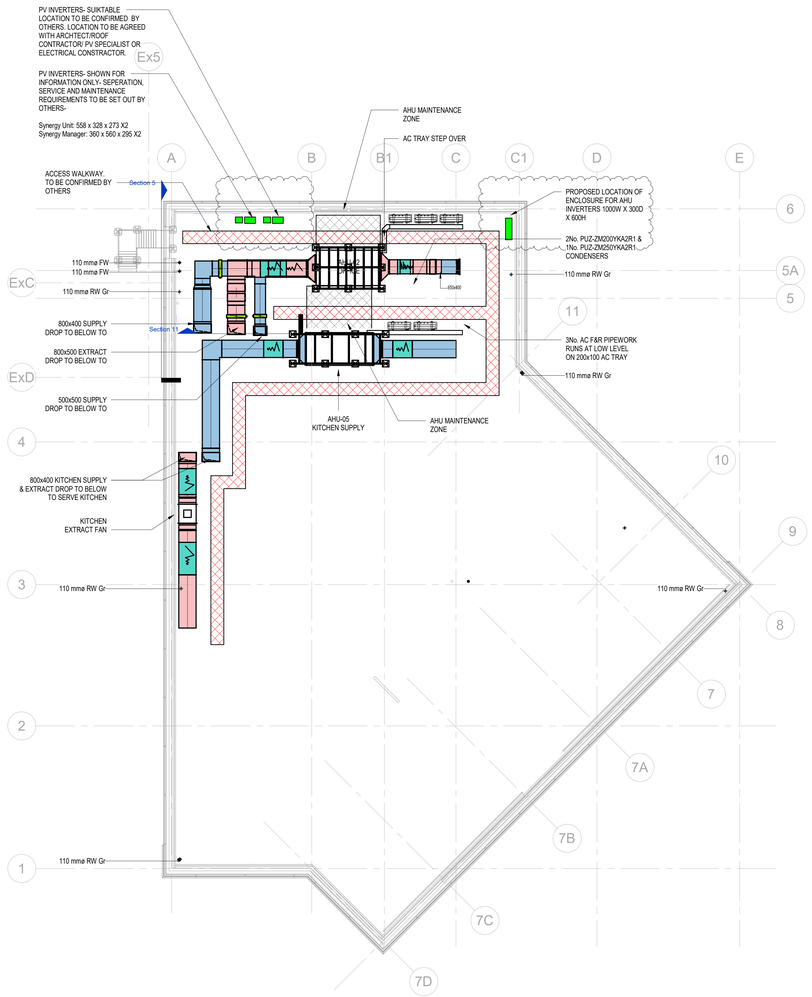
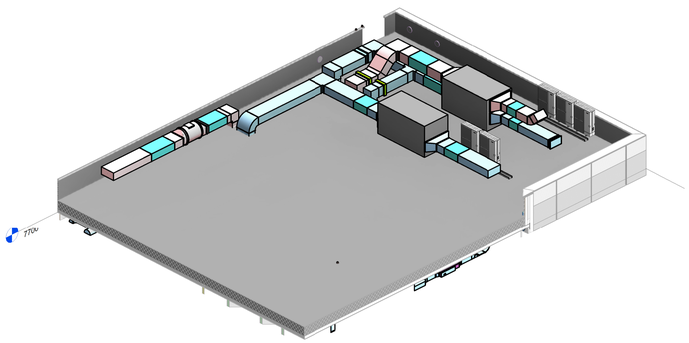
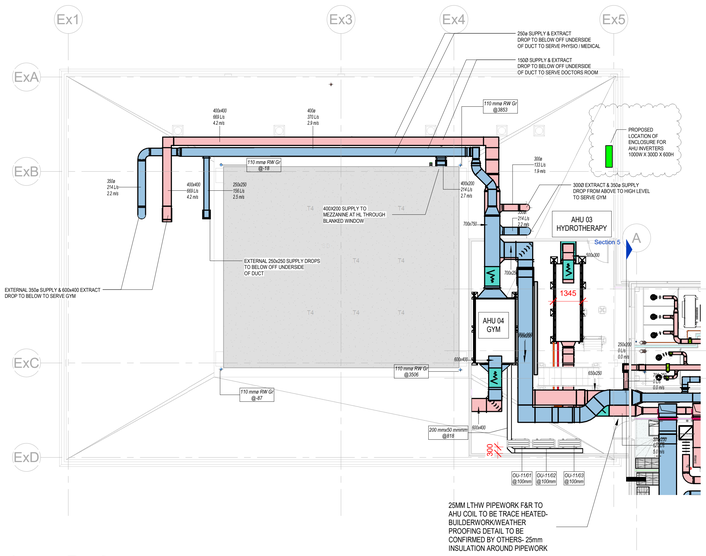
DRAWING NOT TO SCALE



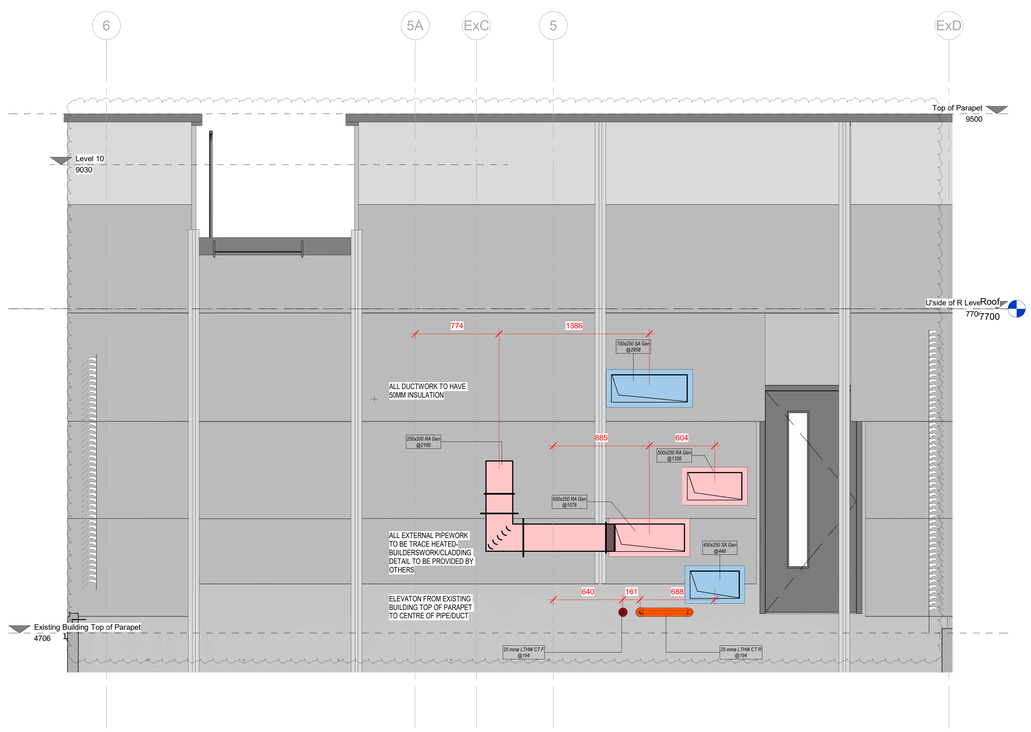
1 Roof(1)
1 : 100

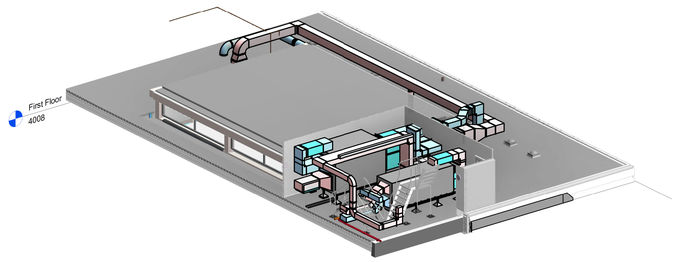


3 3D- Roof Mechancical Layout



2 Lower Roof
1 : 100





5 NEW BUILD TO EXISTING ROOF SECTION
1 : 20

4 3D- Lower Roof

BUILDING SERVICES ENGINEERS
LIVERPOOL

ALL RIGHTS RESERVED © COPYRIGHT A&B ENGINEERING (M.S.D) LTD & A&B ENGINEERING (E.S.D) LTD.

REVISION	ITEM REVISED	DATE
P01	PRELIMINARY	16.05.25
P02	PRELIMINARY ISSUE	30.05.25
C01	CONSTRUCTION ISSUE	12.06.25
C02	CONSTRUCTION ISSUE- INVERTER LOCATIONS ADDED	18.08.25
C03	CONSTRUCTION ISSUE	28.08.25

VENTILATION NOTES

1. DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS ONLY UNLESS OTHERWISE STATED. ALL DIMENSIONS ARE GIVEN IN MILLIMETRES OR METRES. ALL DIMENSIONS TO BE CHECK ON SITE BY INSTALLERS PRIOR TO COMMENCEMENT OF WORKS.

2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS / DOCUMENTS / SCOPE OF WORKS AND SPECIFICATIONS. THIS DRAWING SHOULD ONLY BE USED FOR ITS INTENDED PURPOSE.

3. BEFORE COMMENCEMENT OF WORK ASSOCIATED WITH THIS DRAWING REFER TO THE APPROPRIATE METHOD STATEMENTS AND RISK ASSESSMENTS.

4. ALL DUCTWORK SYSTEMS TO BE INSTALLED IN ACCORDANCE WITH DW/144 SPECIFICATION FOR SHEET METAL DUCTWORK FOR LOW PRESSURE "CLASS A" SYSTEMS.

5. ALL DUCTWORK TO BE SUPPORTED IN ACCORDANCE WITH DW/144 ARRANGEMENT OF BEARERS AND HANGERS.

6. ACCESS PANELS TO BE PROVIDED ADJACENT TO ALL FIRE DAMPERS.

7. INSPECTION PANELS TO BE PROVIDED ADJACENT TO ALL VOLUME CONTROL DAMPERS.

8. ALL ACCESS/INSPECTION HATCHES ARE TO BE PROPRIETARY MANUFACTURED WITH QUICK RELEASE CATCHES AND SELF SEALING GASKETS.

9. ALL ACCESS/INSPECTION PANELS SHALL REMAIN ACCESSIBLE. THE INSULATION CONTRACTOR SHALL SUITABLY DRESS THE EDGES OF THE INSULATION TO THE EDGE OF THE ACCESS OPENING.

10. THE USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO 500mm IN LENGTH TO MAKE FINAL CONNECTIONS ONLY.

11. DUCTWORK SHALL BE MANUFACTURED WITH GRADUAL TRANSFORMATIONS AND CHANGES OF SHADE/DIRECTION.

12. TURNING VANES SHALL BE INSTALLED IN ALL RECTANGULAR SECTION DUCTWORK AT ALL CHANGES IN DIRECTION.

13. SPLITTERS SHALL BE INCORPORATED WITHIN RECTANGULAR DUCTWORK WITH AN ASPECT RATIO OF GREATER THAN 4:1 AS DW/144

14. ALL GRILLES AND DIFFUSERS SHALL HAVE A FINISH/COLOUR TO SUIT THE ARCHITECTS REQUIREMENTS.

15 ALL FANS SHALL BE MOUNTED COMPLETE WITH ANTI-VIBRATION MOUNTINGS.

16. BALANCING AND CONTROL DAMPERS SHALL BE INCLUDED WITHIN THE DUCTWORK SECTIONS AS INDICATED UPON THE DRAWINGS AND PROVIDED WITH AN INDICATING DEVICE ON THE OUTSIDE OF THE DAMPER PROVIDING VISUAL INDICATION OF THE DAMPER POSITION.

17. ALL AIR DISTRIBUTION DUCTS PASSING THROUGH ELEMENTS OF STRUCTURE FORMING FIRE COMPARTMENTS SHALL INCORPORATE A FIRE DAMPER. THE FIRE DAMPER ARRANGEMENT INCLUDING SUITABLE HVCA INSTALLATION FRAME (IF APPLICABLE), SHALL HAVE A FIRE RESISTANCE RATING EQUAL TO THE ELEMENT WHICH IT PENETRATES WITH A MINIMUM RATING OF 1 HOUR.

18. ALL BRANCHES FROM THE MAIN DISTRIBUTION DUCTS SHALL BE BY A SHOE-BRANCH FITTING.

19. DUCTWORK TO BE THERMALLY INSULATED AS INDICATED WITHIN THE MECHANICAL SPECIFICATION.

20. VOLUME CONTROL DAMPERS TO BE PROVIDED ON ALL MAIN BRANCHES AND ALL FINAL CONNECTIONS TO GRILLES.

21. FUSIBLE LINK FIRE DAMPERS TO BE PROVIDED WHERE DUCTS PASS THROUGH CAVITY BARRIERS / FIRE COMPARTMENTATION IN COMPLIANCE WITH THE FIRE ENGINEERS REPORT.

22. DUCTWORK CONNECTIONS TO FIRE & SMOKE DAMPERS MUST BE SEALED WITH AN APPROVED DUCTWORK SEALER AND FIXED WITH LOW RESISTANCE FIXINGS SUCH AS ALUMINIUM.

LEGEND

EF	- EXTRATCT FAN
HRU	- HEAT RECOVERY UNIT
SG	- SUPPLY GRILLE
EG	- EXTRACT GRILLE
RG	- RETURNS GRILLE
FD	- FIRE DAMPER
VAV	- VARIABLE AIR VOLUME
HB	- HEATER BATTERY
VCD	- VOLUME CONTROL DAMPER
ATT	- ATTENUATOR
TG	- TRANSFER GRILLE
DT	- DOOR TRANSFER GRILLE
SV	- SMOKE VENT
AOV	- AUTOMATIC OPENING VENT

CONSTRUCTION

CLIENT

ARCHITECT
Bowker Sadler

CONTRACT
MCWFC

TITLE
ROOF - COMBINED MECHANICAL SERVICES

DRAWN	CHECKED	SCALE
SK	PG	As indicated@A0

DATE	DRAWING No:	REV
FEB 24	230565-ABE-ZZ-RF-DR-M-1711	C03

Holly Terrace • 9-17 Derby Lane
Old Swan • Liverpool • L13 6QA
T: 0151 228 4661 • F: 0151 220 4206
email: info@abeng.co.uk
website: www.abeng.co.uk