

MECHANICAL SERVICES EQUIPMENT SCHEDULES

Project Name:	Lower Campfield
Project No:	22_023
Revision	T02
Date	26/01/2024
Engineer	A.P.

MEP Schedule Ref.	Title	Revision	Date
1	EXTRACT FANS	T01	30/11/2023
2	ELECTRICAL WATER HEATERS	T01	30/11/2023
3	PUMPS	T01	30/11/2023
4	MVHR	T01	30/11/2023
5	ACU	T01	30/11/2023
6	GRILLES & DIFFUSERS	T01	30/11/2023
7	DESTRATIFICATION FANS	T01	30/11/2023
8	RADIANT PANELS	T01	30/11/2023
9	ATTENUATORS	T01	26/01/2024

Revision Summary			
Description	Revision	Date	
Tender Issue	T01	30/11/2023	
Tender Issue	T02	26/01/2024	

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Extract Fan Schedule
Schedule Ref:	MEP - SCH - 017
Revision	T01
Date	30/11/2023

Extract Fan Schedule	
Drawing Reference	EF 001
Location	GF WCs
System	Toilet Extract
Volume (m ³ /s)	0.03
External Resistance (Pa)	150
Model	KV DUO 150 AC Centrifugal Duct Fan
Power (W)	145
Voltage (V)	230
Motor	AC
Inverter	No

Extract Fan Schedule	
Drawing Reference	EF 002
Location	GF Kitchen Waste Holding Room
System	Toilet Extract
Volume (m ³ /s)	0.11
External Resistance (Pa)	150
Model	KV DUO 200 AC Centrifugal Duct Fan
Power (W)	145
Voltage (V)	230
Motor	AC
Inverter	No

Extract Fan Schedule	
Drawing Reference	EF 003
Location	GF Cleaners Cupboard
System	Tea Point 01 Extract
Volume (m ³ /s)	0.03
External Resistance (Pa)	150
Model	KV DUO 200 AC Centrifugal Duct Fan
Power (W)	145
Voltage (V)	230
Motor	AC

Extract Fan Schedule	
Drawing Reference	EF 004
Location	GF Boiler Plant
System	Toilet Extract
Volume (m ³ /s)	0.13
External Resistance (Pa)	150
Model	KV DUO 250 AC Centrifugal Duct Fan
Power (W)	155
Voltage (V)	230
Motor	AC
Inverter	No

Extract Fan Schedule	
Drawing Reference	EF 005
Location	Mezzanine Level Communal WCs
System	Toilet Extract
Volume (m ³ /s)	0.05
External Resistance (Pa)	150
Model	KV DUO 200 AC Centrifugal Duct Fan
Power (W)	145
Voltage (V)	230
Motor	AC

Extract Fan Schedule	
Drawing Reference	EF 006
Location	Mezzanine Level Teapoint 03
System	Kitchen Extract
Volume (m ³ /s)	0.03
External Resistance (Pa)	150
Model	KV DUO 150 AC Centrifugal Duct Fan
Power (W)	145
Voltage (V)	230
Motor	AC

Extract Fan Schedule	
Drawing Reference	EF 007
Location	Mezzanine Level WCs
System	Toilet Extract
Volume (m ³ /s)	0.09
External Resistance (Pa)	150
Model	KV DUO 200 AC Centrifugal Duct Fan
Power (W)	145
Voltage (V)	230
Motor	AC

Extract Fan Schedule	
Drawing Reference	EF 008
Location	GF Prep Kitchen
System	Kitchen Extract
Volume (m ³ /s)	-
External Resistance (Pa)	-
Model	To be selected by Contractor following Catering Canopy design.
Power (W)	-
SFP (W/l/s)	-
Voltage (V)	-
Motor	-

Extract Fan Schedule	
Drawing Reference	EF 009
Location	Mezzanine Level Meeting Rooms, Offices & Work suites
System	Office Extract
Volume (m ³ /s)	-
External Resistance (Pa)	-
Model	LO-CARBON T-SERIES
Power (W)	-
SFP (W/l/s)	-
Voltage (V)	230
Motor	AC

Notes:

- 1.0 Equipment based on Vent Axia or equal and approved.
- 2.0 Refer to accompanying drawings for locations.

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Electric Water Heater
Schedule Ref.	MEP - SCH - 02
Revision	T01
Date	30/11/2023

Ref	System	Capacity (L)	Size (W x D x H)	Model	Weight (Kg)	Manufacturer
-	Local Heating	10	350 x 265 x 480	Aquapoint III	18	ZIP

Notes:

- 1.0 Equipment based on ZIP
- 2.0 The equipment shall be installed to the manufacturers recommendations.
- 3.0 This schedule shall be read in conjunction with the Engineering Specification.
- 4.0 Each Calorifier shall be complete with Primary f&r conns., Secondary flow and Cold Feed with spreader tee, Secondary return, Pressure/Temperature relief, Anti-vacuum valve, 4x15 thermostat boss (1 under coil bundle), 100 dia pressure gauge, 100 dia temperature gauge, 20 hose union drain cock, 300 inspection opening.
- 5.0 Each Calorifier shall be complete with a minimum of 50mm thick glass fibre insulation and metal casing.
- 6.0 Each Calorifier shall have removable copper U-tube battery with tubes expanded into RNB plate with CI or m/s header.
- 7.0 Each Calorifier shall be complete with an unvented kit comprising expansion vessel, Expansion relief valve, expansion isolating valve, isolating valve, strainer, pressure reducing valve and non return valve
- 8.0 Primary Flow 80 deg C Primary Return 60 deg C

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Pump Schedule
Schedule Ref.	MEP - SCH - 03
Revision	T01
Date	30/11/2023

Drawing Reference	ASHP 01
Manufacturer	Daikin
Location	GF Plantroom
System	Heating
Product reference	EWYT175B-SRA1
Heating Capacity	137.8kW
Sound Pressure Level (dB _A)	67.2
Electrical Requirements	400v, 50Hz, 3p

Drawing Reference	WSHP 01
Manufacturer	Daikin
Location	GF Plantroom
System	Heating
Product reference	EWWH110J-SS+OP189+OP111
Heating Capacity	178.5kW
Sound Pressure Level (dB _A)	79
Electrical Requirements	400v, 50Hz, 3p

Notes:

- 1.0 Equipment based on Daikin or equal and approved.
- 2.0 Pumps to be complete with manufacturers matching Stainless steel tied flexible connections.
- 3.0 Noise breakout from unit shall be limited to 65 db(A) at 1m.
- 4.0 Pump External resistances are Provisional and are based on Design Drawings. They shall be confirmed by the Contractor once Co-ordinated drawings are available.
- 5.0 The pump inverters shall be LON devices and shall 'sit on' the BMS network and be an integral part of the BMS network. All of the inverter outputs, signals, alarms, etc shall be transmitted to the BMS front end. The actual points to be displayed on the front end graphics shall be determined by the Controls Specialist and University Estates Department.

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	MVHR Schedule
Schedule Ref.	MEP - SCH - 04
Revision	T01
Date	30/11/2023

Drawing Reference	Room Name	Model Reference	Design Volume (m3/s)	External Resistance (Pa)	Electrical Supply (W/V/ph/hz)	SFP (w/m3/s)	Dimensions mm (L x W x H)
MVHR 01	Office 01	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 02	Office 02	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 03	Office 03	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 04	Office 04	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 05	Office 05	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 06	Office 06	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 07	Office 07	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 08	Office 08	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 09	Office 09	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 10	Office 10	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 11	Office 11	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 12	Office 12	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404
MVHR 13	Office 13	Lossnay LGH-80RVX-E	0.160	150	230V/1ph/50hz	1.3	1144 x 1004 x 404

Notes:

- 1.0 Equipment based On Mitsubishi Electric via Pacair or equal and approved. Please contact Stuart Law (stuart@pacair.co.uk / 07875 195 572)
- 2.0 The equipment shall be installed to the manufacturers recommendations.
- 3.0 Units to be Eurovent Certified Energy Efficiency Class A.
- 4.0 Units to be fitted with stepless EC motors.
- 5.0 Units to have a temperature efficiency dry of no less than 85%

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Air Conditioning Schedule
Schedule Ref.	MEP - SCH -05
Revision	T01
Date	30/11/2023

OUTDOOR UNIT				
Outdoor Unit Ref	Location	System	COP / EER / SCOP / SEER	Comments
Samsung AM260AXVGGR / EU	LHS Ground Floor Plantroom	Office Air Conditioning		For Indoor Units please see Ventilation DWG
Samsung AM260AXVGGR / EU	RHS Ground Floor Plantroom	Office Air Conditioning		For Indoor Units please see Ventilation DWG
Samsung AC100BXAPKG /EU	RHS Ground Floor Plantroom	Kitchen Air Conditioning		
Samsung AC035RXADKG/EU	LHS Ground Floor Plantroom	Comms Room		
Samsung AC035RXADKG/EU	LHS Ground Floor Plantroom	Comms Room		

INDOOR UNIT			
Room	Model Reference	Manufacturer	Total Duty (kW) Heating / Cooling (Design Values)
GF Comms Room	AC035TNXDKG/EU	Samsung	4.0 / 3.5
GF Comms room	AC035TNXDKG/EU	Samsung	4.0 / 3.5
GF Kitchen	AC100BNTPKG/EU	Samsung	10.8 / 9.5

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Air Conditioning Schedule
Schedule Ref.	MEP - SCH -05
Revision	T01
Date	30/11/2023

Notes:

- 1.0 Equipment based On Samsung equal and approved.
- 2.0 **Plant needs to be run on low power mode to meet the acoustic criteria of the project (as set out in the acoustic report by Sandy Brown). Low power mode limits the output of the unit, the contractor must be aware and take this into consideration for any equal or approved selections.**
- 3.0 All equipment to use refrigerant R410A or R32.
- 4.0 Indoor units selected to give NR 35 in the space.
- 5.0 Outdoor units selected to give 51dBA.
- 6.0 All control wiring between internal and external units by manufacturer.
- 7.0 All pipework and control wiring to be run on cable tray and/or basket.
- 8.0 Units shall operate on a timed basis to suit the occupancy profile of the individual rooms
- 9.0 Each indoor unit shall be complete with cleanable and/or washable filter.
- 10.0 Each indoor unit shall be complete with a condensate pump and level switch to alarm on high level and switch off the indoor unit.
- 11.0 Each indoor unit shall be temperature controlled by a return air sensor located at ceiling level within the space.
- 12.0 Each Fan Coil unit to be supplied with manufacturers discreet temperature sensor

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Grilles and Diffusers Schedule
Schedule Ref.	MEP - SCH - 06
Revision	T01
Date	30/11/2023

Ref	Room No.	Room Name	Volume (m ³ /s)	Throw (m)	Direction	Type	Max Pressure Drop (Pa)	Max NC Level
EG 01		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 02		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 03		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 04		GF Tea Point	0.03	Note 8.0	Note 8.0	Air Valve	25	25
EG 05		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 06		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 07		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 08		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 09		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 10		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 11		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 12		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 13		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 14		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 15		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 16		GF Tea Point	0.03	Note 8.0	Note 8.0	Air Valve	25	25
EG 17		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 18		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 19		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 20		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 21		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 22		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 23		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 24		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 25		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 26		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 27		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 28		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 29		GF	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 30		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 31		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 32		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 33		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 34		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 35		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 36		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 37		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 38		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 39		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 40		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 41		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 42		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 43		Mezz	0.01	Note 8.0	Note 8.0	Air Valve	25	25
EG 44		Mezz Tea Point	0.03	Note 8.0	Note 8.0	Air Valve	25	25

Notes:

- 1.0 Equipment based on Gilberts or equal and approved.
- 2.0 The equipment shall be installed in accordance with the manufacturers' recommendations.
- 3.0 All grilles and diffusers shall be complete with opposed blade volume control damper.
- 4.0 all supply diffusers shall have four way Louvre faced blanked to give actual throw required with four way appearance.
- 5.0 All extract grilles shall be four way Louvred Faced – The larger volumes must be 525x525 Active neck size to achieve the correct performance for the duty.
- 6.0 All grilles and diffusers shall be finished in polyester powder paint to colour to be advised by Interior Designer.
- 7.0 All grilles and diffusers shall be complete with acoustically lined plenum box to give duct connection and neck size as shown. Orientation of duct spigot (side/top/angled) determined by Mechanical Contractor subject to his co-ordinated working drawings.
- 8.0 Mechanical Contractor to confirm direction and distance of throw once he has produced co-ordinated drawings and offer diffuser selections for comment.

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Extract Fan Schedule
Schedule Ref:	MEP - SCH - 07
Revision	T01
Date	30/11/2023

Destratification Fan	
No.	8
Location	Mezzanine Level
System	Air Distribution
Manufactures Reference	Airmax 400, 5 blade HVLS MegaFans
Average Air Speed (m/s)	1.12
Fan Radius	4050mm

Notes:

- 1.0 Equipment based on MegaFan Technologies or equal and approved. Please contact Mark Oldham (Mark@megafans.co.uk / 07919 598545).
- 2.0 Refer to accompanying drawings for locations

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Radiant Panels
Schedule Ref.	MEP - SCH - 8
Revision	T01
Date	30/11/2023

RADIANT PANELS											
Ref	Product	Pce	Length (m)	Width (m)	Output (W)	Output Per m (W)	Temperatures (Heating)		Mass Flow (kg/h)	Empty Weight per panel (kg)	Operating weight per panel (kg)
							Flow	Return			
1.0	Zehnder ZFP 1050/14	3 pce	34	1.05	50893	493	75°C	65°C	2917.35	446	512
1.1	Zehnder ZFP 1050/14	3 pce	34	1.05	50893	493	75°C	65°C	2917.35	446	512
1.2	Zehnder ZFP 1050/14	3 pce	28	1.05	42017	493	75°C	65°C	2408.53	368	422.6
1.3	Zehnder ZFP 1050/14	3 pce	28	1.05	42017	493	75°C	65°C	2408.53	368	442.6

Notes:

1.0 Selections are based on Zehnder Group UK Limited. Please contact Alex McDonald on 07795361643 or Alex.McDonald@zehndergroup.com

Project Name	Lower Campfield
Project No.	22_023
Schedule Title	Attenuators
Schedule Ref.	MEP - SCH - 9
Revision	T02
Date	26/01/2024

Drawing Reference	Loaction	Model Reference	Attenuator Dimensions (mm)				PD Pa	Duct Dimensions (mm)	Volume (m3/s)
			W	H	L2/ID	L			
ATT 01	GF Toilets	PL G			150	900	5	150ø	0.030
ATT 02	GF Toilets	SL GE	280	205	150	900	10	150ø	0.030
ATT 03	GF Cooler Plant	PL G			150	900	5	150ø	0.010
ATT 04	GF Cooler Plant	SL GE	280	205	150	900	10	150ø	0.010
ATT 05	GF Corridor	PL G			224	900	5	225ø	0.020
ATT 06	GF Corridor	PL G			224	900	5	225ø	0.020
ATT 07	GF Office	SL GE	365	280	224	900	10	225ø	0.020
ATT 08	GF Office	SL GE	365	280	224	900	10	225ø	0.020
ATT 09	GF Toilets	PL G			200	900	5	200ø	0.110
ATT 10	GF Toilets	SL GE	340	255	200	900	10	200ø	0.110
ATT 11	GF Cleaners Cupboard	PL G			150	900	5	150ø	0.030
ATT 12	GF Cleaners Cupboard	SL GE	280	205	150	900	10	150ø	0.030
ATT 13	GF Boiler Plant	PL G			200	900	5	200ø	0.130
ATT 14	GF Boiler Plant	SL GE	340	255	200	900	15	200ø	0.130
ATT 15	FF Toilets	PL G			150	900	5	150ø	0.050
ATT 16	FF Toilets	SL GE	280	205	150	900	10	150ø	0.050
ATT 17	FF Toilets	PL G			200	900	5	200ø	0.090
ATT 18	FF Toilets	SL GE	340	255	200	900	10	200ø	0.090
ATT 19	FF Teapoint	PL G			150	900	5	150ø	0.030
ATT 20	FF Teapoint	SL GE	280	205	150	900	10	150ø	0.030

Notes:

- 1.0 Equipment based On Allaway acoustics or equal and approved. Please contact Andy Smith on 07720290589
- 2.0 Should any of the attenuated plant selections change, the Mechanical Contractor shall reselect the attenuators.