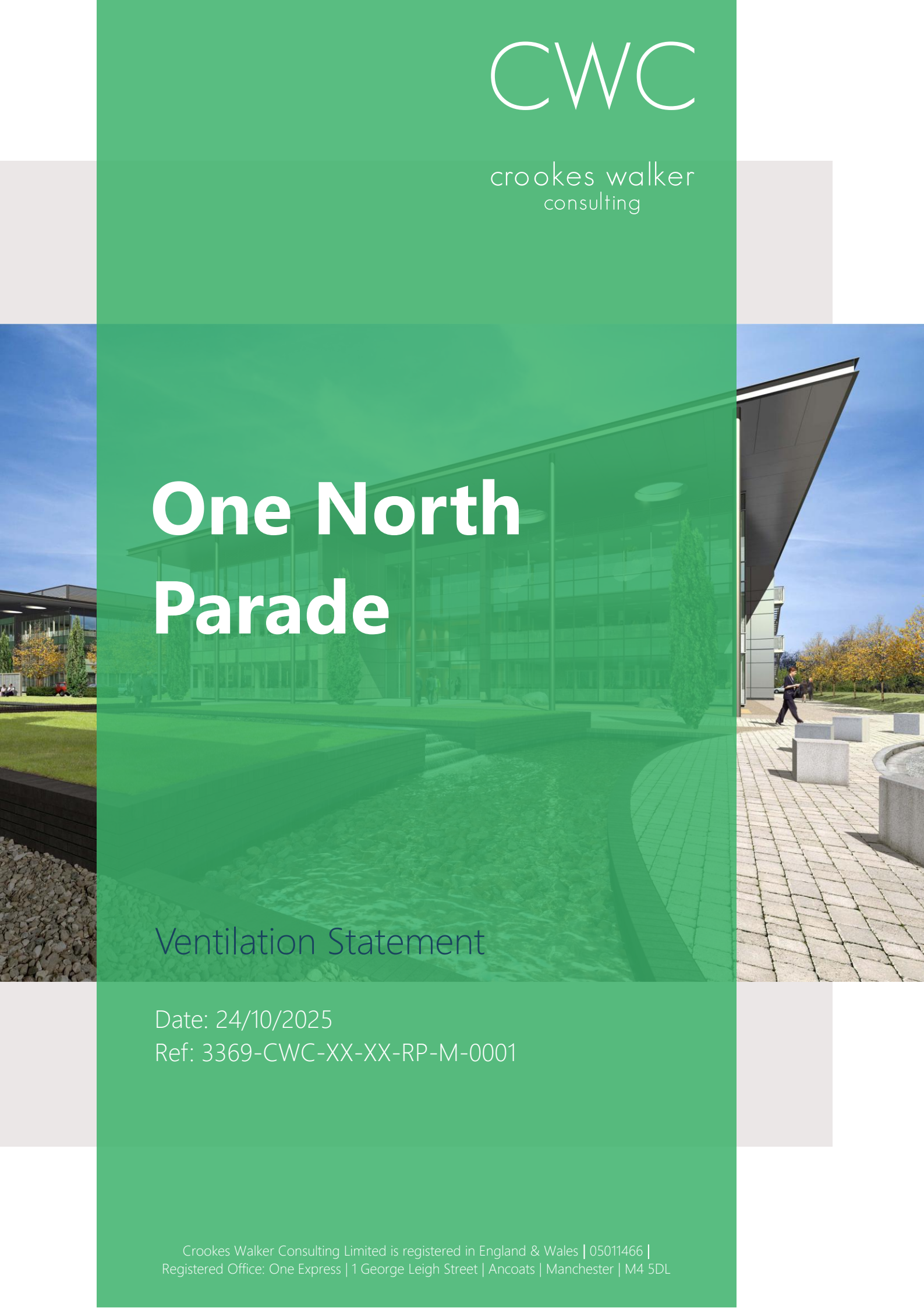




CWC

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One North Parade

Ventilation Statement

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1.0 Introduction

This Ventilation Statement has been prepared by Crookes Walker Consulting (CWC) to support the planning application for the proposed development at One North Parade in Manchester.

The proposed development comprises the construction of a ground plus 13-storey office building at One North Parade and Five Parsonage, Manchester City.

The basement level will accommodate plant rooms for cold water storage, sprinkler water tank, and hot water generation space and shower room along with associated building services, corridors, and communal circulation areas.

The ground floor will include the main entrance and reception, a restaurant, WC facilities, and a range of back-of-house functions such as a bicycle store, communications room, and general support spaces.

From the Mezzanine level upwards, the building will consist of high-quality office accommodation with shared WC facilities and communal circulation space provided on each level.

The development is designed to meet contemporary commercial standards, incorporating the necessary welfare, accessibility, and operational requirements throughout.

Crookes Walker Consulting have been appointed by the client to provide Building Services Consultancy advice and planning support in relation to the proposed development.

This report has been prepared to outline the proposed ventilation strategy and support the project planning application. The report aims to summarise the following key elements related to ventilation systems:

- a) Areas of the building requiring ventilation
- b) Proposed ventilation systems design criteria
- c) Proposed ventilation strategies for each area of the building
- d) Proposed overheating risk mitigation strategies

The ventilation strategies outlined in this report will be further developed during the detailed design stages of the project. While the final design solutions may differ from the outline proposals contained herein, the core design criteria and basis of design will be maintained to ensure compliance and performance.

2.0 Ventilation Strategy

The proposed ventilation strategies adopted will provide the recommended ventilation rates and energy conservation measures to comply with the 2021 editions of Approved Document Part L and Part F Volume 2.

In addition, the ventilation strategy and controls strategy will aim to enhance the energy conservation requirements where economically feasible, to minimise carbon emissions associated with ventilating the building.

The ventilation systems will be designed in line with good practice for the avoidance of nuisance noise and enhancement of air quality, for both the comfort and well-being of the building occupants and residents.

2.1 General Approach

The general approach to the building services of each Unit is as follows:

- Low energy design and operation typically following the fabric first approach. The building services will be based primarily on all electrical services provision throughout with heating and hot water generated via electric means.
- Simple to use and maintain systems that offer innovation whilst overruling value for money to the Client
- Meet all current relevant standards and regulations

2.2 Building Areas

The Each Unit is provided with the following key general space requiring ventilation:

- Mezzanine level and above office areas
- Mezzanine level and above Wc areas.
- Circulation Areas
- Ground floor Wc areas
- Ground floor restaurant
- Ground floor bin store lobby
- Ground floor bin store and substation
- Basement Shower room
- Basement plantroom areas

2.3 Design Criteria and Compliance

The scheme will comply with the relevant statutory legislation and obligations as well as good practice where relevant. The following key elements will inform the ventilation services design:

- Building Regulations 2010 with the following Approved Documents (AD) employed:
 - Approved Document B (fire safety) volume 2: Buildings other than dwellings, 2019 edition incorporating 2020, 2022 and 2025 amendments collated with 2026 and 2029 amendments
 - Approved Document F (Ventilation) volume 2: Buildings other than Dwellings,
 - BCO Guide 2019 inc 2023 criteria update,
 - Approved Document L, Conservation of fuel and power, Volume 2: Buildings other than dwellings, 2021 edition incorporating 2023 amendments
 - Approved Document K (Protection from falling, collision and impact)
- Other relevant documentation relied upon to develop the design will include:
 - The project Acoustic Consultant
 - The project Air Quality Consultant
 - The project Fire Engineering Consultant

Areas	Design Basis	Outline Indicative Design Criteria
Mezzanine level and above office areas	Ventilated in accordance with Part F (ADF)	Part F and BCO Guide 2019 inc 2023 criteria update 14 l/s/ per person/8 m ² mechanical ventilation with heat recovery.
Circulation Areas	Background ventilation	Natural Ventilation
Mezzanine level and above Wc areas Staff WC's	Ventilated in accordance with Part F (ADF)	6 l/s/WC extract c/w make-up air via central air handling unit at roof level for supply and extract ventilation
Ground floor Wc areas	Ventilated in accordance with Part F (ADF)	6 l/s/WC extract c/w make-up air local extract fan

Areas	Design Basis	Outline Indicative Design Criteria
Ground floor restaurant	Ventilated in accordance with Part F (ADF)	Part F 10 /l/s/ per person mechanical ventilation with heat recovery.
Ground floor bin store lobby	As per Fire Report	Natural ventilation via fire rated ductwork with free area of the ductwork determined by the fire report
Ground floor bin store and substation	Background ventilation	Natural Ventilation via Louvred Doors
Basement Shower room	Ventilated in accordance with Part F (ADF)	Part F 6 l/s/WC extract and 15 l/s/Shower c/w make-up mechanical ventilation with heat recovery.
Basement plantroom areas	Approved Document B	The basement uses a smoke ventilation system that also serves daily plantroom ventilation with separate supply and extract fans

2.4 Air Quality

The development mandates a comprehensive air quality assessment to ensure the well-being of its occupants. Recognising the importance of maintaining a healthy indoor environment, potential filtration measures for contaminants such as carbon and other pollutants may be implemented based on the assessment results. By prioritizing air quality, this specification aims to create a space that promotes the health and comfort by demonstrating a commitment to their overall well-being.

2.5 Noise Impact Assessment

In addition, the project requires the necessity of a thorough noise impact assessment to address potential environmental noise concerns. After the assessment, strategic measures will be implemented to ensure working environment within the office areas remains comfortable.

2.6 Overheating Assessment

The office areas and restaurant bar along with areas where occupants are expected to spend extended periods will be designed to avoid overheating and ensure compliance with relevant industry standards and be in line with CIBSE TM52: The Limits of Thermal Comfort – Avoiding Overheating in European Buildings and other best practice guidance.

To mitigate overheating risks and maintain occupant comfort, cooling will be provided via a Variable Refrigerant Flow (VRF) system, integrated with the building fabric, shading, and ventilation strategies to optimize year-round thermal performance.

2.7 Ventilation Concept Proposals

The buildings will be provided with ventilation systems to supply adequate fresh (outdoor) air for occupant comfort in accordance with Building Regulations. The system shall:

- Provide sufficient fresh air supply and extract to meet Building Regulations Part F and BCO Guide requirements.
- Coordinate with heating systems to maintain internal temperatures within design parameters.
- Maintain fire compartmentation strategies per the Fire Engineer's report.
- Allow for easy access for maintenance and cleaning.
- Be energy efficient with suitable low energy fans and controls.
- Meet internal and external noise criteria as specified by the Acoustic Consultant.

2.8 Offices

The office areas will be served by mechanical ventilation with heat recovery (MVHR) systems incorporating high-efficiency heat exchangers to maximize energy recovery and reduce overall heating and cooling loads.

The MVHR systems will provide continuous ventilation, extracting stale air from space while supplying fresh filtered air to occupied office spaces. The heat recovery efficiency of the MVHR units will meet or exceed current industry standards, ensuring optimal thermal performance and energy conservation in line with Building Regulations and relevant best practice guidance.

Local controls will be provided for the MVHR units, allowing user adjustment of operational modes in accordance with Building Regulations Part F requirements. Integral room and atmosphere attenuators along with cross talk attenuators will be incorporated to ensure compliance with internal and external noise criteria, maintaining occupant comfort and minimizing noise intrusion.

Air intake and exhaust terminals will be strategically located on external walls, designed to prevent recirculation and ingress of pollutants, and to comply with acoustic and weather protection requirements.

2.9 WC Areas

For the mezzanine level and above, staff WC areas will be ventilated in accordance with current best practice, with an extract rate of 6 l/s per WC. Ventilation will be provided via a centralised mechanical ventilation system, comprising a roof-mounted air handling unit (AHU) that delivers both supply and extract air. This approach ensures effective odour control, appropriate air exchange, and compliance with relevant Building Regulations and industry guidance.

At ground floor level, WC areas will be served by independent local extract fans, providing dedicated ventilation to each space. These fans will be selected to achieve the required extract rates and will be ducted to the external façade or roof as appropriate, ensuring adequate air removal and fresh air make-up to maintain comfort and hygiene standards.

2.10 Circulation Areas

Natural ventilation is proposed for the core lift lobbies adjoining the stairwells, incorporating a dedicated natural smoke shaft as outlined in the fire engineer's strategy. Day-to-day ventilation air will be supplied via an automatic opening vent (AOV) located at the head of the stairs. This system will serve the dual purpose of providing effective smoke control in the event of a fire, as well as facilitating natural day-to-day ventilation to the lift lobbies, ensuring occupant comfort and compliance with relevant regulations.

2.11 Ground Floor Bar/Restaurant

The ground floor bar and restaurant areas will be designed to comply with relevant ventilation regulations, providing a ventilation rate of 10 litres per second per person (10 l/s/p). Mechanical ventilation systems equipped with heat recovery units will be installed to ensure energy-efficient air exchange, maintaining indoor air quality while minimizing heat loss. Fresh air intake will be facilitated through side-mounted louvres, allowing effective air distribution and preventing ingress of rain or debris. The system will be carefully designed to balance occupant comfort, regulatory compliance, and operational efficiency.

2.12 Ground Floor Bin Store Lobby

In accordance with the Fire Report recommendations, natural ventilation will be provided via fire-rated ductwork. The free area of the ductwork will be specified based on the fire report's requirements to ensure adequate airflow for smoke control and ventilation, while maintaining the necessary fire safety standards.

2.13 Ground Floor Bin store and Substation

Natural ventilation will be provided to the ground floor bin store and substation through louvred doors. This approach ensures effective airflow and complies with relevant ventilation and fire safety requirements.

2.14 Basement shower and Wc areas

Ventilation will be provided in accordance with Part F (Approved Document F) of the Building Regulations. Mechanical extract rates will be 6 litres per second per WC and 15 litres per second per shower, supplemented by mechanical supply (make-up) ventilation with heat recovery (MVHR) to optimize energy efficiency and maintain air quality. The MVHR system's supply and extract ducts will terminate at louvres positioned at ground floor level, ensuring effective airflow and discreet external discharge.

2.15 Basement Plantroom areas

In accordance with Approved Document B, the basement is equipped with a dedicated smoke ventilation system that also provides day-to-day ventilation for the plantroom areas. This system incorporates separate supply and extract fans to ensure effective air circulation, smoke control, and compliance with fire safety requirements. The termination points for the ventilation ducts will be located at ground floor louvres to facilitate efficient and discreet air discharge.

2.16 Ventilation Terminals

Ventilation terminals will be in accordance with Building Regulations Part F (Ventilation) and their integration into the building façade will be coordinated with the Architect.

The buildings do not include any commercial scale catering or kitchen facilities.

The building does not propose the use of fossil fuels for general day-to-day heating or hot water provision; therefore, no local flues for boiler plant are anticipated.

2.17 Other Considerations

The project will ensure that window and door design, as well as their openings, comply with relevant safety requirements, including protection from falling, collision, and impact, as set out in Approved Document K (Protection from Falling, Collision and Impact).