The South Molton Triangle

July 2022

GROSVENOR

Ventilation Extract Statement

HOARE LEA

chapmanbdsp

South Molton Triangle.
Ventilation Extract Statement. S73 Application.

1. Introduction

This note has been prepared to provide an overview of the kitchen extract strategy that has been developed to mitigate the risk of nuisance odours across the South Molton Triangle and adjacent sites.

This updated document is for the S73 application specifically incorporating updates to the South Molton Street properties. The South Molton Street properties design amendments within this document are the responsibility of Chapmanbdsp. The updates are identified in blue within this document and have been authored by Chapmanbdsp based on their design.

The primary documents that have been considered in the development of the kitchen extract systems are:

- Guidelines for the control of odour from commercial kitchen extract ventilation systems (Westminster City Council - Environmental Health advice for Planning Applications)
- DW 172: Specification for Kitchen Ventilation Systems

As identified in the Westminster City Council document there are two acceptable methods for kitchen extract systems:

1. A scheme of full height kitchen extract discharge where the operation involves a full range of cooking (i.e. utilising any fuel types - gas, solid fuel and/or electricity).
2. An approved recirculation scheme where all food operations are undertaken utilising electricity only.

All kitchen extract systems within the North/South blocks and 40-46 Brook St have been developed on the basis of option 1, full height kitchen extract discharge. The kitchen extract systems for South Molton Street have been developed on the basis of option 2, approved recirculation system.

The kitchen extracts that have been designed into the scheme are as identified in the table below with a high-level summary of the discharge location identified:

Area	Kitchen extract allowance	Discharge location
South Block	2 No. Flexible retail/ F&B under Class E units	South building roof
North Block	4 No. Flexible retail/ F&B under Class E units	North building roof
40-46 Brook Street (Hotel)	1No. for kitchen	40 Brook Street roof
18-19 South Molton Street	1No. Flexible retail/ F&B under Class E units	Not applicable (recirculation)
15-16 South Molton Street	1No. Flexible retail/ F&B under Class E units	Not applicable (recirculation)

Section 2 provides further detail around the locations of each kitchen extract identified in the table above.

2. Kitchen extract details

The Westminster City Council standards identified for full height kitchen extract discharge are as follows:

Westminster City Council requirements	South Molton Triangle considerations
Effective stack height – i.e. high enough to ensure that adequate dilution takes place before the plume interacts with a receptor: It therefore must be at least 1m above roof eaves (or ideally at chimney height level) and above the height of any building within 20m of the building housing the commercial kitchen.	All kitchen extract discharge points will be at least 1m above the building's roof eaves. In some instances, it is not practically possible to be above the height of any building within a 20m radius (refer to mark ups in section 2.1 – 2.3). A qualitative source-pathway-receptor (SPR) assessment has been undertaken to determine the risk of odour effect. The risk of an adverse odour effect has been determined by examining the source characteristic and the sensitivity of the receptor. The assessment shows "slight adverse effects are predicted from the sources within the Proposed Development on nearby receptors. The overall effect would be not significant". For further details on the SPR assessment refer to the Environmental statement.
A scheme of odour reduction will also need to be incorporated together with full height discharge where there are surrounding residential premises (and/or commercial buildings with openable windows) that are between 20m - 50m distance and which are also higher than the discharge point of the building housing the commercial kitchen. Buildings which are more than 50m distance (even if these are higher than the discharge point) are considered to be far enough for adequate dilution to have occurred.	Odour and grease reduction systems will be utilised on all kitchen extract systems.
Adequate discharge velocity (at least 8m/s).	All kitchen extract discharge velocities will be between 12-15m/s in line with DW172 requirements.
Suitable discharge point which is out of the wake of nearby buildings. The final discharge point must be vertically upwards and unhindered i.e. use of plate, cowl or cap methods for the prevention of rainwater penetration should not be employed.	All kitchen extracts will discharge vertically upwards and be unhindered by weatherproofing methods. Details considered will be as per DW 172 figure 12.
All kitchen extract ducting must be fitted with access panels/hatches at approximately 3 metre intervals to enable cleaning and maintenance and must also comply with the safe access standards.	All interior surfaces of the kitchen extract ductwork will be accessible for cleaning and inspection purposes by access doors being installed at 2m centres and thereby enabling full cleaning of the system without manned entry.

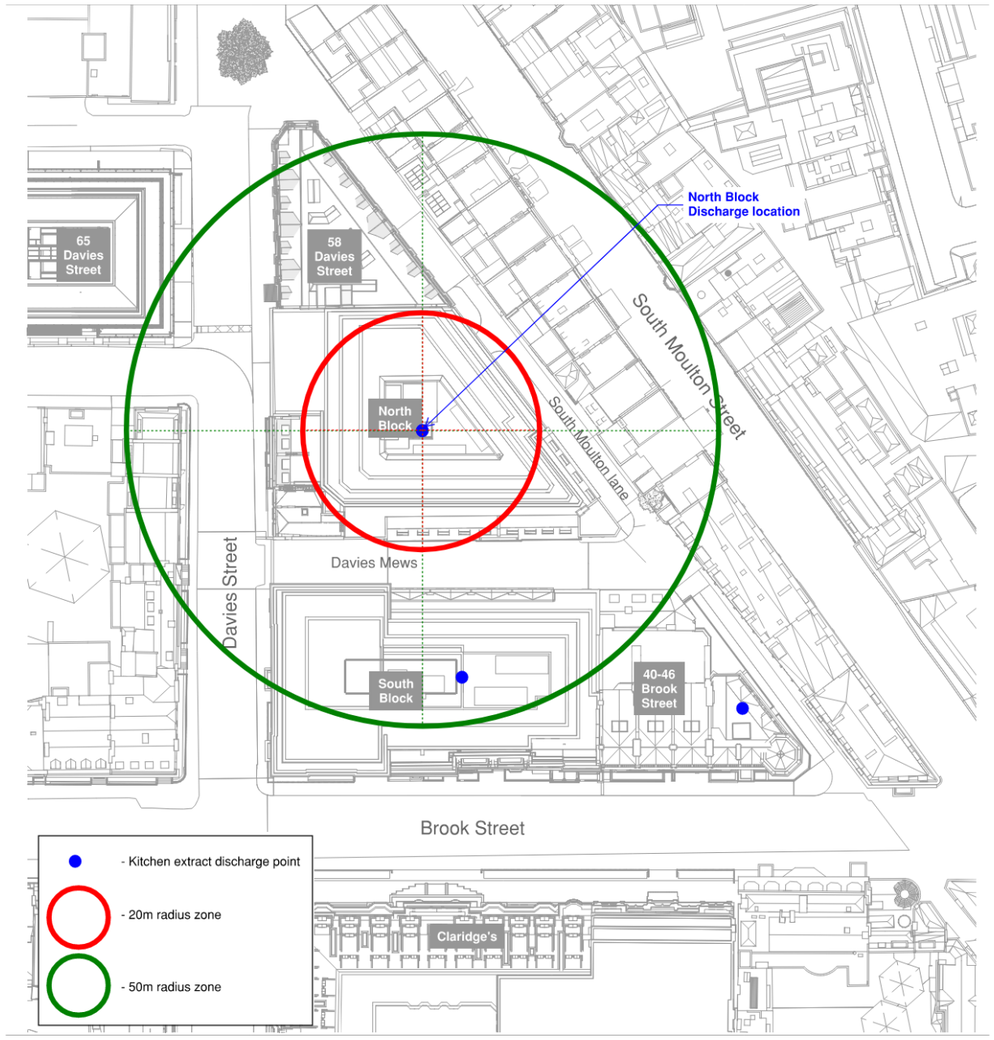
Westminster City Council requirements	South Molton Triangle considerations
Any external installation shall also require the agreement of the Planning Department for visual impact and conservation area considerations.	All kitchen extract risers are located internally within the buildings. The only external system elements are the roof plant and discharge as indicated on the architectural plans.

The Westminster City Council standards identified for re-circulation systems are as follows:

Westminster City Council requirements	South Molton Triangle considerations
No Direct external discharge to atmosphere of the cooking fumes.	An Approved recirculation system will be employed.
All cookline equipment is operated via electricity only	The buildings are not provided with a gas supply and a suitably sized electricity supply is being provided to accommodate an all-electric kitchen installation
Re-circulated air must comply with The Workplace (Health, Safety and Welfare) Regulations 1992. Submitted proposals must show that the design of the supplier's systems have been tested to achieve standards set out in HSE publication 'EH40 Workplace Exposure' particularly in relation to; • Airborne Dusts (Aerosol), • Gases (CO, Ozone, CO_2, NOx), • Hydrocarbons. The testing must be carried out by an independent ISO 17025 UKAS accredited laboratory.	The final installation will utilise approved equipment.There are a number of suppliers that have provided test results from accredited independent laboratories and which are listed within the WCC guidance notes. Recirculation systems will also have the following design features; • Does not incorporate elements that generate or add chemicals e.g. UV, Ozone, ESPs. • Is interlocked with the cooking equipment to enable its use only when the ventilation system is operating, • Filter status monitored and a remote internet facility provided to maintain system performance, • Filter removal would automatically prevent the system from operating, • Clear signage provided that cooking equipment which requires gas or solid fuels must not be used.
The design of the ventilation system must utilise such components that enables operators to engage 3rd parties to carry out maintenance of the system.	These requirements will be written into the design principles document and the final installation contract that will be provided to the incoming operators.
Internal environmental conditions should achieve the following; • Relative humidity – 40 – 70%, • Temperature - 25˚c, • Make-up supply air in accordance with BESA document DW-172 2018, • Noise level – NR40-NR50	The designs for the kitchen spaces include an allowance for general fresh air and extract ventilation systems and cooling systems which will be in accordance with these requirements.

The following sections identify the various kitchen extract locations across the site with the associated 20m and 50m radii shown.

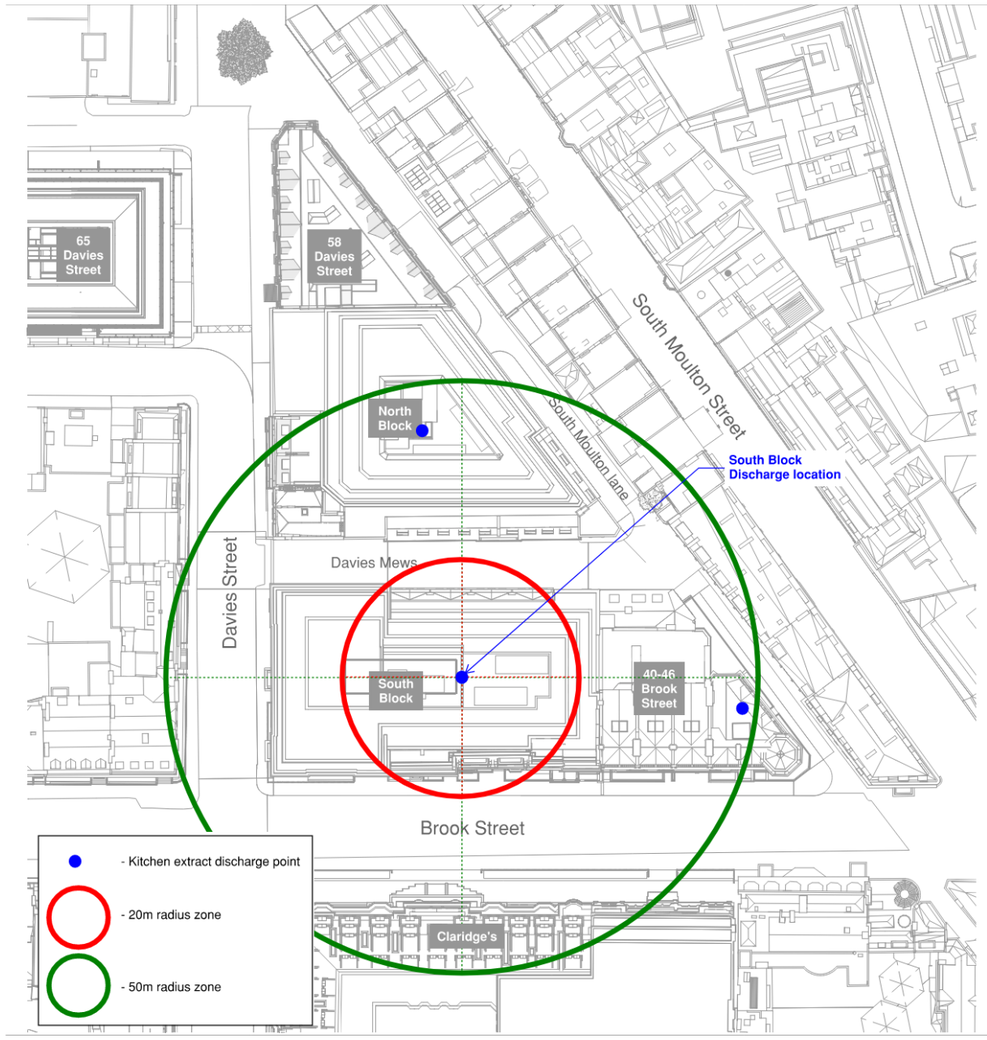
2.1 North Block



Notes

20m Radius	Discharge point at least 1m higher than all buildings within.
50m Radius	Discharge point is higher than all buildings within.
SPR assessment summary as indicated within the Environmental statement: "Slight adverse / negligible effect. Odours would be released at height with good exit velocity. The closest receptors (ventilation inlets) are upwind of the prevailing wind, lower than the sources. There are nearby residential receptors at a downwind location. However, the plume is expected to rise well above nearby residential receptors."	

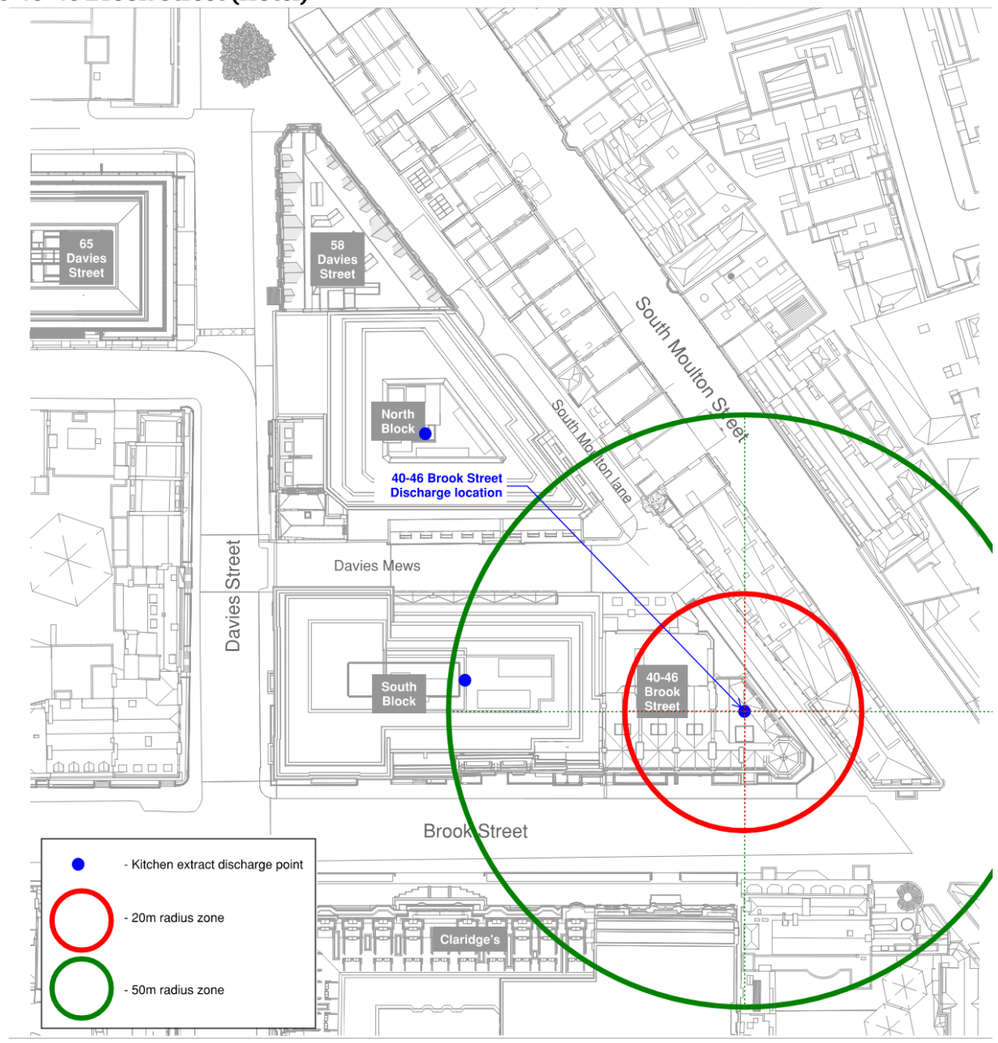
2.2 South Block



Notes

20m Radius	Discharge point at least 1m higher than all buildings within.
50m Radius	Discharge point is higher than all buildings within, with exception to: - Claridge's Brook Street top floors and the new North Block Multistage odour and grease filtration will be installed in line with Westminster guidance.
SPR assessment summary as indicated within the Environmental statement: "Slight adverse / negligible effect. Odours would be released at height with good exit velocity. The closest receptors (ventilation inlets) are lower than the sources. There are nearby residential receptors at a downwind location. However, the plume is expected to rise well above nearby residential receptors."	

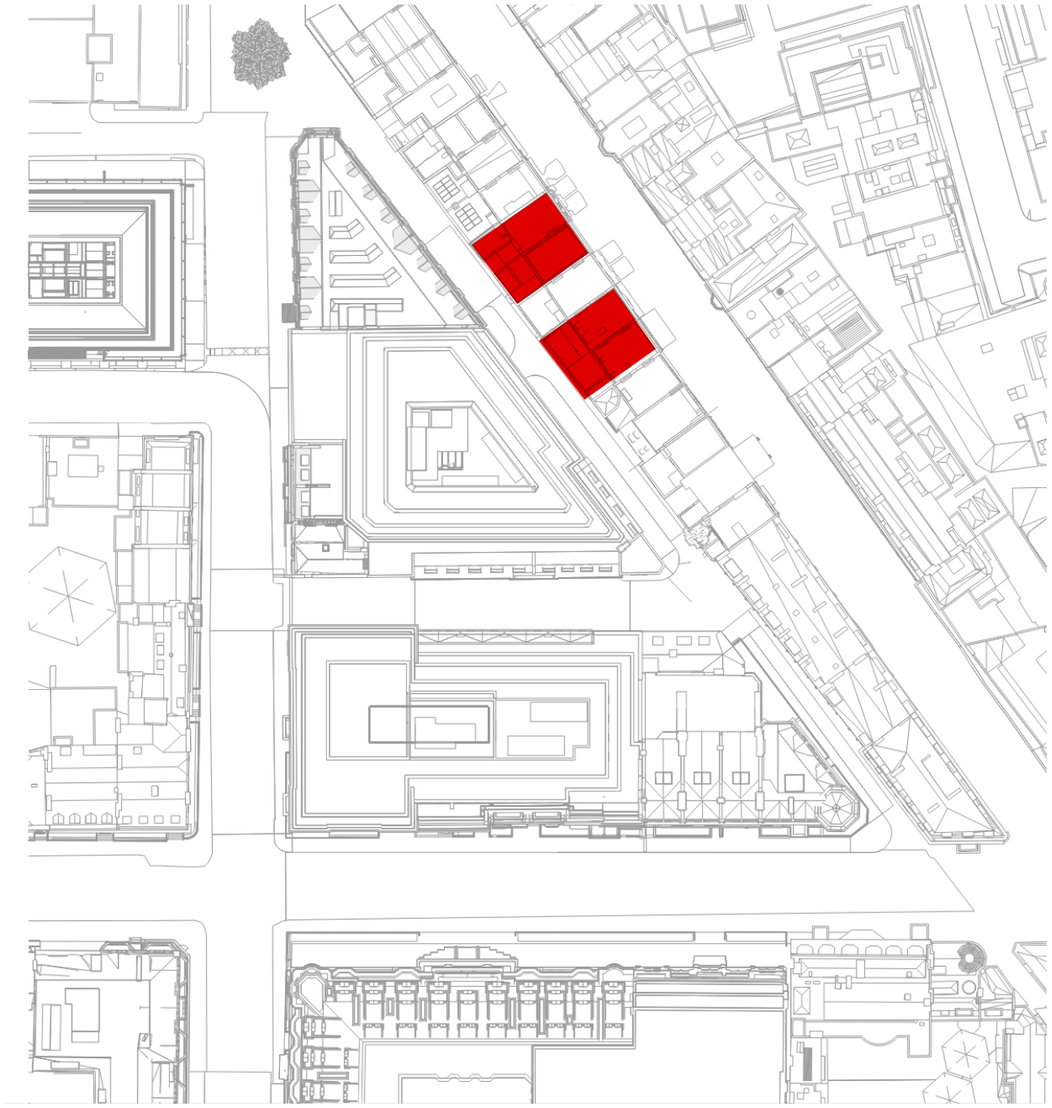
2.3 40-46 Brook Street (Hotel)



Notes

20m Radius	Discharge point at least 1m higher than all buildings within, with exception to: - No. 2 & 3 South Molton Street. Multistage odour and grease filtration will be installed in line with Westminster guidance.
50m Radius	Discharge point is higher than all buildings within, with exception to: - Claridge's Brook Street top floors, the new North and South Block and several properties on South Molton Lane and Brooks Street. Multistage odour and grease filtration will be installed in line with Westminster guidance.
SPR assessment summary as indicated within the Environmental statement: "Slight adverse / negligible effect. Odours would be released at height with good exit velocity. The closest receptors (ventilation inlets) are 5m away south of the sources (not downwind), at the same height. The plume is expected to rise to the South Block terraces, 20m away (not downwind). There are nearby residential receptors at a downwind location. However, the plume is expected to rise above nearby residential receptors."	

2.4 South Molton Street



Notes

South Molton Street properties (15-16 & 18-19) with recirculation kitchen extract systems confirmed currently are identified in red.