

Ventilation and Extraction Statement

Café/Restaurant

At

12 Mackets Lane

Halewood

Liverpool L25



GEO-NEO UK Ltd
Architectural Co.

7 Orchid Grove
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L17 7EY

Purpose of Statement

This statement provides details of the ventilation and extraction equipment proposed as part of the above application.

Kitchen Ventilation / Extraction

The detailed design and installation of the ventilation system will be undertaken by a consultant and contractor specialising in commercial kitchens. The final cooking line has not yet been determined but the performance will be in line with HVCA standard and guidance on control of odour and noise for commercial kitchens. This statement sets out the performance objectives of the system, namely that the ventilation and extraction system are to ensure that there is no disturbance, nuisance, or loss of amenity to nearby premises as a result of fumes, odour, food particles or noise.

The system performance is to be such that the extract rate of air from the kitchens always results in the dining, bar and ancillary areas of the café/restaurant being under negative pressure. Incoming fresh air is to be sufficient to replace that displaced by extraction. This will ensure that fumes/smells are evacuated through the extract system rather than being vented through windows and doors.

The Café/ Restaurant

The kitchen will be preparing hot and cold food. The methods of cooking will vary from grilling, ovencooking, frying etc. The proposed hours of business are 09.00 to 23.00 hours. The ventilation and extract system will not be operated outside opening hours. Gas equipment will be used.

Cooker Hood

An extraction canopy is to extend over the full length of the cooking equipment, overhanging the appliances by a minimum of 250mm. The dimensions of the opening of the cooker hood will be determined when definitive catering equipment layouts are finalised. The canopy will be fitted with gas interlock system, solenoid and air differential switches.

Ductwork

All kitchen extract ductwork is to be 2mm thick welded black steel. Welding is to be continuous throughout with no flanges or bolts. All joints must be continuously welded. All kitchen extract ductwork within the ceiling void and risers is to be insulated with a minimum density of 16kg/m³ galvanised wire netting with joints sealed with adhesive tape Gypglas DR16A or similar approved.

Where ductwork passes through walls and roofs a one hour fire resistant cladding is to be applied. Where ductwork passes into another fire rated compartment the ductwork is to have the same fire rating as the area it is passing through and must have been tested in accordance with BS 476 part 24 1987.



Ducts should not contain any dampers or other obstructions except as required by the local authority. One hour fire rated access doors are to be fitted at each bend and change in directions in the ductwork. Elbows are to have a radius of 1.5 times the duct width at its centre line. The size and location of the access doors is to allow for internal cleaning of the ductwork in all positions.

Extract ducts are to be sized in accordance with the velocity reduction method 9.2m/s.

Filters

Primary and grease baffle filters will be provided at the hood opening and a secondary grease baffle filter at the neck. A bag particle filter and odour control counteractant is to be fitted between the secondary grease filter and the fan. Filters will be cleaned / replaced in accordance with the manufacturer's recommendations.

Flue

The kitchen extract flue will be located as far as possible from neighbouring buildings. The final discharge is to be vertically upwards with no obstructing cowl. A rainwater sump is to be fitted. The flue is to be 1m above opening windows within 18m of the flue. An efflux velocity of a minimum of 9.0m/s should ensure effective dispersion and dilution of odours.

System Performance Specification

The volume of kitchen is to be confirmed.

The velocity of the extracted air leaving the system is to be a minimum of 9.2m/s.

The time gases remain in the carbon filtration zone is to be between 0.3 and 0.6 seconds.

Noise

An acoustic silencer is to be positioned between the fan and the ductwork exit. The extract fan and ductwork fixings are to have anti vibration mountings and flexible couplings.

The rating noise level of the café/restaurant in relation to the existing background noise level at the nearest noise sensitive property is to comply with BS4142 and guidance on control of odour and noise from commercial kitchens. Equipment operation will be restricted to 09.00 – 23.00 hours.

WC Extract

The WC extract ductwork will be entirely separate from the extract system elsewhere within the premises. The system is to comply with the minimum standards set out in BS5720 (1979) code of practice for mechanical ventilation. The WC extract flue is to be remote from the kitchen fresh air intake. The WC extract is to be suitably balanced to ensure that negative pressure to the kitchen is maintained. A minimum of 20 air changes /

hour is required within the toilets.



Café/Restaurant HVAC

Heating and cooling will be provided to the café/restaurant using packaged rooftop units providing direct expansion cooling and indirect gas fired heating. The system will be designed to meet the following criteria:

Summer	External	29 degrees C dry bulb
		20 degrees C wet bulb
	Internal	23 degrees C dry bulb
Winter	External	-3 degrees C saturated
	Internal	20 degrees C dry bulb

The casual heat gain component will be calculated on the basis of an occupancy and once the lighting design has been completed.

Fresh air will be provided at a rate of 30m³/hour/person. Supply air is to be ducted to drop face perforated plate diffusers located above seating areas. All supply and return ductwork will be insulated.

The air condition system is to be controlled by room mounted thermostats.

