

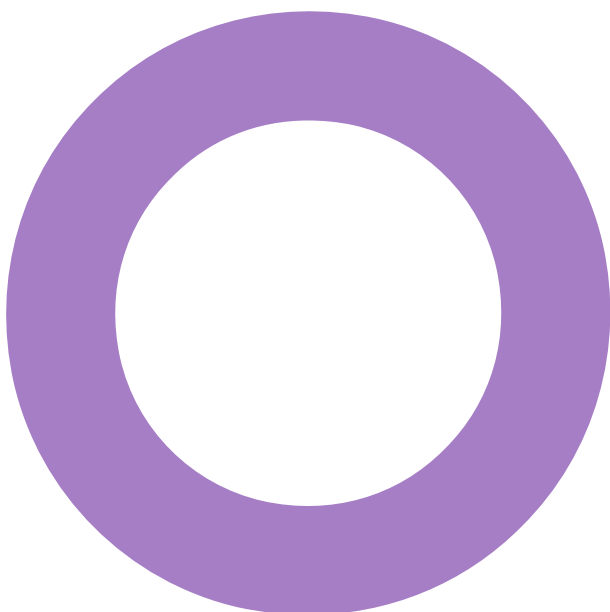
Broad Street Mall Residential. Reading.

McLaren (Broad Street Mall) Ltd
and UREF III LP.

MEP ENGINEERING

VENTILATION SUMMARY STATEMENT

REVISION 02 – 20TH DECEMBER 2023



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	13 th November 2023	Draft For Planning	TG	GP	MW
01	30 th November 2023	Planning	TG	GP	MW
02	20 th December 2023	Planning	TG	GP	MW

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Executive summary

This report has been prepared to outline the ventilation strategy for the residential, commercial and amenity areas within the Broad Street Mall Residential development in Reading. This report has been prepared on the basis of the latest design intent at time of writing, including provision for flexibility of use for the commercial spaces.

Ventilation Approach

Retail Units

All ground floor retail units have been designed for the provision of mechanical supply & extract ventilation. This will be provided from air handling units incorporating a high level of filtration and high efficiency heat recovery in order to minimise energy consumption located within the retail demise. Ventilation intake locations will be carefully considered from an air quality and acoustic perspective to minimise any mitigation measures/treatment required to maintain a high-quality indoor environment. Louvre strips have been included in the façade to facilitate venting of ceiling mounted units.

The ventilation units themselves and associated ancillaries are not to be provided as part of the development as the units are to be delivered as shell only for future tenant fit out.

Restaurants

The flexible class uses will be designed such that one or more units could be fitted out for food and beverage operations.

Each potential restaurant will be designed to operate independently of neighbouring units, with all cooking and food preparation located within each unit. Each production kitchen will have a local dedicated ventilation system bringing in tempered, filtered fresh air to the kitchen and discharging purified/filtered air to roof level via a dedicated kitchen exhaust duct. The kitchen ventilation systems will be designed in accordance with HVCA DW 172. The extract systems will incorporate technology such as HEPA filters, UV treatment and active carbon filtration. The configurations and design of which are to be developed through detail design to suit the provision of catering equipment being provided to reduce both odour and particulate levels to acceptable standards in accordance with the project air quality assessment and applicable Reading Borough Council requirements.

Treated discharge air will then be routed via one of the following methods to atmosphere:

- Ductwork distribution down to the basement level service road, discharging within this area.
- Ductwork distribution to high level Ground floor, discharging into the car park ramp area at high level.

Once the plume mixes with air either at basement level or at high level ground floor, the distance between the discharge position and the closest adjoining property will allow for satisfactory dilution of the exhaust plume.

The purpose and therefore level of catering equipment within the various preparation will not be finalised until the detailed design phase. Provision has however been made within the preliminary MEP design and architectural coordination to take an exhaust duct from each of retail spaces and discharge as per the methods described above.

Amenity Floorspace

The amenity areas will be provided with mechanical supply & extract ventilation. This will be provided from air handling units incorporating a high level of filtration and high efficiency heat recovery to minimise energy consumption in each space. Ventilation intake locations will be carefully considered from an air quality and acoustic perspective in order to minimise any mitigation measures/treatment required to maintain a high-quality indoor environment. Louvre strips have been included in the façade to facilitate venting of ceiling mounted units.

Residential Accommodation

The residential accommodation will be provided with a mixture of openable windows for purge ventilation, and domestic Mechanical Ventilation with Heat Recovery (MVHR) for primary supply and extract ventilation. Each apartment will be provided with its own dedicated MVHR unit. The MVHR units will draw in fresh air from a discretely integrated terminal in the façade, this will be filtered and passed through the heat recovery to provide fresh air to the habitable rooms. Exhaust air will be extracted from the wet rooms (bathrooms and kitchens), thermal energy will be exchanged to the incoming fresh air and the air will be exhausted through discrete façade terminals. These will be placed to avoid short circuiting between exhaust and intake positions.

To mitigate overheating within the apartments, MVHR units will be fitted with tempering modules. The function of the tempering module is to cool the incoming air in high ambient conditions and where elevated flow rates would not sufficient limit overheating of the occupied spaces.

Subject to air quality assessment, provision has been made to incorporate NoX filters in the incoming fresh air to ensure the supply air does not exceed recommended limitations.



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