

Land bound by John Dalton Street, Ridgefield, Bow Street and South King Street, Manchester

Ventilation Strategy

The Island Site (General Partner) Limited

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1.0

Introduction

1.0 Introduction

1.1 Background

This ventilation statement document has been prepared by Cundall to support the planning consent application for the Island Site Project.

The primary objectives of this statement are as follows:

- To provide details of the ventilation systems and the measures taken to ensure that both schemes do not have an unacceptable impact on local amenity with regards to fumes, vapours, and odours.

1.2 Development Overview

Demolition of the existing buildings and structures and the erection of a 10-storey plus basement office building (Use Class E(g)), with flexible ground floor and basement uses (Use Class E) and a rooftop garden, works to facilitate the pedestrianisation of the southern part of Ridgefield and other associated works.

The site extends to approximately 0.13 hectares and is located at the heart of Manchester City Centre. The site comprises a rectangular block of buildings bound by John Dalton Street to the south, South King Street to the north, Bow Street to the east and Ridgefield to the west. Three existing buildings are located within the site boundary comprising:

- Old Colony House (25,968 sq ft), a vacant 7 storey building comprising office accommodation with a vacant former restaurant at ground floor level. The building fronts onto South King Street;
- 5 Ridgefield (11,748 sq ft), a 3 storey building comprising a former restaurant use at basement and ground floor level and vacant offices at first and second floors. The site fronts onto Ridgefield and Bow Street; and,
- Grange House (17,309 sq ft), a 6 storey building comprising ground floor retail/restaurant/office use with vacant upper floors formerly in office use. The building fronts onto John Dalton Street.

The buildings vary in age and character and are no longer fit for purpose as office accommodation. A significant proportion of the accommodation is currently vacant and/or underutilised.

The site is located within the St Ann's Square Conservation Area and adjacent to the Albert Square Conservation Area. None of the buildings within the site are listed.



In summary, the proposals include:

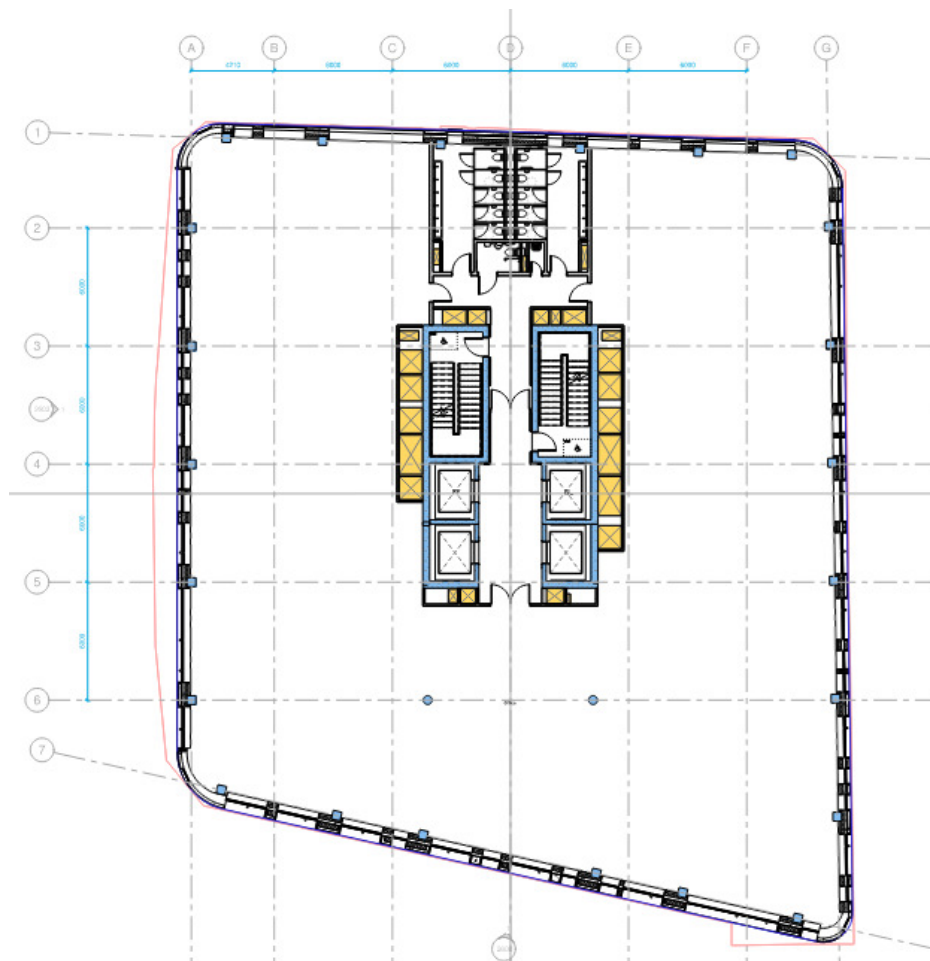
- The demolition of three existing buildings; Grange House, 5 Ridgefield and Old Colony House
- Erection of a 10-storey plus basement office building (Use Class E(g)), with flexible ground floor and basement uses (Use Class E) and a rooftop garden
- Basement level: Bikes, WCs, showers, changing facilities, lockers, drying room, support space (office BOH) and multifunctional amenity space (exact type TBC) and plant space.
- Ground level: Open plan entrance with reception to include main reception and 2no. units (potentially single operator for the whole ground floor space) Space to be highly flexible and vibrant with blurred boundaries between users.
- Levels 1-8: Workspace with associated CAT A Mechanical and Electrical plant line of demise
- 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.

1.3 Overview

The office areas are served by Landlord plant, with primary ductwork routed within service risers located around the 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 provided, which offer flexibility for future tenants to install additional ventilation systems as part of the CAT B fit-out, which may include supplementary ventilation systems, kitchen extracts systems etc.

Typical office core



2.0

Ventilation Strategy

2.0 Ventilation Strategy

The following section provides an overview of the proposed ventilation strategies for the new building, including central plant, Cat A office floors, future office fit-out Cat B allocations, back of house strategies, and the anticipated future fitout of retail / commercial shell and core units.

2.1 Office Strategy

2.1.1 Landlord Plant

Mechanical supply & extract ventilation to the building is to be provided via 5 No. packaged Air Handling Units (AHUs), 4No. located within the screened plant area at main roof level and 1No. in the basement level.

The ventilations zones to be as follows:

- Level 9: Office (alternatively will form part of Level 1-8 Office East ventilation system)
- Level 1-8: Office East
- Level 1-8: Office West
- Basement amenity and 2No. units at ground level
- Basement bikes, WCs, showers, changing facilities, lockers, drying room (AHU in the basement)

Separation between intake and discharge to and from plant is to be maximised to prevent re-circulation.

Ventilation risers are to be incorporated into the primary core design to allow fresh air supply and extract ductwork to be routed from roof level and down the building to serve each tenant demise on each office floor, ground and basement level.

The systems are to be designed to deliver fresh air and minimise internal pollutants (and ingress of external polluted air into the building). The office systems are to be designed to achieve as the recommended BCO flow rates.

2.1.2 Office Floors Plates

Fresh air supply is to be delivered into each tenant demise on each office floor via Variable Air Volume (VAV) control dampers to allow a variable air volume to maintain the desired CO₂ levels. Balanced extract to the roof AHUs is via core risers.

Fresh, filtered, air is to be delivered to the back of the Fan Coil Units (FCUs) mounted at high level within ceiling voids or within exposed soffit areas.

2.1.3 Tenant Plant

To facilitate future Cat B fit-outs, dedicated riser and plant space has been allocated within the scheme to allow office tenants to install supplementary ventilation plant to serve their demise such as:

- 1No. tenant to have full kitchen / restaurant on any floor, located on the east elevation to benefit from the best views
- 1No. tenant to have conference facilities at 8th floor only

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

2.2 Ground & Basement 'Shell and core' Spaces

General Ventilation

Flexible ground floor and basement uses (Use Class E) are likely to be let as 'shell and core' for future fit-out by retail / commercial unit tenant. To allow a maximum flexibility future tenants at ground level are to have an option to install local ventilation to suit their requirements as part of their fitout works or utilise the landlords central mechanical ventilation system. Branches from the general supply and extract ducts will be left capped outside the unit for future extension by the tenant.

As part of the new building base build design, perimeter louvres are to be introduced for use by the retail / commercial tenants on all elevations at ground floor level. Louvres are primarily to be high level strips / bands with elements of full height louvres.

Louvre provisions at ground floor are proposed for use by retail / commercial tenants for general fresh air intake and extract discharge, as necessary.

Future tenants will be responsible for providing adequate filtration, odour and noise control to suit their fit-out and to discharge any planning conditions imposed on their fit-out.

Restaurant / Coffee shop

It is understood that one of the ground floor units could be a restaurant and the other a coffee shop. The future tenants will be responsible for installing catering ventilation systems to suit their requirements

Extract from kitchen canopies (1No.) to be routed within the riser space allocation to roof level where plant space allowance is made for a kitchen extract fan.

Extract from coffee shop to be discharged to outside locally via the BOH façade louvres.

Make-up air to catering facilities is via perimeter louvres.

The future tenant will be required to ensure adequate odour and noise control is provided to any kitchen facilities which are installed as part of their fit-out works.

The scoring methodology from DEFRA 2005 'Guidance of the Control of Odour and Noise from Commercial Kitchen Exhaust Systems' is to be used as a means of determining odour control requirements such as carbon filtration, UV filters or ozone.

Generally, the proposed ventilation strategies for the retail / commercial units is to be as follows:

- General ventilation (fresh air supply & extract)
- MVHR units, located within their demise, ducted to the façade louvres.
- Toilet extract
- Extract fans, located within their demise, ducted to the façade louvres.
- Kitchen ventilation (extract & make-up air)
 - Bifurcated extract fan, located within their demise or roof level, ducted to roof level with discharge cowl.
 - Supply fan make-up, located within their demise, ducted to either roof (small system) or façade louvres.

2.3 Miscellaneous

The following ventilation strategies are proposed within the new building to various ancillary areas:

- Toilet Cores
 - Extract fans at roof level, ducted down dedicated risers to each floor.
 - 6 l/s per toilet extract rate, with attenuated make-up air from the lift lobby.
- Lift Lobbies
 - Natural infiltration

- Air drawn across the space due from the toilet extract.
- Back of House
 - Local MVHRs providing supply & extract, ducted to perimeter louvres.
 - Changing / showers: 6 Ac/hr
 - Toilets: 6 l/s per WC and 15 l/s per shower
 - Refuse: natural ventilation
- Front of House
 - Reception: Mechanical ventilation / Natural infiltration to suit occupancy.

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