

McKee Associates LTD
 Unity House
 Westwood Park
 Wigan
 Manchester
 WN3 4HE

Company: Starwood Group
Project: Tree House Hotel
Job number: P2027

Fume Extraction statement

1.1 Site property details

Old Renaissance hotel Manchester.

Existing Systems

Existing catering kitchens are currently located at ground floor and mezzanine levels, the extraction from the ground floor kitchen is discharged at roof level to atmosphere. Fume extraction for the mezzanine is discharged directly to atmosphere at mezzanine level.

The existing extract canopies are fitted with grease filters to reduce the pollutants being discharged to atmosphere; we do not believe any further filtration process is currently installed.

The existing gas fired boiler plant is currently located at roof level, the existing boiler capacity is circa 1500kW and we estimate this to have an operating efficiency of 75%.

Extract ventilation to the guest rooms is discharged at roof level via approximately 10No roof mounted twin extract units. Extracted air from the rooms is currently unfiltered due to the very low risk of there being any harmful pollutants present in the discharged air.



1. Existing roof mounted kitchen ventilation units



2. Existing roof mounted extract unit serving guest rooms.

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Proposed Systems

The catering canopy to the Ground floor and mezzanine levels are to be replaced with new, new Air handling plant will also be installed at roof level to serve the ground floor kitchen area. The extract canopies will be fitted with newer more efficient grease filters as part of the kitchen canopy works. The new extract unit serving the ground floor will be fitted with proprietary equipment to control and reduce the Grease, Smoke and Odours that will be extracted from the kitchen area.

As part of the refurbishment works a new catering kitchen will be installed to the 13th floor, this will also be fitted with a new catering canopy which shall be served by roof air handling plant also located at roof level. The new extract unit serving the 13th floor kitchen will be fitted with proprietary equipment to control and reduce the Grease, Smoke and Odours that will be extracted from the kitchen area.

New mechanical services plant installed at roof level will consist of 3No gas fired water heaters which will have a combined load of 360kW only. The water heaters will be high efficiency with low emission ratings. Water heater flues shall be installed to discharge directly to atmosphere and above the roof line of the building.

New roof mounted extract units will be installed at roof level to removed vitiated air from the guest rooms, there will be approximately 4No of these. Air from these will not be filtered due to the very low risk of harmful pollutants being present. The extract air units will be fitted with attenuators to reduce noise break out.

Active Measures to Improve on Existing:

- Roof level gas fired mechanical services plant has been reduced in capacity and in turn the Nox levels have been considerable reduced.
- Extract air from the kitchen will be filtered to reduce grease, odours and smoke, the existing ventilation plant is currently unfiltered.