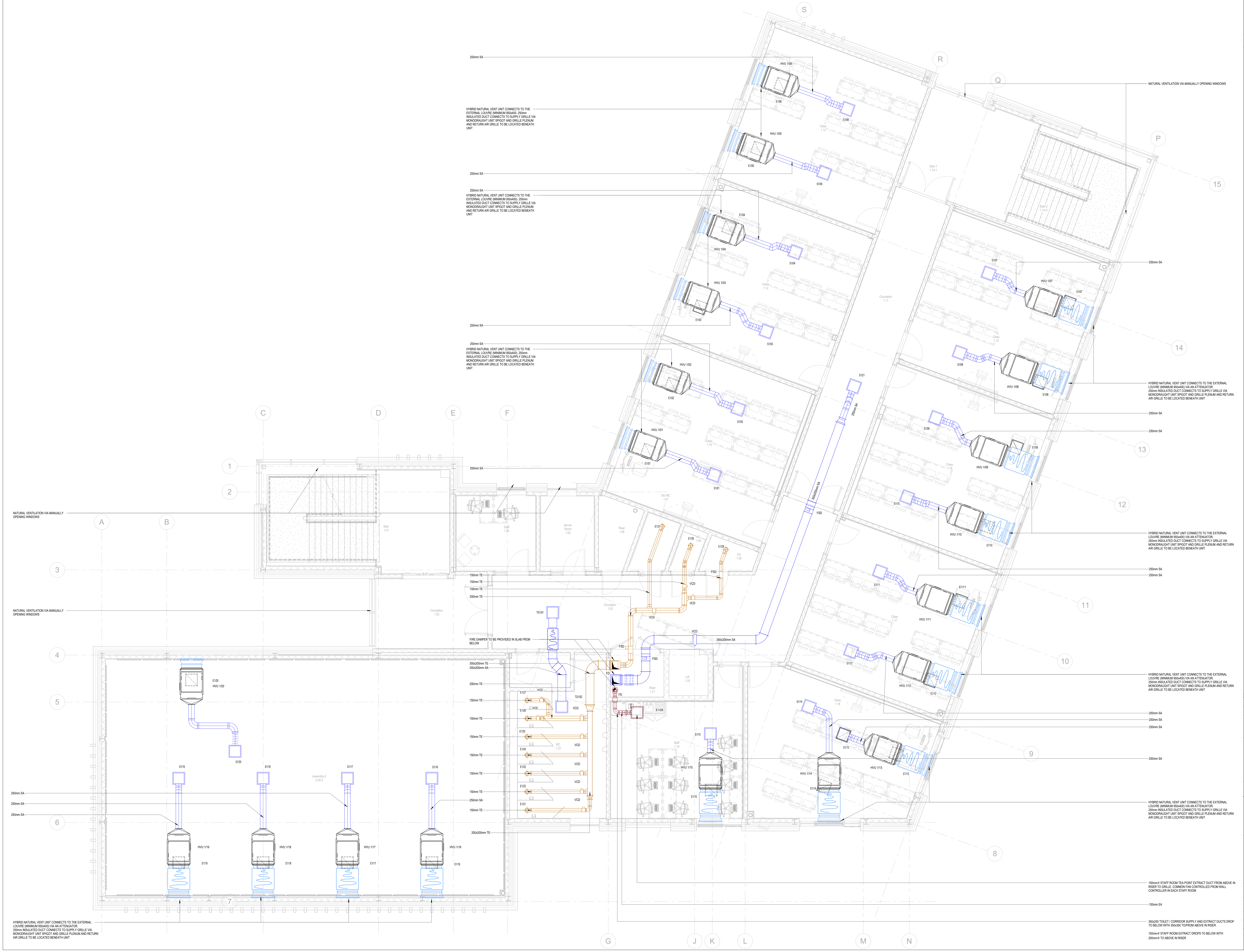
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400. 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
250mm SA
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400). 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
250mm SA
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400). 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
250mm SA
NATURAL VENTILATION VIA MANUALLY OPENING WINDOWS
NATURAL VENTILATION VIA MANUALLY OPENING WINDOWS
NATURAL VENTILATION VIA MANUALLY OPENING WINDOWS
150mm TE
150mm TE
150mm TE
200mm TE
FIRE DAMPER TO BE PROVIDED IN SLAB FROM BELOW
350x200mm TE
350x200mm SA
200mm TE
150mm TE
150mm TE
150mm TE
150mm TE
150mm TE
150mm TE
250mm SA
150mm TE
200x200mm TE
250mm SA
250mm SA
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400) VIA AN ATTENUATOR. 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400) VIA AN ATTENUATOR. 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
250mm SA
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400) VIA AN ATTENUATOR. 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
250mm SA
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400) VIA AN ATTENUATOR. 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
250mm SA
250mm SA
250mm SA
250mm SA
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400) VIA AN ATTENUATOR. 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
150mmØ STAFF ROOM TEA POINT EXTRACT DUCT FROM ABOVE IN RISER TO GRILLE. COMMON FAN CONTROLLED FROM WALL CONTROLLER IN EACH STAFF ROOM
150mm EA
350x250 TOILET / CORRIDOR SUPPLY AND EXTRACT DUCTS DROP TO BELOW WITH 350x350 TO/FROM ABOVE IN RISER.
150mmØ STAFF ROOM EXTRACT DROPS TO BELOW WITH 200mmØ TO ABOVE IN RISER
HYBRID NATURAL VENT UNIT CONNECTS TO THE EXTERNAL LOUVRE (MINIMUM 950x400) VIA AN ATTENUATOR. 250mm INSULATED DUCT CONNECTS TO SUPPLY GRILLE VIA MONODRAUGHT UNIT SPIGOT AND GRILLE PLENUM AND RETURN AIR GRILLE TO BE LOCATED BENEATH UNIT
HVU 1/01
HVU 1/02
HVU 1/03
HVU 1/04
HVU 1/05
HVU 1/06
HVU 1/07
HVU 1/08
HVU 1/09
HVU 1/10
HVU 1/11
HVU 1/12
HVU 1/13
HVU 1/14
HVU 1/15
HVU 1/16
HVU 1/17
HVU 1/18
HVU 1/19
HVU 1/20
TG1/01
TG1/02
E1/21
E1/22
E1/23
E1/24
E1/25
E1/26
E1/27
E1/28
VCD
FSD
FD
350x200mm SA
Staff 1.04
Server Room 1.05
Riser 1.06
Circulation 1.03
WC 1.23
S
R
Q
P
15
14
13
12
11
10
9
8
1
2
3
4
5
6
7
A
B
C
D
E
F
G
J
K
L
M
N

This drawing should not be scaled. Dimensions to be verified on site.
Any discrepancies should be referred to the Engineer prior to work being put in hand.

GENERAL NOTES

GENERAL

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS AND ALL OTHER DOCUMENTS ISSUED WITH THIS CONTRACT.
2. THIS DRAWING IS INTENDED TO ILLUSTRATE PERFORMANCE INFORMATION ONLY AND REFLECTS THE DESIGN INTENT OF THE INSTALLATION. THE DETAILED DESIGN OF THE SERVICES INSTALLATION SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
3. ON COMPLETION AND PRIOR TO HANDOVER, THE MECHANICAL CONTRACTOR SHALL PROVIDE 2 COPIES OF O&M MANUALS/AS FITTED DRAWINGS ETC. ILLUSTRATING ALL THE MECHANICAL SERVICES UNDERTAKEN AS PART OF THIS CONTRACT.
4. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE WBS MECHANICAL WORKMANSHIP SPECIFICATION AND THE MECHANICAL PARTICULAR SPECIFICATION ISSUED WITH THIS CONTRACT.
5. THE CONTRACTOR SHALL ENSURE ALL EQUIPMENT IS INSTALLED TO ALLOW ACCESS FOR INSTALLATION, COMMISSIONING, MAINTENANCE, CLEANING AND REMOVAL.
6. SERVICES ROUTES, FINAL PLANT LOCATIONS, SIZES AND NUMBERS SHOWN ON THIS DRAWING ARE INDICATIVE ONLY AND SUBJECT TO THE DETAIL DESIGN OF THE MECHANICAL SERVICES BY THE MECHANICAL CONTRACTOR.

MECHANICAL VENTILATION INSTALLATION

1. THE VENTILATION INSTALLATION SHALL BE INSTALLED IN ACCORDANCE WITH WBS MECHANICAL SPECIFIC SPECIFICATION, MECHANICAL WORKMANSHIP SPECIFICATION AND THE CURRENT BS/BS EN STANDARDS.
2. DUCTWORK SHALL GENERALLY BE GALVANISED STEEL WITH CIRCULAR PROFILE AND SPIRAL SEAMS OR RECTANGULAR.
3. ACCESS SHALL BE PROVIDED TO ALL DUCTWORK AND DUCT MOUNTED EQUIPMENT TO ALLOW FOR INSPECTION, MAINTENANCE AND COMMISSIONING IN ACCORDANCE WITH THE HVAC DW CURRENT STANDARDS AND CURRENT BS/BS EN STANDARDS.
4. VOLUME CONTROL DAMPERS SHALL BE INSTALLED TO ALL MAIN RUNS, BRANCHES ETC TO ALLOW FOR SYSTEM BALANCING. THE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE HVAC DW CURRENT STANDARDS AND CURRENT BS/BS EN STANDARDS.
5. ALL FINAL DUCTWORK CONNECTIONS TO DIFFUSERS AND GRILLES SHALL BE VIA FLEXIBLE DUCTING. MAXIMUM LENGTH FOR THIS CONNECTION SHALL BE 300MM.
6. THERMAL INSULATION SHALL BE APPLIED TO ALL DUCTWORK SERVICING WARM /COOLED SUPPLY AIR AND WHERE RETURN AIR IS UTILISED FOR HEAT RECOVERY. THE THERMAL INSULATION SHALL BE OF A THICKNESS, TYPE AND FINISH AS OUTLINED IN THE WBS MECHANICAL WORKMANSHIP SPECIFICATION.
7. ALL DUCTWORK AND EQUIPMENT SHALL BE ADEQUATELY SUPPORTED AS OUTLINED IN THE WBS MECHANICAL WORKMANSHIP SPECIFICATION. THE MECHANICAL CONTRACTOR SHALL ALLOW FOR ALL NECESSARY SECONDARY SUPPORT STEEL WORK AND BRACKETS ETC REQUIRED TO FULLY INSTALL ALL THE DUCTWORK AND EQUIPMENT ASSOCIATED WITH THE INSTALLATION.
8. DUCTWORK INSTALLATIONS SERVING THE KITCHEN ARE TO COMPLY WITH THE HVAC DW CURRENT STANDARDS AND CURRENT BS/BS EN STANDARDS.
9. DUCTWORK PASSING THROUGH FIRE COMPARTMENTS SHALL BE INSTALLED WITH FIRE DAMPER. THE FIRE DAMPER SHALL BE EQUAL TO OR EXCEED THE RATING OF THE ELEMENT THE DUCTWORK PASSES THOUGH.
10. UNLESS SPECIFIED OTHERWISE FIRE, DAMPERS SHALL BE OF THE MORTISE TYPE WITH A LINK TO THE FIRE ALARM SYSTEM. THE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH THE BUILDING CONTROL REQUIREMENTS, THE FIRE STRATEGY FOR THE BUILDING, WITH THE HVAC DW CURRENT STANDARDS AND CURRENT BS/BS EN STANDARDS.
11. THE USE OF DOOR TRANSFER GRILLES WITHIN FIRE PARTITIONS SHALL BE CONFIRMED WITH BUILDING CONTROL PRIOR TO THE ORDERING OF MATERIALS AND THEIR INSTALLATION.
12. UNLESS OTHERWISE INDICATED IN NONE FIRE RATED ELEMENTS GENERALLY DOORS TO TOILET AND STORE ROOM SHALL BE UNDERCUT TO ALLOW FOR THE PASSAGE OF MAKE-UP AIR INTO THE ROOM.
13. ALL INTAKE AIR INLETS AND EXHAUST OUTLETS ARE TO BE COMPLETE WITH A REMOVABLE INSECT MESH.
14. THE MECHANICAL CONTRACTOR SHALL INCLUDE FOR FULLY COMMISSIONING THE COMPLETE VENTILATION SERVICES INSTALLATION AS OUTLINED IN THE WBS MECHANICAL WORKMANSHIP SPECIFICATION. THIS SHALL INCLUDE BUT NOT LIMITED TO THE LEAK TESTING OF ALL DUCTWORK AND BALANCING OF THE COMPLETED INSTALLATION. INCLUDING A SEASONAL RE COMMISSIONING.
15. WHERE ATTENUATORS ARE SHOWN THESE SHALL BE SIZED TO MEET THE REQUIRED NR VALUES OUTLINED IN THE MECHANICAL PARTICULAR SPECIFICATION.
16. ALL DUCT MOUNTED FANS SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS ON THE INLET AND DISCHARGE SIDES.
17. ALL DUCT FANS SHALL BE INSTALLED WITH AAV MOUNTINGS.

ABBREVIATIONS

AHU	AIR HANDLING UNIT
EF	EXTRACT FAN
FCU	FAN COIL UNIT
FD	FIRE DAMPER
MCD	MOTORISED CONTROL DAMPER
VCD	VOLUME CONTROL DAMPER
SG	SUPPLY GRILLE
EG	EXTRACT GRILLE
TG	TRANSFER GRILLE
OSG	OUTDOOR SUPPLY GRILLE
OEG	OUTDOOR EXTRACT GRILLE
CBM	CHILLED BEAM
ATT	ATTENUATOR
CTA	CROSS TALK ATTENUATOR
MSD	MEASURING DEVICE
H/L	HIGH LEVEL
L/L	LOW LEVEL
F/B	FROM BELOW
T/B	TO BELOW
T/A	TO ABOVE
F/A	FROM ABOVE
SU / SD	SET UP / SET DOWN

VENTILATION LEGEND

SA	SUPPLY AIR
EA	EXTRACT AIR
TE	TOILET EXTRACT AIR

Rev	Date	Description	By	Chk
C01	24/09/24	Construction Issue	JB	NM

Amendments

Project
Loreto College

Title
Mechanical
Ventilation
First Floor Level Main Build

Client
Loreto College

PEL
Performance Electrical Ltd.
123 Radcliffe Road, Bury, BL9 9LD

MURRAY BUILDING SERVICES LIMITED
- DESIGN
- PROJECT MANAGEMENT
- MECHANICAL & ELECTRICAL ENGINEERING
- MAINTENANCE

Unit 3 • Sentinel Court
• Shadsworth Business Park
• Blackburn BB1 2EH
• Willkinson Way
Tel: 01254 667046
Fax: 01254 667029
Email: mbs@murray-build-services.co.uk

Work Stage
STAGE 5
Manufacturing and construction
RIBA

Suitability
CONSTRUCTION
S5

Designed By	Director	Waterman Ref.
LH	NM	BSD15263
Drawn By	**Date**	**Scales @ A0**
JB	JULY 24	1 : 50

Project | Originator | Functional | Spatial | Type | Role | Number	Revision
C1617-MB-M14	C01

LOR-PEL-ZZ-ZZ-M3-ME-00001

PM_40_40 : Design drawings