

100 Avenue Road

Ventilation Strategy Statement

February 2025

REGAL



WHITECODE
CONSULTING

Ventilation Strategy Statement

100 Avenue Road

Prepared for Regal Avenue Road Limited

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Revisions:

Revision	Date:	Comments:	Prepared by:	Checked by:
P01	08.01.2025	Preliminary issue for comment	RAS	NPE
P02	10.02.2025	Updates to ME comments	RAS	MO



1. Introduction

This Ventilation Strategy has been prepared by Whitecode Consulting Ltd on behalf of Regal Avenue Road Ltd (‘the Applicant’) in support of a s.73 Amendment Application for the redevelopment of 100 Avenue Road (‘the Site’) within the London Borough of Camden (‘LBC’).

The description of development is as follows:

“Demolition of the existing building and redevelopment comprising residential units (Class C3) and flexible commercial, business and service use (Class E) and community use (Class F2(b)) with associated works including enlargement of the existing basement level to contain disabled car parking spaces and cycle parking, landscaping and access improvements.”

The development provides 1187m² Class E commercial floorspace and 1372m² Class F2(b) community floorspace along with 237 residential units. There are two buildings proposed for the site comprising ‘the Tower’ which is 25 storeys and ‘the Lower Block’ which is part 7 storey and part 5 storey.

The purpose of this statement is to summarise the ventilation and exhaust strategies for each of the following areas within the development:

- Residential Accommodation
- Commercial Units

The statement will also provide evidence that the ventilation strategy proposed will comply with *Approved Document F: Volume 1 Dwellings* of the Building Regulations.

When compared with the original submission the ventilation strategy follows the same approach, with residential apartments consisting of MVHR units and Commercial areas using kitchen extracts and Air Handling Units.

2. Residential Units

2.1. Mechanical Ventilation Heat Recovery

The project consists of 237 residential units. All of the residential units will be provided with a mechanical ventilation heat recovery (MVHR) unit.

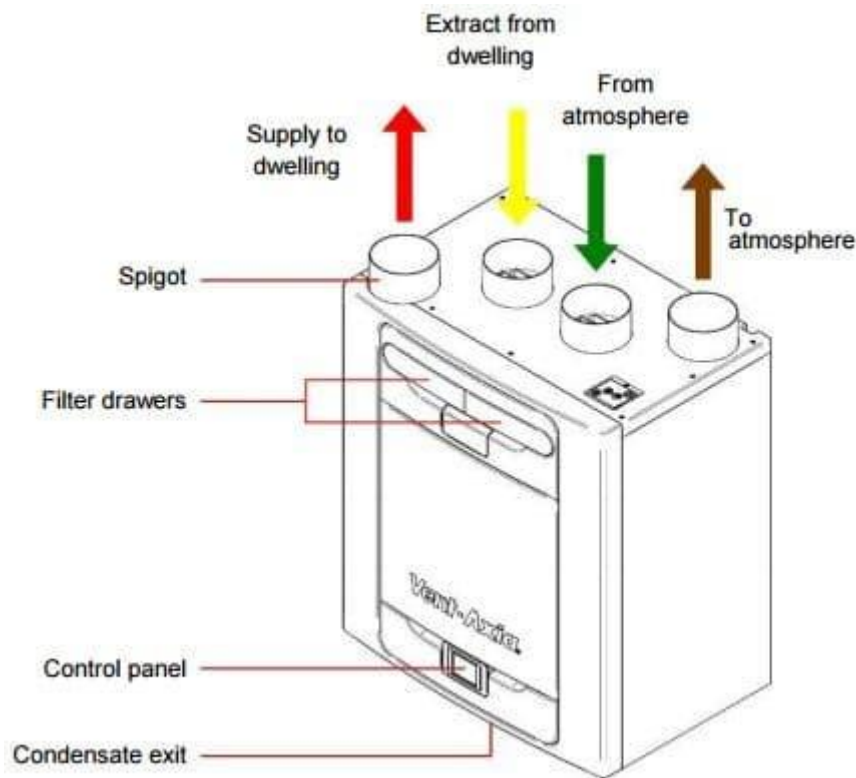
MVHR is a whole dwelling ventilation system that supplies and extracts air continuously, in accordance with Part F of the Building Regulations.

The unit is fitted with a heat exchanger which tempers the incoming supply air (fresh air) before it is delivered to the habitable rooms whilst extracting polluted air from the wet rooms.

During the heating season, the heat exchanger tempers the incoming fresh air with the warm air extracted from the wet rooms.

To control the extract and supply flow rates, adjustable diffusers are fitted to the ceiling and connected to the ductwork.

An example of an MVHR unit is shown below:



Red Arrow – Supply to dwelling

Yellow Arrow – Extract from dwelling

Brown Arrow – Exhaust to atmosphere

Green Arrow – Intake from atmosphere

Minimum requirements for the design of a mechanical ventilation system with heat recovery shall be designed in accordance with Approved Document Part F1: means of ventilation. These are defined within paragraphs 1.67 – 1.73 as listed below.

1.67 For dwellings using MVHR, each habitable room should have mechanical supply ventilation. The total supply air flow should be distributed proportionately to the volume of each habitable room.

1.68 Mechanical supply terminals should be located and directed to avoid draughts.

1.69 The minimum total continuous rate of MVHR is the whole dwelling rate in the Table 1.3, see below:

Table 1.3 Minimum whole dwelling ventilation rates determined by the number of bedrooms

Number of bedrooms ⁽¹⁾	Minimum ventilation rate by number of bedrooms (L/s)
1	19
2	25
3	31
4	37
5	43

NOTES:

1. If the dwelling only has one habitable room, a minimum ventilation rate of 13L/s should be used.
2. For each additional bedroom, add 6L/s to the values in Table 1.3.

1.70 For dwellings using MVHR, each wet room should have a minimum continuous mechanical extract ventilation high rate as given in Table 1.2, see below:

Table 1.2 Minimum extract ventilation rates for continuous extract systems⁽¹⁾

Room	High rate (L/s)	Continuous rate
Kitchen	13	The sum of all extract ventilation in the dwelling on its continuous rate should be at least the whole dwelling ventilation rate given in Table 1.3
Utility room	8	
Bathroom	8	
Sanitary accommodation	6	

NOTE:

1. If the continuous rate of ventilation provided in a room is equal to or higher than the minimum high rate specified in the table, no extra ventilation is needed.

1.71 MVHR systems should be designed to avoid the moist air from the wet rooms re-circulating into the habitable rooms.

1.72 To avoid unintended air pathways, background ventilators should not be installed with MVHR.

1.73 Purge ventilation is required, as per paragraphs 1.26 to 1.31 in the next section.

2.2. Purge Ventilation

To comply with the requirements for MVHR systems, paragraph 1.73, purge ventilation should be allowed for in accordance with Approved Document Part F1: means of ventilation. These are defined within paragraphs 1.26 – 1.31 as listed below. To comply with purge ventilation requirements the windows are fully opening.

1.26 *A system for purge ventilation should be provided in each habitable room.*

1.27 *Purge ventilation should be capable of extracting at least four air changes per hour per room directly to the outside.*

Note: In order to demonstrate compliance with Part O of the building Regulations it is likely that higher purge ventilation rates than those given in paragraph 1.29 below will be required.

1.28 *Purge ventilation should be delivered through one of the following means:*

Openings (e.g., Windows and doors)

a. A mechanical extract ventilation system (e.g., MVHR)

1.29 *Where purge ventilation is delivered through openings in a habitable room, the minimum opening areas in Table 1.4 should be achieved, see below:*

Table 1.4 Purge ventilation openings	
Opening type	Minimum total area of openings
Hinged or pivot windows with an opening angle of 15 to 30 degrees	1/10 of the floor area of the room
Hinged or pivot windows with an opening angle of greater than or equal to 30 degrees	1/20 of the floor area of the room
Opening sash windows	
External doors	

1.30 *Depending on dwelling design or the external climate, it may be possible in certain circumstances to achieve four air changes per hour with smaller openings.*

1.31 *Hinged or pivot windows with an opening angle of less than 15 degrees are not suitable for purge ventilation.*

2.3. Overheating

Overheating (Part O) regulations have been overhauled since the original proposal for this site.

As described within the overheating report, compliance with the overheating requirements is achieved utilising an ambient loop system for the tower block, utilising the district heating / cooling system served by the roof Air source heat pumps and chillers.

The Lower Block's apartments will utilise MVHR with tempered air cooling to ensure compliance with Part O. The inline cooling module is provided to ensure Part O requirements are achieved. With this system all ductwork is 220x90mm with 150mm extract valves. Insulation is also provided to the supply ducts.

Trim cooling via cooling modules, installed above the MVHR units, will provide tempered cooled air to each of the units where the internal room temperatures are more than 24°C. The cooling modules are required pass the TM59 assessments under the various criterions. Activation of the trim cooling modules will be via a return air temperature sensor installed on the final run of the extract duct to the MVHR unit. When the return air temperature sensors measure more than 24°C, the trim cooling units will operate to lower the internal room temperatures.

Cooling module is to be interlocked with the heating system to ensure simultaneous heating and cooling is not possible in the apartment.

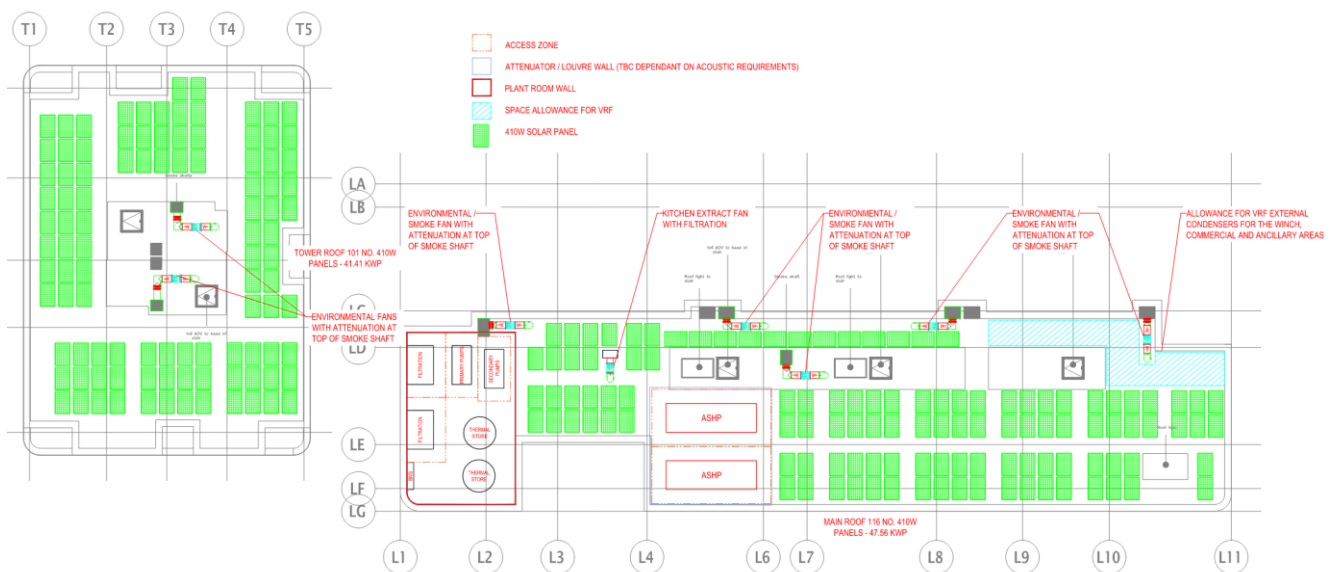
3. Commercial Units

The commercial units will be served via a tenant fit out ventilation unit within the space which will extract stale air and inlet fresh air within the retail space areas. This will extract and inlet through a louvre band within the façade running at high level around the external perimeter of the commercial unit, to be 500mm in height, as agreed with the architects.

The tenant must provide attenuators to comply within the site acoustic report on any ventilation systems.

The tenant must provide filtration if required by the Air Quality Assessor.

Should one of the commercial spaces be used as a commercial kitchen, an exhaust shaft has been allowed for to ventilate the commercial space to the roof, as shown in the plans below. Any kitchen ventilation should be filtered in accordance with local policy requirements, as noted in Camden Planning Guidance – Air Quality (Jan 2021). So, a filter has been allowed for on the system.





4. Conclusion

This report outlines the Ventilation proposals for 100 Avenue Road, adopted by the design team, which are in line with the Camden Policy requirements, and Part F building regulations.

The previous strategies were completed against outdated versions of the Building Regulations which were relevant at the time of application, such as approved document Part O, the new proposals are inline with the new regulations.



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