# 1. Kitchen Extract Ventilation, WC Extract Ventilation & Air Conditioning and Systems Description

## 1.1 Kitchen Extract Ventilation System,

The basement floor venue will have a canopy, approx. 3m x 1.2m and 600mm high, manufactured from 20swg 304 grade stainless steel, with a continuous perimeter condense drip channel, standard baffle type grease filters along the rear section with integral LED lights.

The EMAQ Survey and report/RA for the extract ventilation systems, have indicated a high level of odour control required, so 2 x Purified Air ESP1500 modules in a double pass configuration and 2 x Purified Air MFU600-A1 modules in a stacked configuration with a total of 6 x site safe carbon filters, have been designed into then system, as indicated on drawing number C929/1

The double pass ESP modules, will remove high particulates and smoke for the exhaust air, and the double stacked MFU600 modules would remove any residual particulates and odours

The extract fan would be a NFANS CBF450/120C-43 model high temperature rated with the motor out of the airstream, and with an external pressure availability of 500pa, however, once the final ductwork route has been established/confirmed, the system pressure should be recalculated, if different from the design drawing layout,

The fan would be floor mounted, in the plant ‘area’ and sat on high density rubber ant-vibration feet.

The fan should have a high temperature rated sound attenuator in the duct, and before exhaust at the wall louvre.

The extract  fan should have a wall mounted speed controller/transformer, with  240v in converting to 3ph power to the fan

Extract ventilation ductwork, would be manufactured and installed in accordance with the HVCA DW172 specification for commercial kitchens, with sufficient access and cleaning doors, to facilitate a full internal TR-19 clean.

The extract ductwork, once leaving the  kitchen demise and entering the plant area, would be 2 hour fire rated, by the application of FireMac FM120 material, all the way to the  exhaust louvre.

The exhaust louvre would be  approx.  600 x 500mm giving an exhaust velocity of approx.  4.5 m/s

## 1.2 Toilet extract ventilation systems.

The toilet extract ventilation has been calculated to provide 12 – 15 air changes per hour, in line with building regs.

A range of galvanised steel ductwork, manufactured and installed in accordance with the HVCA DW144 specification, serving extract air valves in the Female, Male and Disabled toilets.

The 200mm dia in line centrifugal extract fan, and fore/aft silencers, would be mounted in the stores area, with fire dampers when passing through the stores walls, and exhaust would be via a 200mm dia wall mounted l;ouvre

The system could be connected to the toilet lighting system, for control, or controlled form a standard ON/OFF switch.

## 1.3 Air Conditioning System

The Air Conditioning system would comprise 1 x outdoor condensing unit, located on the flat roof section, on high density rubber anti-vibration feet.

Connected via range of insulated, soft drawn refrigeration pipework to

AC1- AC4, standard 360° blow cassettes, in the main dining area, all connected to 1 x controller.

AC5 standard 360° blow cassette, in the bar area, connected to 1 x controller.

The system can provide both heating or cooling.