

Project : Oak Park, Havant

Project No. : 14599

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Oak Park Health & Wellbeing Campus, Havant

M&E Environmental Services – Ventilation and Extraction Scoping Statement

1.0 Introduction

This scoping report is intended to set out and confirm the approach and general design parameters that are to be adopted in the design, selection, installation and commissioning of the ventilation and extraction systems proposed for the Oak Park Health and Wellbeing Campus development, Havant.

2.0 Local Air Quality / Pollution – Existing Conditions

The existing external air quality condition on the site is understood not to be considered poor and is therefore suitable for natural ventilation of habitable areas.

3.0 Ventilation Requirements

The development comprises: (i) Nursing Care Home, (ii) Extra Care Accommodation, (iii) Community Hub and (iv) Supported Living, and has the following categories of ventilation requirements: -

3.1 General occupancy health and wellbeing

General occupancy health and wellbeing and odour removal and summertime temperature control:

Ventilation design shall be in accordance Building Regulations and CIBSE standards and recommendations. The use of natural ventilation shall be maximized.

The ventilation requirements can be considered normal, commensurate of general ventilation to habitable areas with no adverse environmental impact.

External ventilation plant shall be minimized but where / if required shall be designed, installed and commissioned in line with (i) the acoustic / noise performance parameters proposed elsewhere in the planning submission, and (ii) discreet, in accordance with policy requirements for amenity and aesthetic.

3.2 Commercial Kitchen ventilation:

The Nursing Care Home and Extra Care Accommodation each comprise communal kitchen facilities with ventilation requirements commensurate of a commercial kitchen.

The ventilation design to these areas shall therefore be carefully considered and subject to specialist design.

In this respect we would confirm that the ventilation scheme proposal shall be developed with necessary cognisance of DEFRA Guidance on Control of Noise and Odour from Commercial Kitchen Exhaust Systems, relevant CIBSE guidance and the recommendations of HVCA DW172.

We would also confirm the following aspects with respect to the kitchen ventilation design and odour control strategy: -

It should firstly be considered that although termed a commercial kitchen the usage profile of the kitchen and cooking process is understood to be of Light Loading commercial kitchen.

The kitchen ventilation canopy shall incorporate coarse / grease filtration and the odour abatement strategy is exhaust stack dispersion and dilution.

The ventilation / extract rate through the canopy shall be determined assuming Medium Loading and therefore a face velocity of 0.35m/s at the canopy. Since however the kitchen usage profile is understood practically to be of Light Loading for the majority of the time, this approach provides resilience in the kitchen ventilation rate proposed and assists dilution of kitchen exhaust odours.

This kitchen extraction design shall comprises an induction type discharge terminal above roof level, to also induce fresh into the discharge plume to promote dilution of odours. The terminal shall also be sized to provide an efflux velocity of between 12-15m/s in line with DW172 recommendations.

DEFRA Guidance suggests that down washing will likely occur when $W/V = < 1.5$ resulting in a reduced effective stack height, where: -

W (m/s) is the efflux velocity at the discharge, for calculation purposes taken as 13.5m/s,
 V (m/s) is the wind speed at the height of the roof discharge, which is estimated at this stage as being 4.7ms.

$W/V = 13.5/4.7 = 2.9$, which is greater than 1.5 and therefore down washing of the kitchen extraction is taken as unlikely to occur.

The kitchen extraction shall discharge vertically upwards in line with best practice.

Attenuation shall be included in accordance with acoustic / noise performance parameters proposed elsewhere in the planning submission

3.3 Laundry ventilation:

The Nursing Care Home and Extra Care Accommodation each comprise communal laundry facilities having ventilation requirements.

The laundry facility for the Extra Care Accommodation is understood to be of heavy domestic / light loading commercial nature, and therefore has no special ventilation requirements over and above general consideration.

The laundry facility for Nursing Care Home is understood to be of more commercial loading in nature and the laundry drying machines are likely to be gas fired.

Over and above general ventilation consideration, the gas fired dryers shall therefore have requirement for combustion ventilation and flue gas discharge. Combustion ventilation shall be provided via fixed un-obstructed permanent natural ventilation openings in accordance

with British Standards and manufacturer's requirements.

The flue gas discharge shall discharge vertically upwards above roof level in line with best practice and the manufacturer's requirements.

3.4 **Boiler Room ventilation:**

The Nursing Care Home and Extra Care Accommodation each comprise a centralized heating approach with dedicated boiler rooms, comprising gas fired boiler plant.

Combustion ventilation shall be provided via fixed un-obstructed permanent natural ventilation openings in the boiler room façade at high and low level, in accordance with British Standards, Building Regulations and manufacturer's requirements.

The flue gas discharge shall discharge vertically upwards above roof level in line with British Standards, Building Regulations, Clean Air Act, best practice and the manufacturer's requirements.