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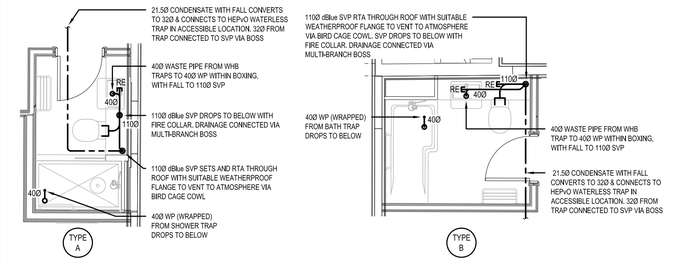
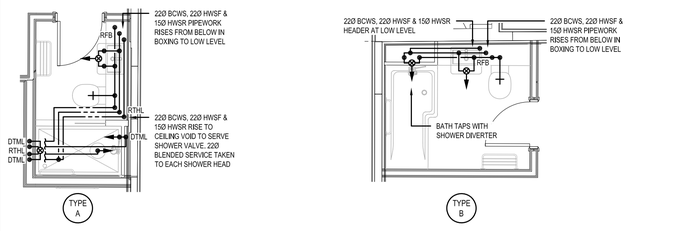
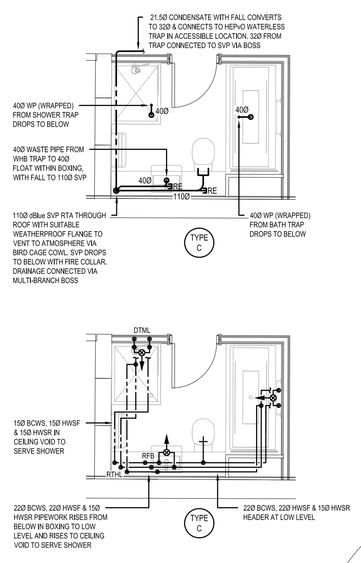
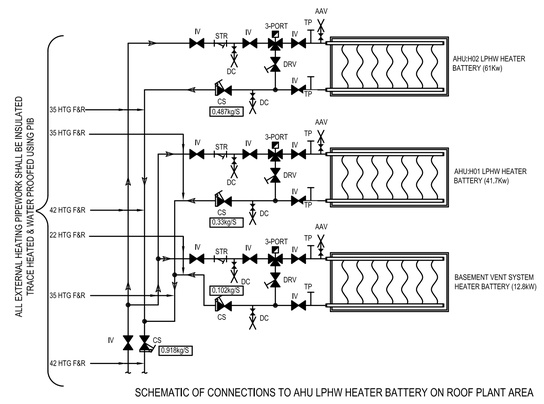


SHOWER ROOM ABOVE GROUND DRAINAGE LAYOUT



SHOWER ROOM DOMESTIC SERVICES LAYOUT





SCHEMATIC OF CONNECTIONS TO AHU LPHW HEATER BATTERY ON ROOF PLANT AREA

LEGEND

HEATING & COOLING SERVICES

- PIPEWORK IN CEILING VOID
- PIPEWORK AT HIGH LEVEL
- PIPEWORK AT LOW LEVEL
- RADIATOR
- BC:H001 — VRF BRANCH CONNECTOR BOX WITH PRIMARY PIPE WORK CONNECTIONS AND MULTIPLE SECONDARY PIPE WORK CONNECTIONS
- FC:H004 — CHASSIS COMFORT COOLING AND HEATING UNIT SERVED BY BRANCH CONNECTOR BOX. GRAVITY CONDENSATE ROUTED TO LOCAL WASTE PIPE
- SG:H01 — ONE-WAY THROW AIR DIFFUSER FLUSH MOUNTED TO THE UNDERSIDE OF THE MF CEILING, COMPLETE WITH PLENUM & SPIGOT CONNECTION
- EG:H01 — ONE-WAY PULL AIR RETURN GRILLE FLUSH MOUNTED TO THE UNDERSIDE OF THE MF CEILING
- AP — CEILING ACCESS PANEL FLUSH MOUNTED TO THE MF CEILING, NOMINAL 450x450 CLEAR OPENING
- FC — VRF FLUSH WALL MOUNTED CONTROLLER

LEGEND

DOMESTIC SERVICES

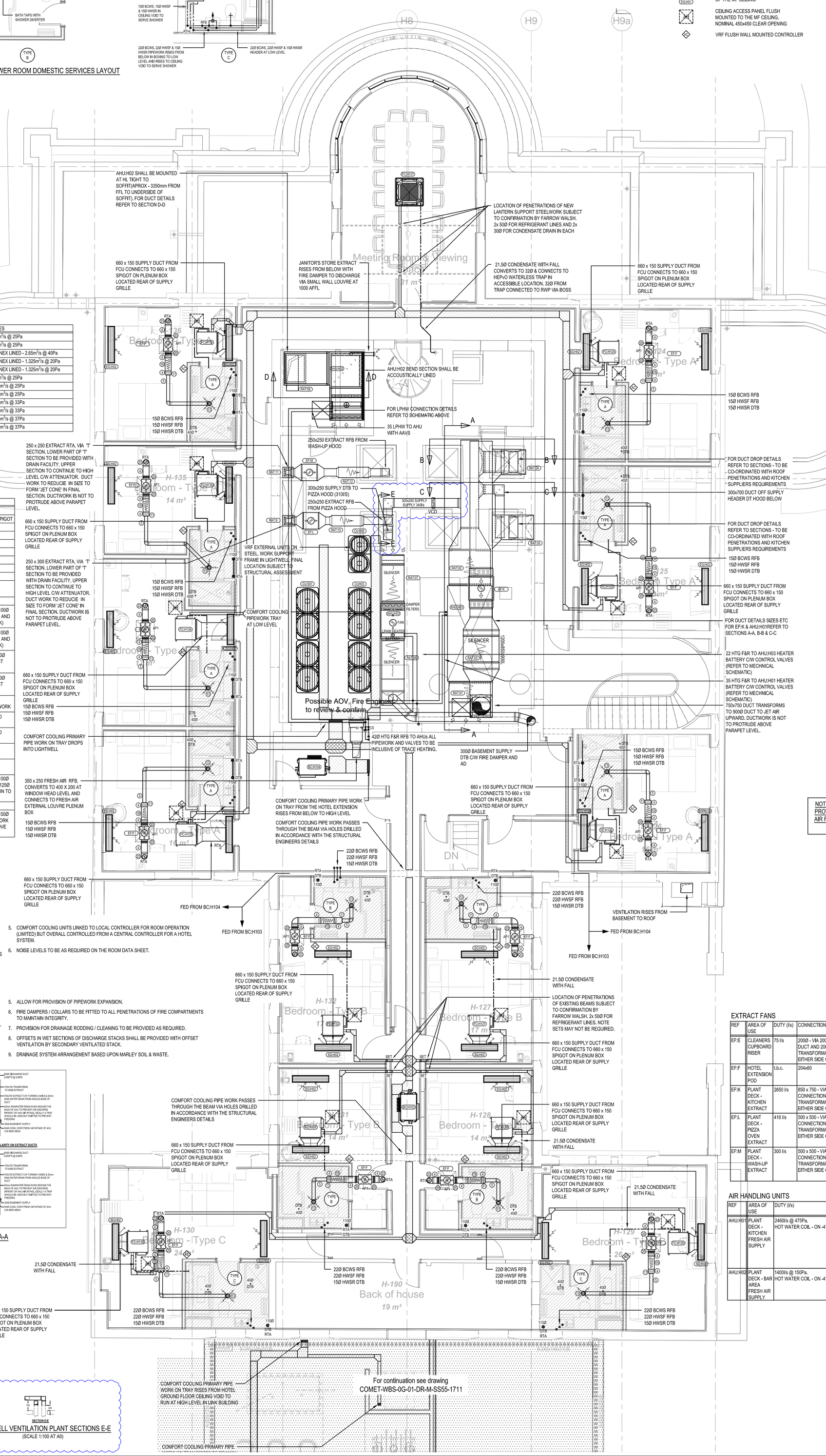
- PIPEWORK IN CEILING VOID
- PIPEWORK AT HIGH LEVEL
- PIPEWORK AT LOW LEVEL
- PIPEWORK BELOW FLOOR / IN FLOOR DUCT
- WATER OUTLET POINT
- WATER CONNECTION TO CISTERN
- IV — ISOLATION VALVE
- RV — REGULATING VALVE
- TMV3 — TMV3 THERMOSTATIC MIXING VALVE WITH BLENDED OUTLET TO BASIN TAP
- TMV3 — TMV3 THERMOSTATIC MIXING TAP OR SHOWER VALVE BY MAIN CONTRACTOR

ABOVE GROUND DRAINAGE

- SOIL PIPE AT LOW LEVEL WITH FALL
- WASTE PIPE AT LOW LEVEL WITH FALL
- SOIL PIPE AT HIGH LEVEL IN CEILING VOID BELOW WITH FALL
- WASTE PIPE AT HIGH LEVEL IN CEILING VOID BELOW WITH FALL
- SOIL / WASTE PIPE DROPPING TO BELOW
- DRAINAGE CONNECTION FROM SINK / WHB / APPLIANCE
- WC PAN CONNECTION
- CE — CLEANING / RODDING EYE ACCESS POINT
- FG — FLOOR GULLY - FINAL LOCATIONS TO SUIT EQUIPMENT REQUIREMENTS AND FLOOR GRADIENT.

MISCELLANEOUS

DTLL	DROP TO LOW LEVEL
DTB	DROP TO BELOW
DTM	DROP TO MID-LEVEL
RTA	RISE TO ABOVE
RFB	RISE FROM BELOW
DTD	DROP TO DRAIN



PLANT DECK SILENCERS

REF	LOCATION	SIZE (WxDxL)	MODEL	NOTES
RAT:01	AHU:H01 FRESH AIR INTAKE	825x825x900	WP22/6P	2.46m³/s @ 25Pa
RAT:02	AHU:H01 SUPPLY AIR	1040x1390x600	WP23/10P	2.46m³/s @ 25Pa
RAT:03	EF:K EXTRACT DISCHARGE	1200x650x900	WP/24/9P	MELINEX LINED - 2.65m³/s @ 40Pa
RAT:04	EF:K EXTRACT KITCHEN SIDE 1	825x825x900	WP23/9MP	MELINEX LINED - 1.325m³/s @ 20Pa
RAT:05	EF:K EXTRACT KITCHEN SIDE 2	825x825x900	WP23/9MP	MELINEX LINED - 1.325m³/s @ 20Pa
RAT:06	AHU:H02 SUPPLY AIR	900x6001200	WP24/12P	0.41m³/s @ 25Pa
RAT:07	AHU:H03 FRESH AIR INTAKE	750x450x1200	WP23/12P	0.437m³/s @ 25Pa
RAT:08	AHU:H03 SUPPLY AIR	750x450x1200	WP23/12P	0.437m³/s @ 25Pa
RAT:09	EF:L EXTRACT DISCHARGE	325x300x600	WP24/6P	0.410m³/s @ 33Pa
RAT:10	EF:L EXTRACT KITCHEN SIDE	325x300x900	WP24/6P	0.410m³/s @ 33Pa
RAT:11	EF:M EXTRACT DISCHARGE	300x300x600	WP25/6MP	0.300m³/s @ 37Pa
RAT:12	EF:M EXTRACT KITCHEN SIDE	300x300x600	WP25/9MP	0.300m³/s @ 37Pa

NOTES
1. AS MANUFACTURED BY WATERLOO AND SUPPLIED BY AIR SYSTEMS
2. ALL TO BE SITE MEASURED PRIOR TO ORDER
3. ALL KITCHEN EXTRACT SILENCERS SHALL BE MELINEX LINED

DUCTWORK SIZE, TYPE AND DESCRIPTION TABLE

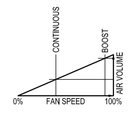
ITEM	SIZE	MATERIAL	DESCRIPTION
1	220x90 TX PLENUM	GALV STEEL	MANUFACTURED PLENUM WITH 220x90 SPIGOT
2	204x60 TX PLENUM	GALV STEEL	MANUFACTURED PLENUM WITH 220x90 & 204x60 SPIGOT
3	220x90	PLASTIC	DUCTWORK
4	204x60	PLASTIC	DUCTWORK
5	110x54	PLASTIC	DUCTWORK
6	110x54	PLASTIC	DUCTWORK
7	220x90	PLASTIC	EQUAL T-PIECE
8	204x60	PLASTIC	EQUAL T-PIECE
9	220x90 TX 204x60	PLASTIC	TRANSFORMATION PIECE
10	220x90 TX 121x60 TX 110x54	PLASTIC	TRANSFORMATION PIECES
11	204x60 TX 110x54	PLASTIC	TRANSFORMATION PIECE
12	204x60 TX 100Ø	PLASTIC	TRANSFORMATION VIA FLAT ELBOW BEND WITH 100Ø SPIGOT TO 100Ø ACOUSTIC FLEXIBLE DUCTWORK AND CONNECTION TO 125Ø EXHAUST VALVE (97Ø NECK)
13	110x54 TX 100Ø	PLASTIC	TRANSFORMATION VIA FLAT ELBOW BEND WITH 100Ø SPIGOT TO 100Ø ACOUSTIC FLEXIBLE DUCTWORK AND CONNECTION TO 125Ø EXHAUST VALVE (97Ø NECK)
14	110x54 TX 100Ø	PLASTIC	TRANSFORMATION TO VERTICALLY INSTALLED 100Ø ACOUSTIC FLEXIBLE DUCTWORK TO POD EXHAUST VALVE (100Ø NECK)
15	110x54 TX 100Ø	PLASTIC	TRANSFORMATION TO VERTICALLY INSTALLED 100Ø ACOUSTIC FLEXIBLE DUCTWORK TO POD EXHAUST VALVE (100Ø NECK)
16	204x60 SET	PLASTIC	DUCTWORK SETS DOWN VIA 2No. 45° BENDS AND SHORT LENGTH OF DUCTWORK TO AVOID STEELWORK
17	220x90 ATTENUATOR	PLASTIC	INLINE ATTENUATOR WITH SOCKETS AT EACH END FOR 220x90 DUCTS
18	204x60 ATTENUATOR	PLASTIC	INLINE ATTENUATOR WITH SOCKETS AT EACH END FOR 204x60 DUCTS
19	220x90 FLEXIBLE CONNECTOR	PLASTIC	SHORT DUCT AND FLEXIBLE DUCT CONNECTION WITH SOCKETS AT EACH END FOR 220x90 DUCTS
20	204x60 FLEXIBLE CONNECTOR	PLASTIC	SHORT DUCT AND FLEXIBLE DUCT CONNECTION WITH SOCKETS AT EACH END FOR 204x60 DUCTS
21	110x54 TX 125Ø	PLASTIC	TRANSFORMATION VIA FLAT ELBOW BEND WITH 100Ø SPIGOT FITTED WITH 100Ø TO 125Ø ADAPTOR TO 125Ø ACOUSTIC FLEXIBLE DUCTWORK AND CONNECTION TO POD EXHAUST VALVE (125Ø NECK)
22	204x60 TX PLENUM	METAL	MANUFACTURED PLENUM WITH 204x60 SPIGOT
23	204x60 TX 150Ø	PLASTIC	TRANSFORMATION VIA FLAT ELBOW BEND WITH 150Ø SPIGOT TO VERTICALLY INSTALLED 150Ø DUCTWORK TO ROOF PENETRATION. DUCT TO FINISH 200 ABOVE ROOF LEVEL WITH MUSHROOM VENT COWL

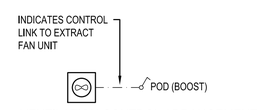
LEGEND

VENTILATION SERVICES

- IN-LINE DUCTED FAN
- IN-LINE ATTENUATOR
- WALL MOUNTED FAN
- EXHAUST AIR OUTLET LOUVRE
- VENTILATION DUCTWORK
- EXTRACT AIR TERMINAL
- POD EXTRACT VALVE PROVIDED BY POD SUPPLIER (CONNECTION BY CONTRACTOR)
- EXTRACT VENTILATION CONTROL SWITCH FOR BOOST FUNCTION
- EXTRACT VENTILATION CONTROL SWITCH FOR PURGE / OVERHEAT FUNCTION
- EXTRACT AIR GRILLE
- EF:A — EXTRACT FAN REFERENCE
- EV:E5 — EXTRACT VALVE REFERENCE
- 13 — DUCTWORK COMPONENT REFERENCE - SEE TABLE
- AP1 — FLUSH PLASTERBOARD MOUNTED HINGED ACCESS PANEL (600x600)

NOTE: PURGE VENTILATION TO ROOMS TO BE PROVIDED BY OPENABLE WINDOWS. MAKE-UP AIR FOR OTHER VENTILATION CONDITIONS VIA ACOUSTIC TRICKLE VENTS





VENTILATION CONTROL ARRANGEMENT HOTEL ROOM

EXTRACT VALVES

REF	AREA OF USE	DUTY (l/s)	FACE SIZE (mm)	NECK SIZE (mm)	MODEL	COMMENTS
EV:07	HOTEL POD	t.b.c.	n/a	125Ø	n/a	BY OSS (PART OF POD)
EV:08	HOTEL ACC. SHR	t.b.c.	125Ø	97Ø	VB	BY AIR SYSTEMS
EV:09	ACC. WC	19 l/s	160Ø	125Ø	VB	BY AIR SYSTEMS

EXTRACT FANS

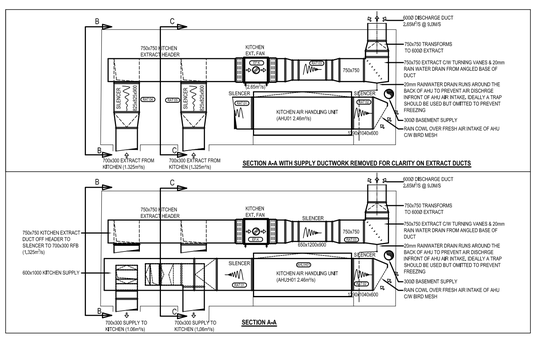
REF	AREA OF USE	DUTY (l/s)	CONNECTION SIZE (mm)	MODEL	LOUVRE	COMMENTS
EF:E	CLEANERS CUPBOARD RISER	75 l/s	200Ø - VIA 200Ø FLEXIBLE DUCT AND 200Ø TO 220x90 TRANSFORMATION PIECE EITHER SIDE OF FAN	VECTAIRE AIRBOX 220 C/W THM TEMPERATURE CONTROLLED FAN SPEED RAMP-UP & MATCHING ATTENUATOR	BIRD MESH GRILLE ON END OF SUITABLY WEATHER PROTECTED DUCT	BY AIR SYSTEMS
EF:F	HOTEL EXTENSION POD	t.b.c.	204x60	VECTAIRE MICROBOX 125/2DC C/W MATCHING ATTENUATOR (item 18)	INTEGRATED WITH WINDOW HEAD	BY AIR SYSTEMS
EF:K	PLANT DECK - KITCHEN EXTRACT	2650 l/s	850 x 750 - VIA FLEXIBLE CONNECTION AND TRANSFORMATION PIECE EITHER SIDE OF FAN	SILC56-34/WP	NA	BY AIR SYSTEMS
EF:L	PLANT DECK - PIZZA OVEN EXTRACT	410 l/s	500 x 500 - VIA FLEXIBLE CONNECTION AND TRANSFORMATION PIECE EITHER SIDE OF FAN	SILC35-34/WP	NA	BY AIR SYSTEMS
EF:M	PLANT DECK - WASH-UP EXTRACT	300 l/s	500 x 500 - VIA FLEXIBLE CONNECTION AND TRANSFORMATION PIECE EITHER SIDE OF FAN	SILC35-34/WP	NA	BY AIR SYSTEMS

AIR HANDLING UNITS

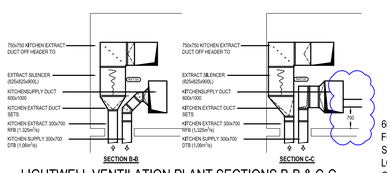
REF	AREA OF USE	DUTY (l/s)	SECTIONS	COMMENTS
AHU:H01	PLANT DECK - KITCHEN FRESH AIR SUPPLY	2460l/s @ 475Pa. HOT WATER COIL - ON -4°C OFF 16°C	INLET SECTION WITH COWL HOT WATER COIL PANEL FILTER FAN BAG FILTER ATTENUATOR OUTLET SECTION	BY AIR SYSTEMS
AHU:H02	PLANT DECK - BAR AREA FRESH AIR SUPPLY	1400l/s @ 150Pa. HOT WATER COIL - ON -4°C OFF 20°C	INLET SECTION WITH COWL PANEL FILTER HOT WATER COIL FAN OUTLET SECTION	BY AIR SYSTEMS

VENTILATION AND COMFORT COOLING/HEATING NOTES:
1. THE DRAWING CONTAINS INFORMATION FROM MORE THAN ONE SOURCE AND MUST BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS & ROOM DATA SHEETS.
2. ALLOW FOR PROVISION OF PIPEWORK EXPANSION.
3. FIRE DAMPERS / COLLARS TO BE FITTED TO ALL PENETRATIONS OF FIRE COMPARTMENTS TO MAINTAIN INTEGRITY.
4. ALL SLEEPING ACCOMMODATION WITH VRF SYSTEM SHALL BE PROVIDED WITH A REFRIGERANT LEAKAGE DETECTION SYSTEM, CONTROLLED FROM A CENTRALISED PANEL.
5. COMFORT COOLING UNITS LINKED TO LOCAL CONTROLLER FOR ROOM OPERATION (LIMITED) BUT OVERALL CONTROLLED FROM A CENTRAL CONTROLLER FOR A HOTEL SYSTEM.
6. NOISE LEVELS TO BE AS REQUIRED ON THE ROOM DATA SHEET.

DOMESTIC SERVICES AND ABOVE GROUND DRAINAGE NOTES:
1. THE DRAWING CONTAINS INFORMATION FROM MORE THAN ONE SOURCE AND MUST BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS & ROOM DATA SHEETS.
2. ISOLATION & REGULATION VALVES TO BE PROVIDED AT ALL SUB BRANCH RISERS. ALL VALVED BRANCH CONNECTIONS TO BE AS SHORT AS POSSIBLE TO PREVENT DEAD LEGS.
3. CONNECTIONS TO THE SANITARY WARE ITEMS AND SINKS SHALL BE INCLUSIVE OF 'BALLOFIX' TYPE ISOLATION VALVES WITH ¼ TURN LEVER HANDLES (POSITIONED TO FREELY ROTATE) .
4. ALL EXPOSED PIPEWORK TO BE CHROMIUM PLATED.
5. ALLOW FOR PROVISION OF PIPEWORK EXPANSION.
6. FIRE DAMPERS / COLLARS TO BE FITTED TO ALL PENETRATIONS OF FIRE COMPARTMENTS TO MAINTAIN INTEGRITY.
7. PROVISION FOR DRAINAGE RODDING / CLEANING TO BE PROVIDED AS REQUIRED.
8. OFFSETS IN WET SECTIONS OF DISCHARGE STACKS SHALL BE PROVIDED WITH OFFSET VENTILATION BY SECONDARY VENTILATED STACK.
9. DRAINAGE SYSTEM ARRANGEMENT BASED UPON MARLEY SOIL & WASTE.

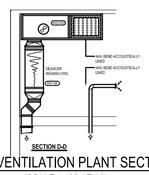


LIGHTWELL VENTILATION PLANT SECTION A-A
(SCALE 1:100 AT A0)



LIGHTWELL VENTILATION PLANT SECTIONS B-B & C-C
(SCALE 1:100 AT A0)

660 x 150 SUPPLY DUCT FROM FCU CONNECTS TO 660 x 150 SPIGOT ON PLENUM BOX LOCATED REAR OF SUPPLY GRILLE



LIGHTWELL VENTILATION PLANT SECTIONS D-D
(SCALE 1:100 AT A0)

LIGHTWELL VENTILATION PLANT SECTIONS E-E
(SCALE 1:100 AT A0)

xref produced from Architect's drawing: COMET-STL-00-ZZ-DR-A-ZZZZ-10042 Rev C139 26/11/2018
xref produced from Architect's drawing: COMET-STL-00-ZZ-DR-A-ZZZZ-10047 Rev C102 24/08/2018

NOTES:
1. REFER TO SERVICE SPECIFIC NOTES ABOVE & BELOW

HEATING NOTES
1. ALL HEATING HIGH POINTS SHALL HAVE AAVs & ALL LOW POINTS DCs
2. WHERE EVER THE PIPEWORK CROSSES AN ACCESS ROUTE A 'STEP-OVER' SHALL BE INSTALLED TO PROTECT THE WATERPROFFING & INSULATION FROM DAMAGE.

REV	DESCRIPTION	CHK'D	DATE
P8	PIZZA SUPPLY & EXTRACT COORDINATED WITH HALTON LATEST.	ALH	10.05.19
P7	SILENCERS AMENDED AND DUCTWORK ON ROOF PLANT AREA	BMcC	07.05.19
P6	AHU:H03 ADDED AND ASSOCIATED DUCT & PIPE WORK. GROUND FLOOR JANITOR'S STORE EXTRACT ADDED.	BMcC	15.04.19
P5	FRESH AIR DUCT WORK FROM HUR:H03 ON GROUND FLOOR ADDED	ALH	15.02.19
P4	EXTRACT THROUGH ROOF RELOCATED IN TWO LOCATIONS	ALH	13.02.19
P3	PROPOSED PLANT DECK LAYOUT AND ADDITIONAL SERVICES ADDED	ALH	11.01.19

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TITLE:
COMET HOTEL, HATFIELD
RETAINED HOTEL, LEVEL 01
MECHANICAL SERVICES

SCALE:	1:50@A0	CHECKED:	
DATE:	NOV 2018	QA:	
ENGINEER:	AK	AMBER PROJECT No:	B2713
DRAWN:	RC		

DRAWING No:
COMET | WBS | OH | 01 | DR | M | SS55 | 1811 | D3 | P8
PROJECT REF | ORIGINATOR | VOL | LEVEL | TYPE | ROLE | CLASS | NUMBER | SUIT | REV

A0 Original Sheet Size

PLOT DATE: 10.5.2019