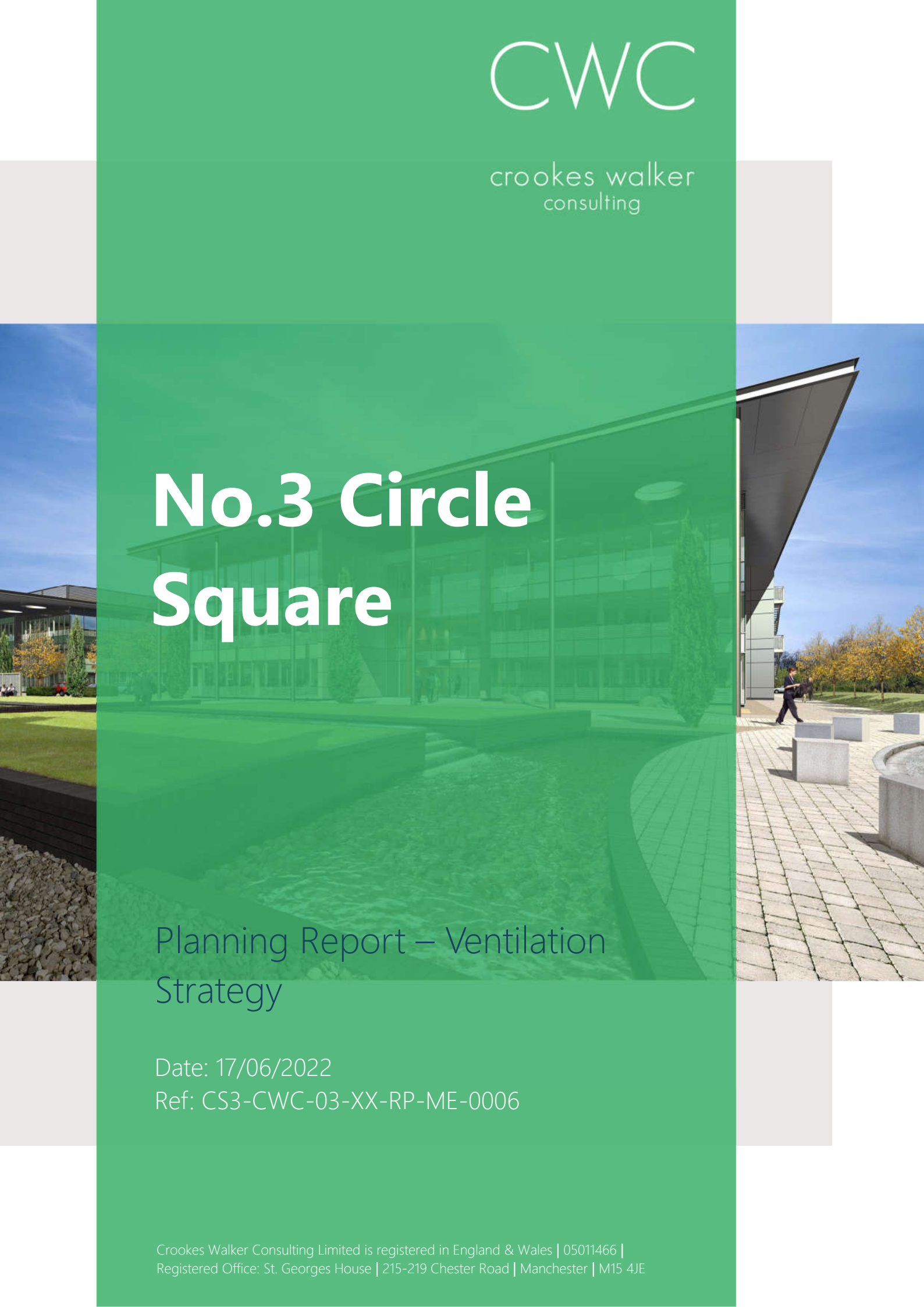




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No.3 Circle Square

Planning Report – Ventilation Strategy

Date: 17/06/2022

Ref: CS3-CWC-03-XX-RP-ME-0006

Revision Record

Date	Reference	Revision	Prepared By	Checked By	Authorised By
17/06/2022	CS3-CWC-03-XX- RP-ME-0006	T01	George Talbot	Mike Lloyd	George Talbot
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1.0 Introduction

This statement has been prepared to provide outline details of the ventilation proposals for No3 Circle Square as part of the Circle Square development in Manchester.

The 14-storey building comprises commercial office space, retail and F&B units at ground level and amenity and event space at level 14.

No3 Circle Square will have retail units including food and beverage uses.

The design and installation of ventilation systems will be developed in line with the following:

- Current Building Regulations Approved Documents
- CIBSE Guidebooks
- Health and Safety at Work Act
- Manchester City Council planning conditions and requirements
- BREEAM 'Excellent'
- All relevant British Standards and Codes of Practices.

This statement shall be read in conjunction with the following drawings:

- CS3-CWC-03-00-DR-M-5701
- CS3-CWC-03-MZ-DR-M-5701
- CS3-CWC-03-ZZ-DR-M-5701
- CS3-CWC-03-ZZ-DR-M-5702
- CS3-CWC-03-14-DR-M-5701
- CS3-CWC-03-RF-DR-M-5701

2.0 Retail Units

Retail Units will be fitted out to an advanced shell standard at base-build to include the following:

- HVAC system
- Kitchen extract route and ductwork pre-installed
- Plasterboard walls to perimeter, tape and filled
- Sprinkler system
- Automatic door openers
- Capped-off water supply
- Ample drainage pop-ups
- TP&N electric DB (3-phase 200amp)
- Fire detection
- Basic lighting

To suit the above requirements, the units will be fitted out to the following HVAC strategy:

- Heating and cooling via 4-pipe fan coil units with LTHW and CHW supplies from the landlord's central air source heat pumps
- Ventilation via local MVHR (mechanical ventilation heat recovery) units with atmospheric connections at high level via louvres on the ground floor façade
- Pre-installed kitchen extract ductwork to route from each unit to the dedicated east and west retail unit risers to roof level
- All ventilation systems will be specified to meet the acoustic requirements set out in the Sandybrown Acoustic guidance for the development.

3.0 Commercial Offices

A localised supply and extract system shall be provided to serve each office floor plate to provide the occupants with adequate fresh air.

The system shall be a modular mechanical balanced ventilation system complete with high efficiency heat recovery and shall be designed and installed in compliance with Building Regulations Approved Document F.

Each office will be mechanically heated and cooled by 4-pipe fan coil units with LTHW and CHW sourced from a number of central air source heat pumps at roof level.

CO₂ based demand controls will be incorporated into the ventilation services such that only zones that require ventilation will trigger the local unit to operate so as to minimise the energy consumed by the systems. Local units will automatically ramp up and down or on and off as required to maintain a set CO₂ level of 700ppm.

The air intakes and exhausts will be located locally on each floorplate and will be coordinated to avoid short-circuiting (minimum 2.5m distance). Air intakes shall not be located on the East façade as per recommendation from the air quality assessors.

4.0 Landlord Common Areas, Sanitary and Plant Facilities

No3 Circle Square will be provided with WC facilities, temporary waste stores (for use between waste collections), plantrooms and cycle storage area which will need to be adequately ventilated to prevent any build-up of smells, combustible gasses, mould and mildew whilst controlling the humidity of the air.

The sanitary facilities will be provided with extract ventilation at rates which exceed the minimum requirements of Part F whilst remaining energy efficient. In order to do this, demand control systems will be used. Supply ventilation will also be provided to the sanitary facilities at 90% of the volume of extract to serve as make-up. Where feasible, supply make-up ventilation will be replaced by natural means.

Common areas that are expected to serve as main traffic routes for the building or where people are expected to gather, e.g. the reception, are to be provided with balanced supply and extract ventilation of 0.5 litres per second per m² of floor area in accordance with Part ADF2 of the building regulations. Where possible, this mechanical ventilation will be replaced by natural ventilation via openings of area equivalent to minimum 1/50 of the floor area of the common space.

Lift lobbies require ventilation for smoke extract purposes, this function will be controllable by the fire service as required and at a convenient and accessible location.

5.0 Café/Restaurant Areas

The ground floor retail units have been identified as being food and beverage usage if required. Where necessary, dedicated riser space has been identified and allocated for pre-installed kitchen extract ductwork that will route to roof level. Additionally, plant space at roof level has been allocated for the associated plant to be fitted out by the occupying tenants. The supporting drawings indicate the route for the extract ductwork and plant space allowance at roof level.

The kitchen extract systems will be designed to meet the various criteria in the Chartered Institute of Building Services Engineers, DW172 and EMAQ design guidance and would form part of each Tenant's fit out installation.

It should be noted that the kitchen extract exhaust will be located at least 1m above the roof level of the respective buildings.

All ventilation systems will be specified to meet the acoustic requirements set out in the Sandybrown Acoustic guidance for the development.

6.0 Fire Engineering Services

It is proposed that the scheme will include the following mechanical ventilation services installations to support the fire engineering strategy for the development:

- Mechanical smoke ventilation to lift lobbies via ducted shaft and AOVs
- Ventilation of fire-fighting stair via AOV at top of staircore