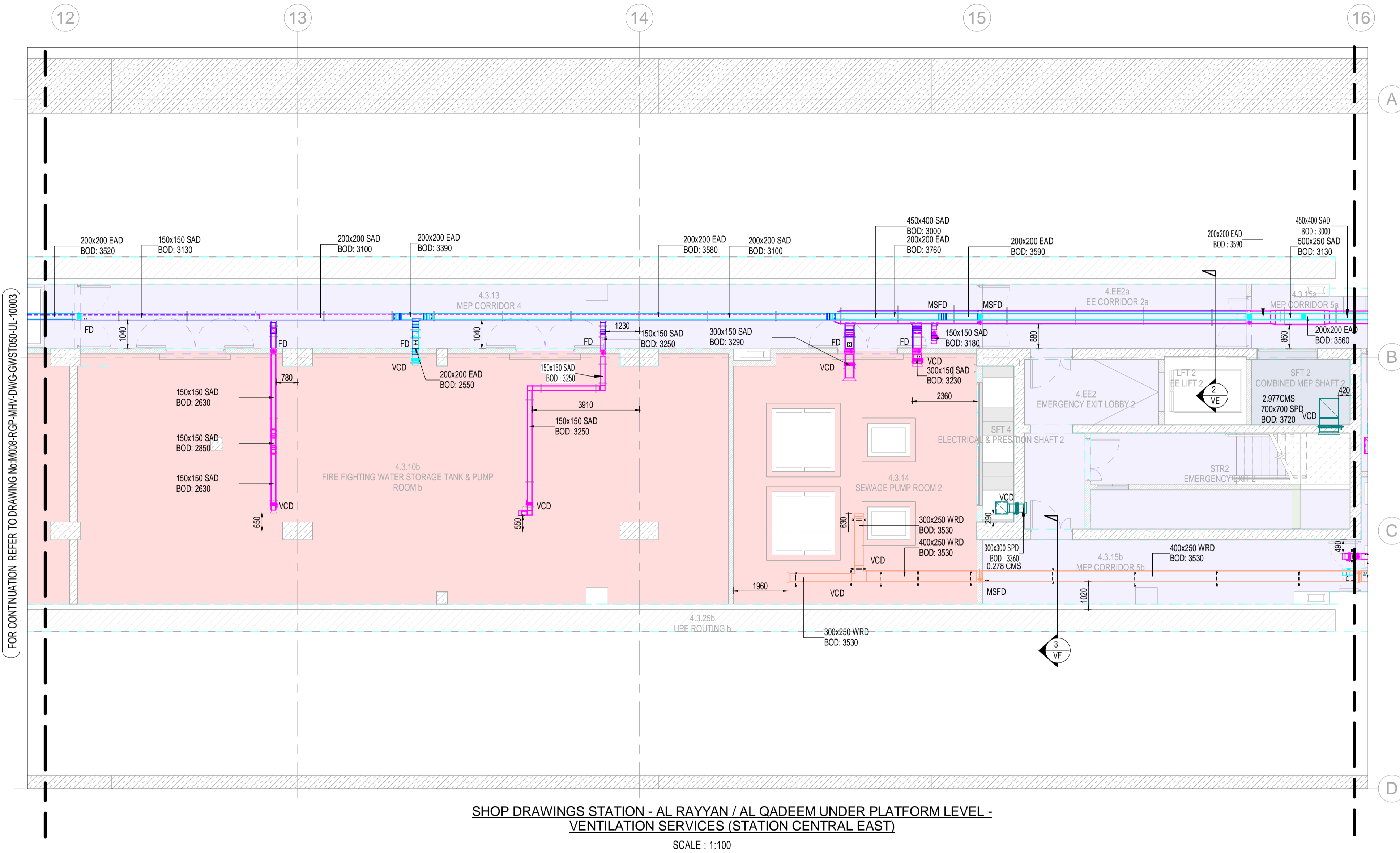
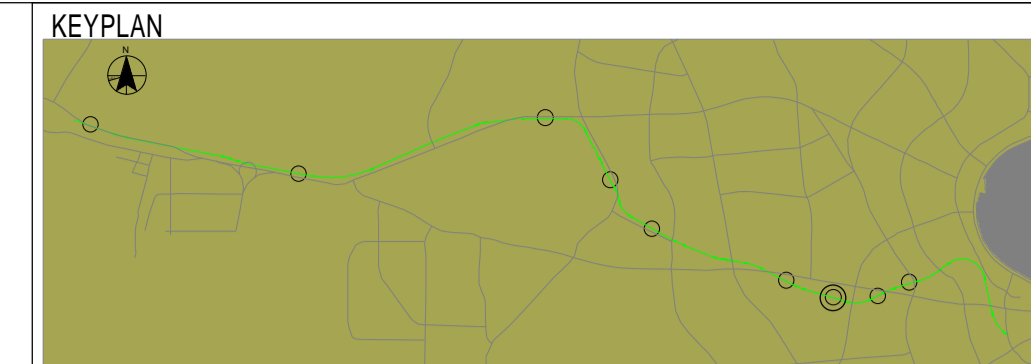
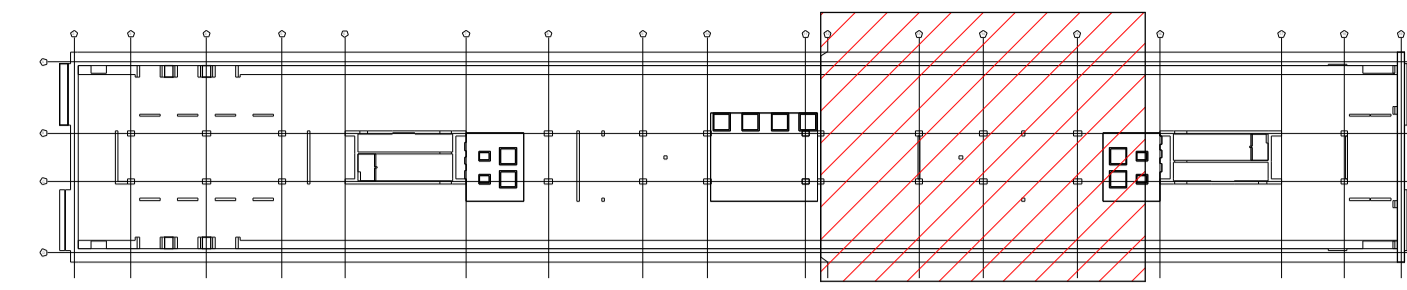
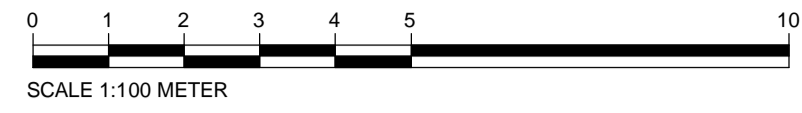
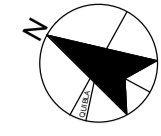


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SHOP DRAWINGS STATION - AL RAYYAN / AL QADEEM UNDER PLATFORM LEVEL - VENTILATION SERVICES (STATION CENTRAL EAST)

SCALE : 1:100

FOR CONTINUATION REFER TO DRAWING No.M008-RGP-MHV-DWG-GWST050-UL-10003

FOR CONTINUATION REFER TO DRAWING No.M008-RGP-MHV-DWG-GWST050-UL-10001

MSFD/FD SCHEDULE

TAG	ROOM REFERENCE	NECK SIZE IN (mm)	AIR FLOW (CMS)
MSFD-E-S-06	MEP CORRIDOR 5a	450X400	0.523
MSFD-E-EA-05	MEP CORRIDOR 5a	200X200	0.044
MSFD-E-S-7	EE CORRIDOR 2a	450X400	0.478
MSFD-E-EA-6	EE CORRIDOR 2a	200X200	0.099
MSFD-E-S-8	MEPCORRIDOR 4	450X400	0.478
MSFD-E-EA-7	MEPCORRIDOR 4	200X200	0.099
FD-E-S-1	SEWAGE PUMP ROOM 2	450X150	0.170
FD-E-S-2	SEWAGE PUMP ROOM 2	450X150	0.170
FD-E-EA-1	TANK & PUMP ROOM	200X200	0.050
FD-E-S-3	TANK & PUMP ROOM	150X150	0.030
FD-E-S-4	TANK & PUMP ROOM	150X150	0.030
FD-E-S-5	MEPCORRIDOR 4	150X150	0.060
FD-E-EA-2	MEPCORRIDOR 4	150X150	0.099

SUPPLY GRILL AND DIFFUSER SCHEDULE

TAG	ROOM REFERENCE	TYPE	NECK SIZE IN (mm)	AIR FLOW (CMS)	QTY
SD-UL-E-8	MEP CORRIDOR 4	BELL MOUTH DIFFUSER	150X150	0.048	1
SD-UL-E-9	SEWAGE PUMP ROOM 2	BELL MOUTH DIFFUSER	450X150	0.170	1
SD-UL-E-10	SEWAGE PUMP ROOM 2	BELL MOUTH DIFFUSER	450X150	0.170	1
SD-UL-E-11	TANK AND PUMP ROOM	BELL MOUTH DIFFUSER	150X150	0.030	1
SD-UL-E-12	TANK AND PUMP ROOM	BELL MOUTH DIFFUSER	150X150	0.030	1
ED-UL-E-7	TANK AND PUMP ROOM	BELL MOUTH DIFFUSER	200X200	0.050	1
WD-UL-E-182	SEWAGE PUMP ROOM 2	BELL MOUTH DIFFUSER	350	0.189	2
SD-F-6	EMERGENCY STR 2	BELL MOUTH DIFFUSER	700X700	2.977	1
SD-F-4	EMERGENCY STR LOBBY2	BELL MOUTH DIFFUSER	300X300	0.278	1

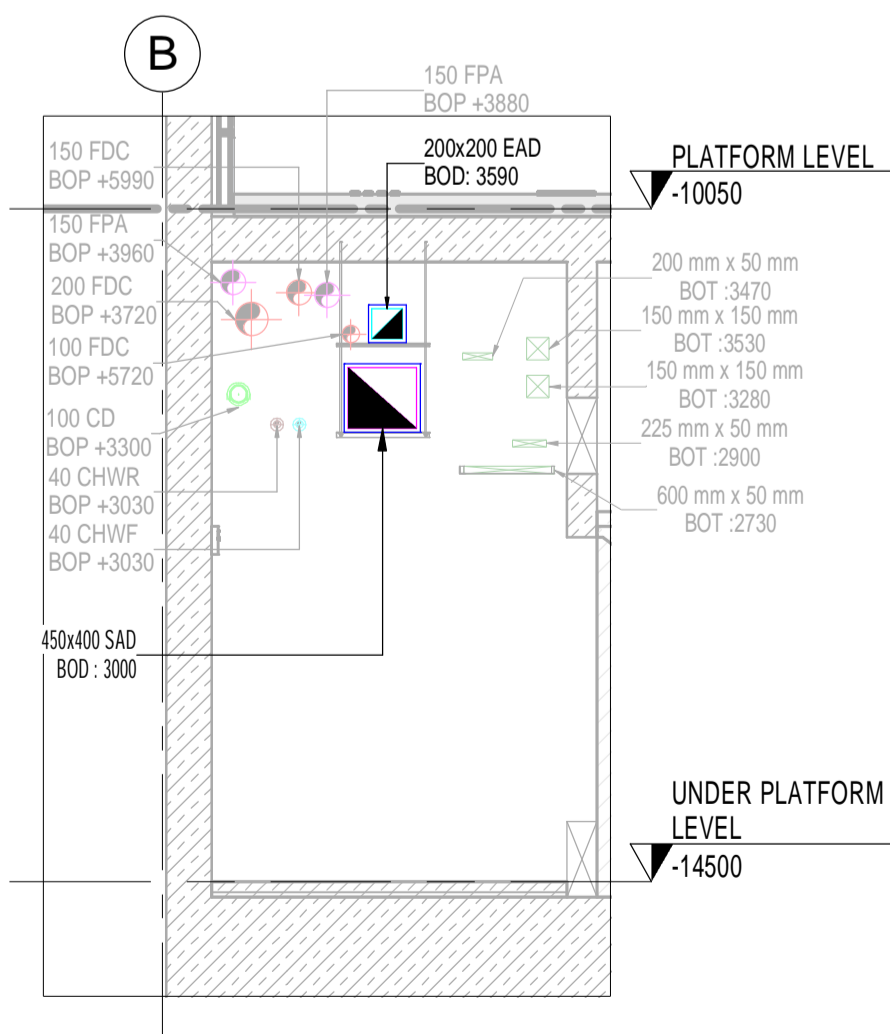
HVAC DUCTING - SUPPORT SPACING SCHEDULE

S.NO.	HEIGHT MM	WIDTH MM	MAXIMUM SUPPORT SPACING M	INSULATION DENSITY KG/CU.M	SPAN MM	RECOMMENDED CHANNEL	THREADED ROD SIZE MM
1	150	150	3.0	48	350	FUS 21/2.0	M08
2	200	200	3.0	48	400	FUS 21/2.0	M08
3	250	250	3.0	48	450	FUS 21/2.0	M08
4	300	300	3.0	48	500	FUS 21/2.0	M08
5	350	350	3.0	48	550	FUS 21/2.0	M08
6	400	400	3.0	48	600	FUS 21/2.0	M08
7	450	450	2.5	48	650	FUS 21/2.0	M08
8	500	500	2.5	48	700	FUS 21/2.0	M08
9	550	550	2.5	48	750	FUS 21/2.0	M08
10	600	600	2.5	48	800	FUS 21/2.0	M08
11	650	650	2.5	48	850	FUS 21/2.0	M08
12	700	700	2.5	48	900	FUS 21/2.0	M08
13	750	750	2.5	48	950	FUS 21/2.0	M08
14	800	800	2.5	48	1000	FUS 21/2.0	M08
15	900	900	2.5	48	1100	FUS 21/2.0	M08
16	1000	1000	2.5	48	1200	FUS 41/2.0	M08
17	1200	1200	2.5	48	1400	FUS 41/2.0	M08
18	1250	1250	2.5	48	1450	FUS 41/2.0	M08
19	1300	1300	2.5	48	1500	FUS 41/2.0	M08
20	1400	1400	2.5	48	1600	FUS 41/2.0	M08
21	1500	1500	2.0	48	1700	FUS 62/2.5	M10
22	1600	1600	2.0	48	1800	FUS 62/2.5	M10
23	1800	1800	2.0	48	2000	FUS 62/2.5	M10
24	1900	1900	2.0	48	2100	FUS 62/2.5	M10
25	2000	2000	2.0	48	2200	FUS 62/2.5	M10
26	3000	3000	2.0	48	3200	FUS 62/2.5	M10

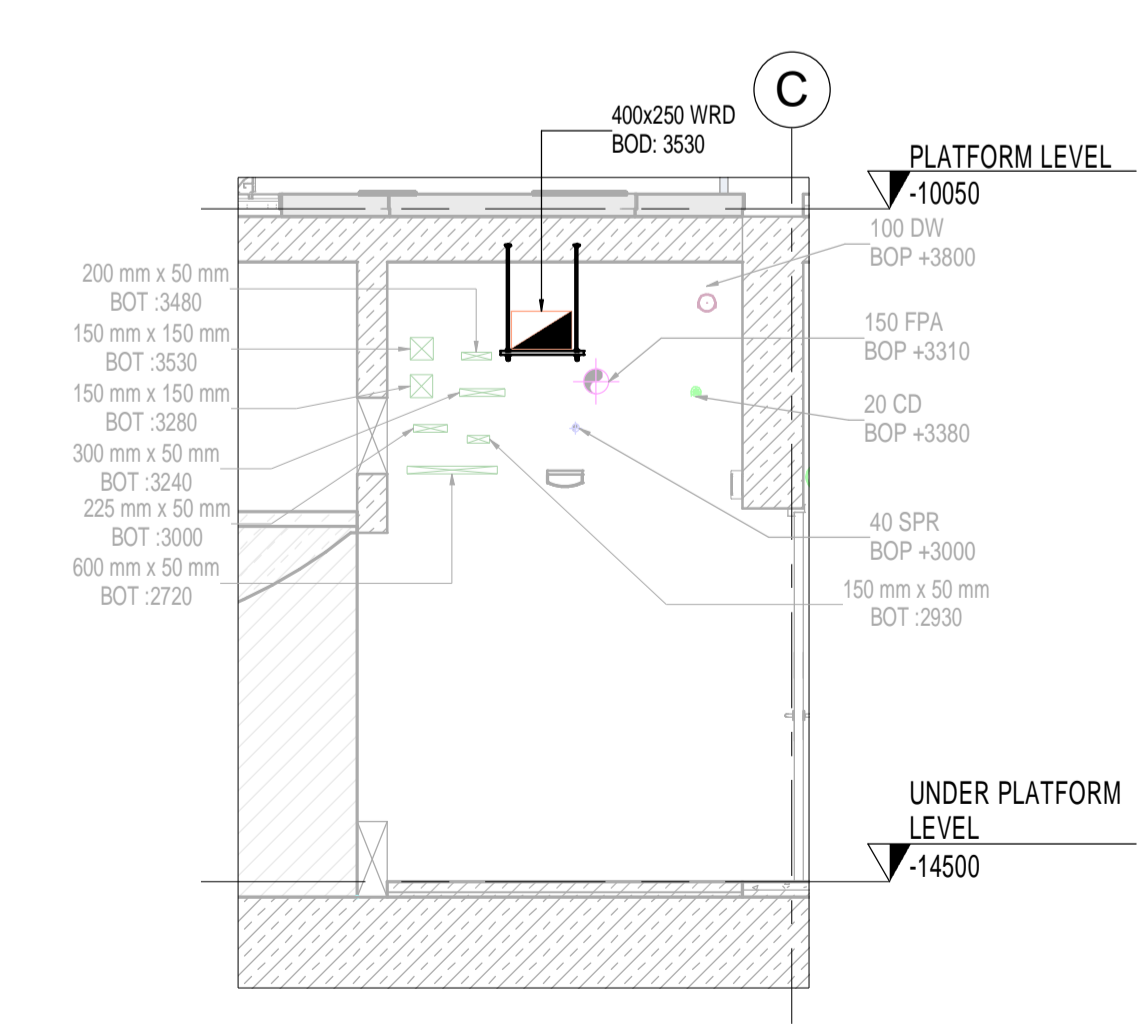
LEGENDS AND ABBREVIATION

SYMBOLS	DESCRIPTION
[Symbol]	SAD SUPPLY AIR DUCT
[Symbol]	EAD EXHAUST AIR DUCT
[Symbol]	SED SMOKE EXTRACT FIRE RATED DUCT
[Symbol]	WRD WASTE ROOM EXTRACT AIR DUCT
[Symbol]	BRD BATTERY ROOM EXTRACT AIR DUCT
[Symbol]	SPD STAIR CASE PRESSURISATION
[Symbol]	SAD SUPPLY AIR FIRE RATED DUCT
[Symbol]	EAD EXHAUST AIR FIRE RATED DUCT
[Symbol]	DUCTS WITH INSULATION
[Symbol]	SUPPLY AIR GRILL
[Symbol]	EXHAUST AIR GRILL
[Symbol]	BELL MOUTH
[Symbol]	VCD VOLUME CONTROL DAMPER
[Symbol]	FD FIRE DAMPERS
[Symbol]	MSFD MOTORIZED SMOKE AND FIRE DAMPER
[Symbol]	SUPPORTS
[Symbol]	BOD BOTTOM OF DUCT
[Symbol]	TYP TYPICAL
[Symbol]	FFL FINISH FLOOR LEVEL
[Symbol]	UL UNDER PLATFORM LEVEL

1) THE HVAC DUCTING SHALL BE GI DUCTING WITH THE GAUGES OF SHEETS, REINFORCEMENTS AND VANES COMPLYING WITH SMACNA STANDARDS WITH RESPECT TO THE SIZE OF THE DUCT.
 2) THE HVAC DUCTING SHALL BE PROVIDED WITH INSULATION OF THICKNESS 25MM WITH 48KG/CU.M. DENSITY.
 3) THIS SUPPORT SPACING SCHEDULE IS NOT APPLICABLE FOR FIRE RATED DUCT
 4) FOR THE CHANGE OF DIRECTION AND LEVELS, APPLICATION OF CONCENTRATED LOADS, JOINTS POINTS AND AT FITTINGS EXTRA SUPPORT SHALL BE PROVIDED AS PER THE SITE CONDITION
 5) THREADED ROD SHALL BE HOT DIPPED GALVANIZED IRON



SECTION-VE
SCALE : 1:50



SECTION-VF
SCALE : 1:50

NOTES

- All dimensions are in millimeter unless otherwise specified.
- All dimensions shall be checked on site before ductwork manufacture is commenced.
- Each piece of ductwork shall be wiped inside and out before installation and all open ends shall be capped and sealed to prevent entrance of dirt during construction.
- Ductwork shall not touch the building structure or building finishes directly, but shall be isolated with suitable spacer.
- Ductwork shall be rigidly suspended or supported from building structure.
- Necessary angle iron shall be provided for bracing of ductwork or equipment, and for supporting ductwork from building structure.
- When changes or offsets are necessary, the required cross-sectional areas shall be maintained.
- Support the vertical ducts installed in the various shafts at each floor level with galvanized supporting irons of approved size.
- All openings required through floors, walls, partitions etc. for the duct system are provide in the exact location required.
- All flexible connection will be an approved manufacturer, with ratings of fire spread, strength etc. listed by a recognized Testing Authority.
- Volume dampers shall be installed in accessible locations at all branch connections and wherever necessary to adjust the flow of air to secure correct distribution.
- The control dampers shall be installed as required for the proper functioning of the system.
- Fire dampers shall be provided in locations required by ordinances and codes and as indicated the contract drawing.
- All smoke extract ductworks should be fire rated and as per approved material

REFERENCES:
 M008-ARE-ARC-MD3-GWST050-CL-00101.S4.P7
 M008-ARE-ARC-MD3-GWST050-ZZ-00101.S4.P11
 M008-HLQ-MEP-MD3-GWST050-PL-00101.RVT
 M008-SSF-ARC-MD3-GWST050-CL-00301.S3.P16
 M008-SSF-ARC-MD3-GWST050-ZZ-00301.S3.P14
 M008-SSF-STR-MD3-GWST050-ZZ-00101.S3.P24

SCHEMATICS AND DETAIL INSTALLATION REFERENCES :
 M008-HLQ-MHV-DWG-GWST050-AA-10021-25
 M008-HLQ-MHV-DWG-GWST050-AA-10031-32
 M008-HLQ-MHV-DWG-GWST050-AA-10041
 M008-HLQ-MHV-DWG-GWST050-AA-10051.53-54
 M008-RGP-MHV-DWG-GWST050-AA-10061-63

C2	ISSUED FOR CONSTRUCTION	MH	30-12-2017	JF	30-12-2017	IM	30-12-2017
C1	ISSUED FOR CONSTRUCTION APPROVAL	NN	13-11-2016	IM	13-11-2016	MN	13-11-2016

SCALES @A1	ISSUING OFFICE	PROJECT NUMBER
1:100	DOHA	M008

CLIENT APPROVAL

A - APPROVED
 B - APPROVED WITH COMMENTS
 C - DO NOT USE

STATUS S4
PURPOSE OF ISSUE FOR CONSTRUCTION APPROVAL

CONTRACTOR
 PORR - SBG - HBK JOINT VENTURE
 P.O. BOX 207471 DOHA
 QATAR

CONSULTANT:
 HOARE LEA QATAR LLC
 P.O. BOX 201834 DOHA
 QATAR

SUB CONTRACTOR
 PSC S.P.A.
 Viale Scharavotti
 27026 - 00173 ROMA
 TEL:06/72630488
 FAX:06/72613393
 Website: www.pscpospoc.com
 QATAR - ITALY

PROJECT
 DESIGN & BUILD PACKAGE 2
 GREEN LINE UNDERGROUND

TITLE
 SHOP DRAWINGS STATION - AL RAYYAN / AL QADEEM UNDER PLATFORM LEVEL - VENTILATION SERVICES (STATION CENTRAL EAST)

CLIENT
 QATAR RAILWAYS COMPANY
 P.O. BOX 29988 DOHA
 QATAR

DRAWING NUMBER M008-RGP-MHV-DWG-GWST050-UL-10002
REV C2