

MECHANICAL AND ELECTRICAL SERVICES
PLANNING SUBMISSION

1. General Extract

Reference drawings:

M040, M041 Ventilation Schematics
M400 to M404 Ventilation Plans

Reference schedules:

SCH006 Rev A Schedule of Extract Fans
SCH007 Rev A Schedule of Air Handling Units

2. Fume Extract

Reference drawings:

M501 Basement Level 2 Plantroom Layout

Reference schedules:

SCH003 Rev 0 Schedule of Direct Gas Fired Water Heaters

Note: Flue will be 450mm internal diameter twin walled flue manufactured from 0.71mm thick grade 430 stainless steel installed from the gas appliances shown on M501 to the top of existing chimney to discharge at the high level roof.

3. Sound

Reference drawings:

M402 3rd Floor Ventilation Layout
M403 4th Floor Ventilation Layout
E602 3rd and 4th Floor Plans Containment Layout

Reference schedules:

SCH001 Rev A Schedule of Attenuators

Note: The generator detailed on E602 is a packaged set complete with acoustic enclosure rated 50dB @ 1m. The generator will only run during a failure of the incoming electricity supplies and during testing which would be for a short period of time twice a year.

REF	SYSTEM REFERENCE	NO. OFF	NOMINAL DIMENSIONS (mm) L x W x H	AIR VOLUME (m ³ /s)	RESISTANCE (max) (Pa)	COMMENTS							
						MIN DYNAMIC INSERTION LOSS (dB)							
						H3							
						63	125	250	500	1	2	4	8
R/A1	Toilet Extract 4th - 13th Floor (system side)	1	2100 x 1100 x 1100	3.3	40	9	19	34	47	50	50	50	36
R/A2	Toilet Extract 4th - 13th Floor (atmospheric side)	1	1500 x 1100 x 1100	3.3	40	7	14	24	39	45	46	42	31
3/A1	Toilet Extract Basement Level 2 to 2nd Floor (system side)	1	1500 x 750 x 750	1.0	40	3	6	12	18	21	20	15	12
3/A2	Toilet Extract Basement Level 2 to 2nd Floor (atmospheric side)	1	1500 x 750 x 750	1.0	40	7	14	24	39	45	46	42	31
3/A3	AHU Supply Ground Floor to Basement Level 2 (system side)	1	1800 x 800 x 800	1.70	40	4	8	15	22	28	27	18	12
3/A4	AHU Supply Ground Floor to Basement Level 2 (atmospheric side)	1	1800 x 800 x 800	1.70	40	4	8	15	22	28	27	18	12
3/A5	General Extract Basement Level 2 to 2nd Floor (system side)	1	1800 x 750 x 750	1.4	40	8	16	28	45	49	50	48	32
3/A6	General Extract Basement Level 2 to 2nd Floor (atmospheric side)	1	1500 x 750 x 750	1.4	40	7	14	24	39	45	46	42	31

NOTES:

01 Attenuators shall be based on Allaway Acoustic Ltd - Bradford or equal and approved.

02 All attenuators shall be suitable for external locations.

FURNESS GREEN PARTNERSHIP BUILDING SERVICES AND ENVIRONMENTAL ENGINEERING CONSULTANTS MARSHALL MILL, MARSHALL STREET, LEEDS, LS11 9YJ Tel: 0113 2449914 Fax: 0113 2449884		Project Title TRAVELODGE 166 HIGH HOLBORN LONDON	Drawing Title SCHEDULE OF ATTENUATORS	Drawing No. L536/SCH001 Rev A
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REF	LOCATION	TYPE	CONTINUOUS OUTPUT (l/hr) at 50°C rise across heater	STORAGE CAPACITY (l)	HEAT INPUT GROSS (kW)	COMMENTS
B2/DHW1	B2 plantroom	Copper fin CFW750-CE	3136	747	219.8	c/w 747 litres energy saving cylinder (suitable for safety valve set pressure). 80 litre expansion vessel. 65 dia flow BSP 65 dia return (plugged) 2 1/4" immersion heater boss (plugged) 25 dia SV BSP 20 dia Drain BSP 20 dia stat BSP 100 dia inspection cover Sacrificial magnesium anode 812 dia 1965mm H Max working pressure 10.0 bar
B2/DHW2	B2 plantroom	Copper fin CFW750-CE	3136	747	219.8	c/w 747 litres energy saving cylinder (suitable for safety valve set pressure). 80 litre expansion vessel. 65 dia flow BSP 65 dia return (plugged) 2 1/4" immersion heater boss (plugged) 25 dia SV BSP 20 dia Drain BSP 20 dia stat BSP 100 dia inspection cover Sacrificial magnesium anode 812 dia 1965mm H Max working pressure 10.0 bar

NOTES

- 01 Copper fin boilers and cylinders based on Lochinvar water heaters.
- 02 Each boiler shall be c/w bronze glanded circulating pump.
- 03 Boilers/cylinders to be piped in accordance with manufacturer's recommendations.
- 04 Boilers shall be mounted on manufacturers stacking frame.
- 05 Boilers c/w high limit stat/control stat.
- 06 Boilers to be hi/lo fire.
- 07 Boilers shall be complete with flue booster kit/vertical and horizontal flue kits.
- 08 Any assembly of equipment on site shall be carried out by the manufacturer.
- 09 The boilers shall be commissioned by the manufacturer.

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Project Title
TRAVELODGE 166 HIGH HOLBORN, LONDON

Drawing Title
**SCHEDULE OF DIRECT
GAS FIRED WATER
HEATERS**

Drawing No.
L536/SCH003 Rev 0

REF.	LOCATION	SYSTEM	FAN DETAILS		STATIC RESIST (Pa)	MOTOR DETAILS			COMMENTS
			FAN TYPE	AIR VOL (m ³ /s)		kW	SPEED (rpm)	ELEC ph/V/Hz	
16/EF1	15th floor roof fan plantroom	Bathroom extract 4th - 13th floor	Centrifugal duty-standby	3.3	580	11.0	1000	3/415	External unit ducted inlet and outlet, spigots top access c/w autochangeover controller, AV mountings.
3/EF1	2nd floor roof	Bathroom extract 2nd basement L2	Centrifugal duty-standby	1.0	440	4	800	3/415	External unit ducted inlet and outlet, spigots top access c/w autochangeover controller, AV mountings.
3/EF2	2nd floor roof	General extract 2nd to basement L2	Axial	1.4	440	1.8	2861	3/415	Suitable for external location, c/w feet, mounting flanges, flexible connections and AV mountings.
B/L2	Plantroom	Smoke extract	Axial duty and standby	8.0	800	2 x 7.5	1445	3ph	Suitable for operating at 300 ⁰ C for 1 hour c/w feet, mounting flanges, flexible connections and AV mountings all suitable for 300 ⁰ C for 1 hour.

NOTES:

01 Twin toilet extract fans by Nu-Aire or equal.

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Ref No.	AHU1		
Location	2nd Floor Roof		
Description	General Supply		
Supply Fan:			
Volume m ³ /s	1.700		
Ext. Static Res.(PA)	375		
Fan Shaft Power (kW)			
Motor Power			
Fan Speed (rpm)			
Return Air Fan:			
Volume m ³ /s			
Ext. Static Res.(PA)			
Fan Shaft Power kW	N/A		
Motor Power kW			
Fan Speed RPM			
Filter:			
Panel (class)	EU3		
Bag (class)	EU6		
Frost Coil			
Temp. ON °C			
Temp. OFF °C	N/A		
Cooling Coil			
Temp. ON °C			
Temp. OFF °C	N/A		
Temp. OFF db °C			
Re-heat Coil			
Temp. ON °C	-4		
Temp OFF °C	+20		
Humidifier			
Duty (kg/hr)	N/A		
Mixing Box			
Fresh Air Vol (m ³ /s)			
Recirc. Vol (m ³ /s)	N/A		
Exhaust Vol (m ³ /s)			
General			
Inlet Damper	Yes (motorised)		
Septum Plates	No		
Heater Battery	Electrical		
	10 x 6kW steps		
Inlet weather cowl	No		
c/w birdscreen			
Filter manometers	Yes		
Fan AV's	Yes		
Discharge flex	Yes		
Side access	Yes		
Fully weatherproof	Yes		
Channel base	Yes		
Ducted F.A.I	Yes		

NOTES

01 Based on NuAire AHU

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REF	LOCATION	SENSIBLE OUTPUT		UNIT MODEL (Toshiba)	CONDENSOR UNIT	
		HEATING (KW)	COOLING (KW)		MODEL (Toshiba)	UNIT SIZE (W x D x H)
	<u>First Floor</u>					
1/HP1/2	Meeting Room	5 total	12.0 (S) 16.5 total	2No. Ceiling mounted cassette units (4 way). To be advised by supplier.	1No. External condenser To be advised by supplier	To be advised by supplier
G/HP1/2	Foyer	9 total	12.0 (S) 11.7 total	2No. Ceiling mounted cassette unit (4 way). To be advised by supplier.	To be advised by supplier.	To be advised by supplier.
G/HP3	Back Office	1.5	3.0 (S) 3.5 total	1No. Wall mounted unit. To be advised by supplier.	To be advised by supplier.	To be advised by supplier.
G/HP4	Back Office	1.5	3.0 (S) 3.5 total	1No. Wall mounted unit. To be advised by supplier.	To be advised by supplier.	To be advised by supplier.
NOTES: 1) All internal units shall be complete with a condensate lift pump (electrical supply provided locally by electrical contractor). 2) Ozone friendly refrigerant gas R407c shall be used. 3) Exact location of all equipment shall be agreed with the Architect. 4) The supplier of the air conditioning equipment shall also provide a full installation service including all refrigerant pipework, condensate drains, electrical wiring between external and internal units. Local electrical power supply shall be provided adjacent to the external condensers by the Electrical Contractor. 5) All systems shall be fully commissioned with separate visit for instruction to the Client.						
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