Document F (Volume 2) for ventilation of non-domestic buildings.

6. Plant location

The proposed Air Handling Units (AHUs) and Air Source Heat Pumps (ASHPs) serving the building ventilation systems will be located within allocated plant spaces on the building roof (Figure 1.).



Figure 1: RIBA stage 2 roof plant layout sketch

Appendix 1: RIBA Stage 2 Ventilation Systems Sketch Schematic

