



First Street Developments Limited

Plot 9a, First Street

Ventilation Strategy

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Document Revision History

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-	01/10/2021	Draft Issue
A	08/10/2021	Planning Issue
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Document Validation (latest issue)

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-	21/12/2021	Planning			
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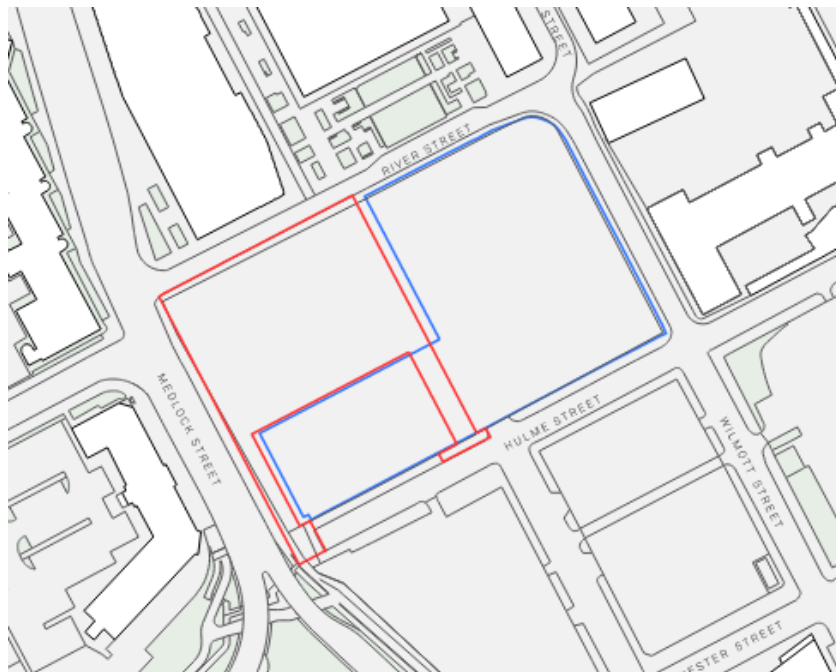
1. Introduction

1.1 Background

This report is prepared by Cundall in support of a planning application for the development of a commercial office building on Plot 9a of the First Street Regeneration Area.

Proposals are for the erection of a 9-storey building with basement comprising office accommodation (Use Class E(c)), car parking, cycle parking and associated facilities, landscaping and associated works.

The site is 0.5 ha and is located at the south eastern edge of Manchester City Centre and is located within the First Street Strategic Development Framework (SDF) 2018 area. It is part of a wider vision to create a mixed-use neighbourhood in the area, supported by a mixture of leisure, office and residential blocks. The site is known as Plot 9a and is bound by River Street to the north, a future development site known as Plot 10 to the east, future development Plot 9b to the south, and Medlock Street to the west. The Site is currently mostly hardstanding, reflecting its recent use as a temporary car parking area ahead of the plot's permanent redevelopment. There is limited vegetation on site, limited to small shrubbery to the edge of Medlock Street.



The wider area is characterised by a mix of uses including primarily office and leisure uses to the north, residential to the east and west, and student residential to the south.

The Proposed Development will deliver c.18,977sqm of commercial office space over 9 floors with basement car parking, winter gardens and associated gym space. The façade is a grid of glazing and solid panels, to allow for 40% glazing in line with sustainability requirements.

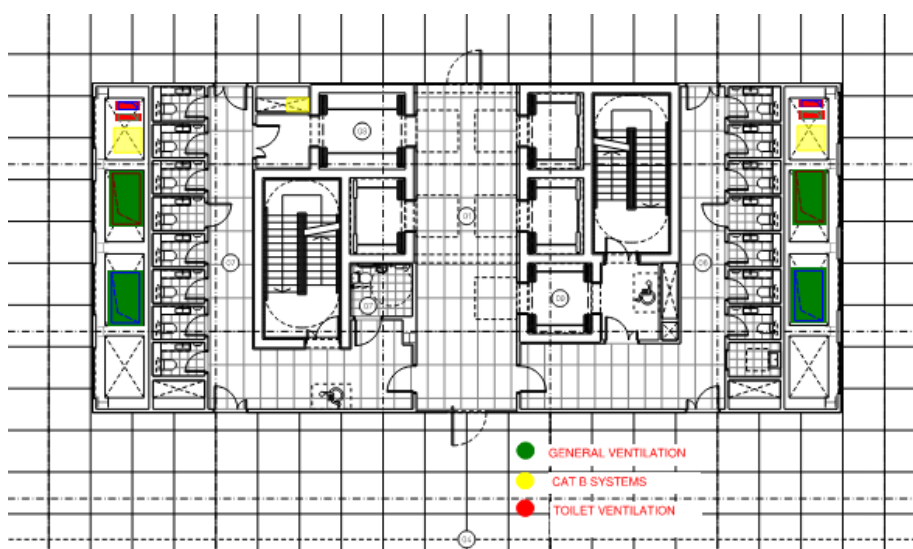
Parameter	Proposed Development
Proposed Site Area	0.48ha
Proposed Development	Erection of a 9-storey building with basement comprising office accommodation (Use Class E(c)), car parking, cycle parking and associated facilities, landscaping and associated works"
Proposed Office Space	18,977sqm GIA
Proposed Development Height	9 Storeys c.44m
Parking	26 car parking spaces (all accessible), 130 cycle spaces

This report provides details of the proposed ventilation strategy, which has been designed in accordance with the requirements of the Building Regulations Approved Document F and associated CIBSE guidance documents.

1.2 Overview

The office areas are served by Landlord plant, with primary ductwork routed within service risers located around the central core. The plant and distribution ductwork are split to reflect the potential two tenant split on each floor.

In addition to Landlord risers there are dedicated tenant risers are provided, which offer flexibility for future tenants to install additional systems as part of the CAT B fit-out, which may include comms room cooling , kitchen ventilation systems etc.



Typical Office Core

2. Ventilation Strategy

2.1 Landlord Plant

Mechanical supply and extract ventilation systems will be installed to serve the building. 2No. roof mounted air handling units (AHU's) will be provided to serve the building via a ductwork distribution system. Distances between the supply and exhaust will be maximised to reduce air re-circulation. From the AHU's the ductwork will be distributed vertically, within service risers on either side of the core. Supply and extract branches from each of the main ducts will be installed to serve each floor. Variable Air Volume (VAV) boxes, which will be controlled on the dictates of space CO₂ sensors, will control the ventilation rate to each demise.

The office floors will be served by a mixed mode ventilation system. Automatically opening ventilation panels, installed above the glazing panels, allow the building to be naturally ventilated when the external weather conditions permit. Outside air will be supplied via the opening vents in the façade, with the central extract system used to provide an exhaust air path.

The winter gardens will be provided with mixed mode ventilation systems. Powered Opening Ventilators (POV's) will be installed to allow tenants to naturally ventilate the space when external weather conditions permit. Ductwork branches from the central system will also be provided to enable the space to be ventilated when the POV's are closed.

When the façade vents are closed the building will be ventilated by means of the mechanical systems, which have been designed to provide outside air and minimise internal pollutants. Outside air supply to office spaces will be calculated based on an occupancy of 1 person/8m², with 2 No. office floors designed for 1 person/7m², providing additional flexibility for future tenants. 14 L/s/person is to be provided throughout the offices with an additional ventilation provided to serve lift lobbies.

The landlord central plant also serves the ground floor reception and co-working space.

Dedicated toilet ventilation AHU('s) will be installed at roof level to provide a ventilation rate of 10 air changes per hour (ACH⁻¹) from the core toilets. Toilet ventilation will be on a fixed time basis during core hours, with demand-based ventilation during out of hours use.

2.2 Tenant Plant

Dedicated tenant service risers have been provided around the core, along with associated plant space at roof level. This offers flexibility for future tenants to install kitchens, supplementary ventilation systems, server room DX cooling etc. as part of their CAT B fit-out.

Any future kitchens installed by tenants will require the provision of noise and odour mitigation treatments. The scoring methodology from DEFRA 2005 'Guidance of the Control of Odour and Noise from Commercial Kitchen Exhaust Systems' will be used as a means of determining odour control requirements. Appropriate technologies may include electrostatic precipitators, ultraviolet treatment, carbon filtration or a combination of these.

Tenants will be responsible for obtaining permission for proposed ventilation systems from the Manchester City Council Environmental Health department.

2.3 Miscellaneous

Local heat recovery ventilation units and dedicated extract fans will be installed throughout the building to serve areas such as the refuse store, plantrooms, cycle store, shower area and roof pavilion. Louvres within the façade will typically be used as a path for supply of outside air and exhaust of vitiated air.

Appendix A – Ventilation Strategy Drawings

The following drawings are provided to provide further detail of the proposed ventilation strategies.



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