LIST OF ECS/TVS DRAWINGS

SR.NO.	DESCRIPTION	DRAWING NO.	REVISION NO.
	BADI CHOUPER STATION		
01	LIST OF ECS/TVS DRAWINGS	JP-TD-ECS/TVS-11BC-1001	R0
02	ECS-TVS LAYOUT LEGENDS & NOTES	JP-TD-ECS/TVS-11BC-1002	R0
03	ECS LAYOUT ANCIALLARY BUILDING LOWER GROUND & TERRACE LEVEL	JP-TD-ECS-11BC-1201	R0
04	ECS-TVS LAYOUT CONCOURSE LEVEL (SHEET-1 OF 3)	JP-TD-ECS/TVS-11BC-1301	R0
05	ECS-TVS LAYOUT CONCOURSE LEVEL (SHEET-2 OF 3)	JP-TD-ECS/TVS-11BC-1302	R0
06	ECS-TVS LAYOUT CONCOURSE LEVEL (SHEET-3 OF 3)	JP-TD-ECS/TVS-11BC-1303	R0
07	ECS-TVS LAYOUT PLATFORM LEVEL (SHEET-1 OF 3)	JP-TD-ECS/TVS-11BC-1401	R0
08	ECS-TVS LAYOUT PLATFORM LEVEL (SHEET-2 OF 3)	JP-TD-ECS/TVS-11BC-1402	R0
09	ECS-TVS LAYOUT PLATFORM LEVEL (SHEET-3 OF 3)	JP-TD-ECS/TVS-11BC-1403	R0
10	ECS-TVS LAYOUT UNDERCROFT LEVEL (SHEET-1 OF 3)	JP-TD-ECS/TVS-11BC-1501	R0
11	ECS-TVS LAYOUT UNDERCROFT LEVEL (SHEET-2 OF 3)	JP-TD-ECS/TVS-11BC-1502	R0
12	ECS-TVS LAYOUT UNDERCROFT LEVEL (SHEET-3 OF 3)	JP-TD-ECS/TVS-11BC-1503	R0
13	CHILLED WATER PIPING SCHEMATIC LAYOUT	JP-TD-ECS-11BC-1601	R0
14	CONDENSER WATER PIPING SCHEMATIC	JP-TD-ECS-11BC-1602	R0
15	AIR FLOW SCHEMATIC - ECS PLANT ROOM 19.1 CLOSE MODE (SUMMER)	JP-TD-ECS-11BC-1603	R0
16	AIR FLOW SCHEMATIC - PLATFORM 19.1 FIRE MODE (EMERGENCY)	JP-TD-ECS-11BC-1604	R0
17	AIR FLOW SCHEMATIC - ECS PLANT 19.1 END OPEN MODE (WINTER)	JP-TD-ECS-11BC-1605	R0
18	AIR FLOW SCHEMATIC - ECS PLANT ROOM 19.2 CLOSED MODE (SUMMER)	JP-TD-ECS-11BC-1606	R0
19	AIR FLOW SCHEMATIC - PLATFORM 19.2 FIRE MODE (EMERGENCY)	JP-TD-ECS-11BC-1607	R0
20	AIR FLOW SCHEMATIC - ECS PLANT ROOM 19.2 OPEN MODE (WINTER)	JP-TD-ECS-11BC-1608	R0
21	AIR FLOW SCHEMATIC - ECS PLANT 19.1 (EMERGENCY CONCOURSE)	JP-TD-ECS-11BC-1605A	R0
22	AIR FLOW SCHEMATIC - ECS PLANT 19.2 (EMERGENCY CONCOURSE)	JP-TD-ECS-11BC-1608A	R0
23	AIR FLOW SCHEMATIC - AIR FLOW VENTILATION ECS PLANT ROOM 19.1	JP-TD-ECS-11BC-1609	R0
24	AIR FLOW SCHEMATIC - AIR FLOW VENTILATION ECS PLANT ROOM 19.2	JP-TD-ECS-11BC-1610	R0
25	AIR FLOW SCHEMATIC FOR FCU	JP-TD-ECS-11BC-1611	R0

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REFERENCE DRAWINGS

Drg. No.	Description

REVISIONS

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DY CSTE/AFC		ED/S&T	CSO
DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
DY CE/PLANNING	DY CEE/E&M	DY CEE/ECS	ED/ELEC -II
DY CEE/(E)UG-TR	CGM(E) UG-TR	PM	CPM

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

Architecture	Structure	E&M
Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

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DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: BADI CHOUPAR

DRAWING TITLE: LIST OF ECS/TVS DRAWINGS

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S.	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS/TVS-11BC-1001	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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4. ALL CHILLED WATER PIPING INSULATED AS PER SPECIFICATION.
5. ALL LEVELS OF DUCTS AND PIPES ARE FROM FINISHED FLOOR LEVELS.
6. FOR SECTION REFER DRG. NO L8-CRD-ECS-09VV-1701 .
7. FOR ECS RELATED ELECTRICAL PLEASE REFER ELECTRICAL LAYOUT.

ABBREVIATIONS

BC	BADI CHOUPER STATION	NB	Nominal Bore
AHU	Air Handling Unit	OTE	Over Track Exhaust
DC	Damper close	R.A.G	Return Air Grille
DO	Damper Open	S.A.G	Supply Air Grille
DB	Distribution Board	C.S.G	Continous Supply Grille
ECA	Environment Control Attenuator	F.A.G	Fresh Air Grille
FAF	Fresh Air Fan	T/A	To Above
F/A	From Above	T/B	To Below
F/B	From Below	TEA	Track Way Exhaust Attenuator
FCU	Fan Coil Unit	TEF	Track Way Exhaust Fan
FD	Fire Damper(Fusible Link)	UPE	Under Platform Exhaust
FMD	Manual Damper (Fire rated)	VCD	Volume Control Damper (Non fire rated)
MD	Manual Damper	VCF	Volume Control Damper (FIre rated)
MFD	Motorised Fire Damper	VEF	Ventilation Exhaust Fan
DC/S	Damper Closed (Summer)	VSF	Ventilation Supply Fan
DO/M	Damper Open (Monsoon)	B.O.D.	Bottom of Duct
SAP	Supply Air Plenum	PRD	Pressure Relief Damper
RAP	Return Air Plenum	NO	Normally Open
SUI	Split Unit Indoor	CHWP	CHILLED WATER PIPE
SUO	Split Unit Outdoor	CDWP	CONDENSER WATER PIPE
DUC	Door Under Cut	VSD	VENTILATION SUPPLY DUCT
NC	Normally cloused	VED	VENTILATION EXHAUST DUCT
MOD	Motor Operated Damper		

LEGEND

- CHW SUPPLY PIPE
- CHW RETURNE PIPE
- CHW SUPPLY PIPE(AIR COOLED CHILLER)
- CHW RETURNE PIPE(AIR COOLED CHILLER)
- CDW SUPPLY PIPE
- CDW RETURNE PIPE
- EQUALIZER HEADER
- MAKEUP HEADER
- DRAIN&OVERFLOW HEADER
- VENTILATION EXHAUST DUCT
- VENTILATION SUPPLY DUCT
- MOTORISED OPRATED DAMPER
- VOLUME CONTROL DAMPER
- MOTORISED FIRE DAMPER
- FIRE RATED MANUAL DAMPER
- MANUAL DAMPER
- RETURNE AIR DUCT FIRE RATED
- SUPPLY AIR DUCT
- VENTILATION SUPPLY AIR DUCT
- VENTILATION EXHAUST AIR DUCT
- STAIRCASE PRESSURIZATION DUCT
- SMOKE EXHAUST DUCT
- SUPPLY AIR GRILLE
- EXHAUST/SMOKE EXHAUST GRILLE
- UNDER PLATFORM EXHAUST GRILLE
- BALANCING VALVE
- BUTTER FLY VALVE
- GATE VALVE

LEGEND

- AIR HANDLING UNIT(FLOOR MOUNTED)
- COOLING TOWER
- AIR COOLED CHILLER
- WATER COOLED CHILLER
- CONDENSER PUMP
- SECONDARY PUMP
- PRIMARY PUMP
- FAN COIL UNIT
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

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REFERENCE DRAWINGS

Drg. No.	Description

REVISIONS

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JP/EW/1B/DDC01 Project Manager

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DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

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DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: BADI CHOUPAR

DRAWING TITLE: ECS/TVS LAYOUT LEGENDS & NOTES

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S.	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
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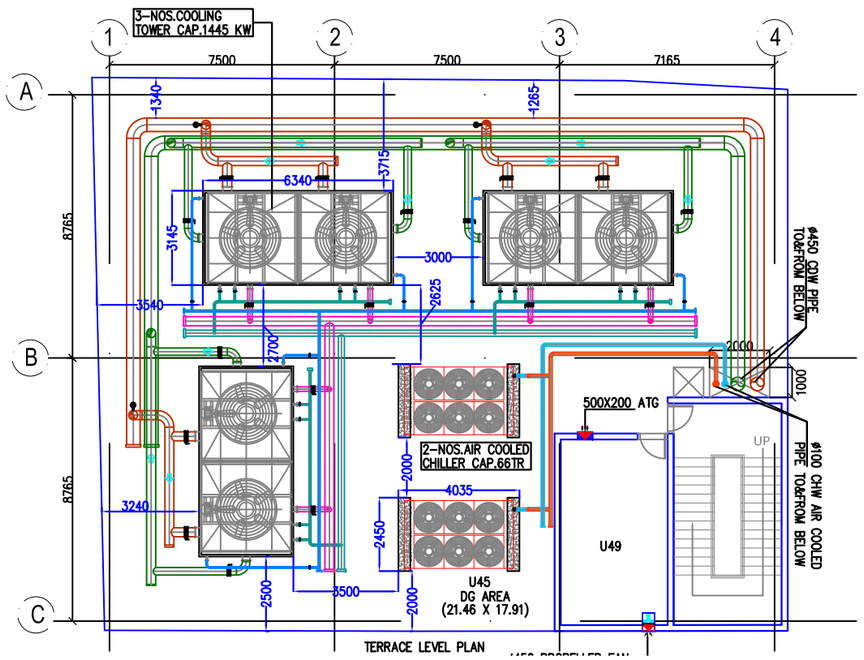
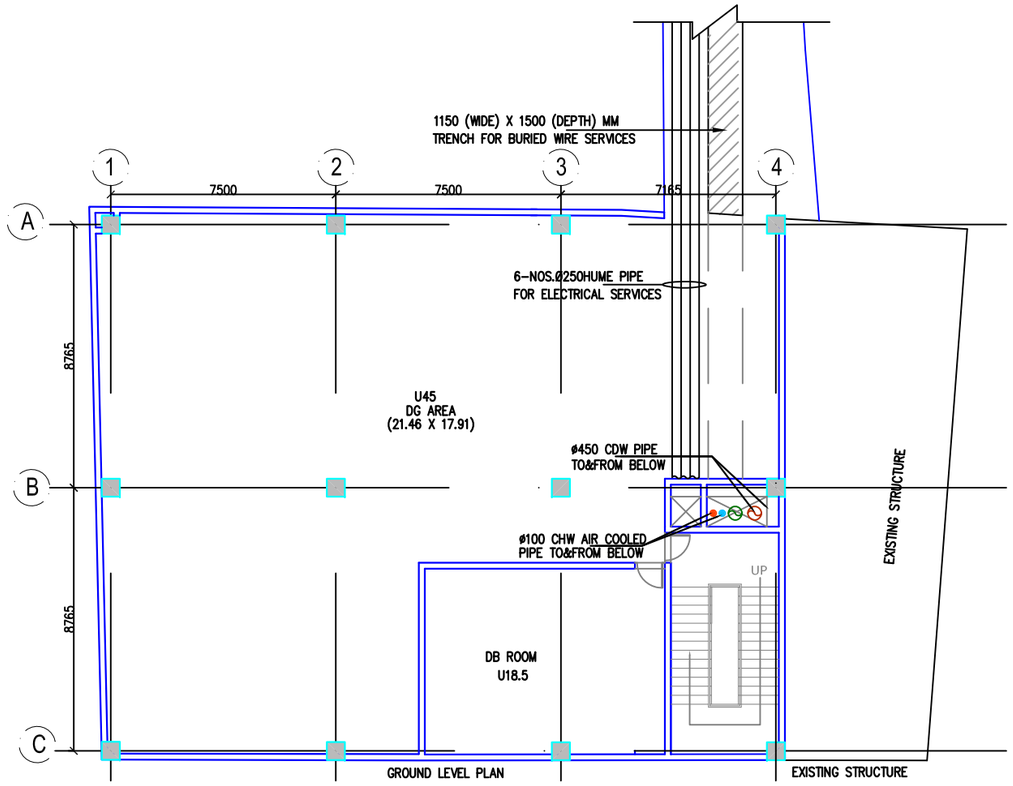


TERRACE LEVEL PLAN



GROUND LEVEL PLAN

EXISTING STRUCTURE

ROOM SCHEDULE				
SR. NO	ROOM SCHEDULE	ROOM NAME	DIMENSION (MT) L X B	AREA (SQM.)
1	U 45	DG AREA	22.66 X 17.99	315.40*
2	U 18.5	DB ROOM	8.00 X 6.18	49.44
3	U 49	CHEMICAL DOSING ROOM	22.66 X 17.99	315.40*
4	U 50	COOLING TOWER AREA	3.565 X 6.18	22.03

*AREA AS PER PLINE

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5. ALL LEVELS OF DUCTS AND PIPES ARE FROM FINISHED FLOOR LEVELS.
6. FOR ECS RELATED ELECTRICAL PLEASE REFER ECS ELECTRICAL LAYOUT.

ABBREVIATIONS

CC	CHOTI CHOUPER STATION
AHU	Air Handling Unit
FAF	Fresh Air Fan
FCU	Fan Coil Unit
MD	Manual Damper
MFD	Motorised Fire Damper
MOD	Motor Operated Damper
OTE	Over Track Exhaust
R.A.G	Return Air Grille
S.A.G	Supply Air Grille
F.A.G	Fresh Air Grille
TEF	Track Way Exhaust Fan
UPE	Under Platform Exhaust
VCD	Volume Control Damper (Non fire rated)
VEF	Ventilation Exhaust Fan
VSF	Ventilation Supply Fan
B.O.D.	Bottom of Duct
CHWP	CHILLED WATER PIPE
CDWP	CONDENSER WATER PIPE
VSD	VENTILATION SUPPLY DUCT
VED	VENTILATION EXHAUST DUCT

LEGEND

- CHW SUPPLY PIPE
- CHW RETURNE PIPE
- CHW SUPPLY PIPE(AIR COOLED CHILLER)
- CHW RETURNE PIPE(AIR COOLED CHILLER)
- CDW SUPPLY PIPE
- CDW RETURNE PIPE
- EQUALIZER HEADER
- MAKEUP HEADER
- DRAIN&OVERFLOW HEADER
- VENTILATION EXHAUST DUCT
- VENTILATION SUPPLY DUCT
- MOTORISED OPRATED DAMPER
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- MOTORISED FIRE DAMPER
- FIRE RATED MANUAL DAMPER
- MANUAL DAMPER
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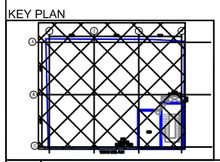
- SUPPLY AIR DUCT
- VENTILATION SUPPLY AIR DUCT
- VENTILATION EXHAUST AIR DUCT
- STAIRCASE PRESSURIZATION DUCT
- SMOKE EXHAUST DUCT
- SUPPLY AIR GRILLE
- EXHAUST/SMOKE EXHAUST GRILLE
- UNDER PLATFORM EXHAUST GRILLE

LEGEND

- COOLING TOWER
- AIR COOLED CHILLER
- WATER COOLED CHILLER
- CONDENSER PUMP
- SECONDARY PUMP
- PRIMARY PUMP
- FAN COIL UNIT
- AXIL FAN
- PROPELLER FAN

KEY PLAN



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REFERENCE DRAWINGS

Drg. No.	Description

REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

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DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
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JP/EW/1B/DDC01 Project Manager

Architecture	Structure	E&M
Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

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Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS LAYOUT ANCILLARY BUILDING GROUND & TERRACE LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	1:100	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
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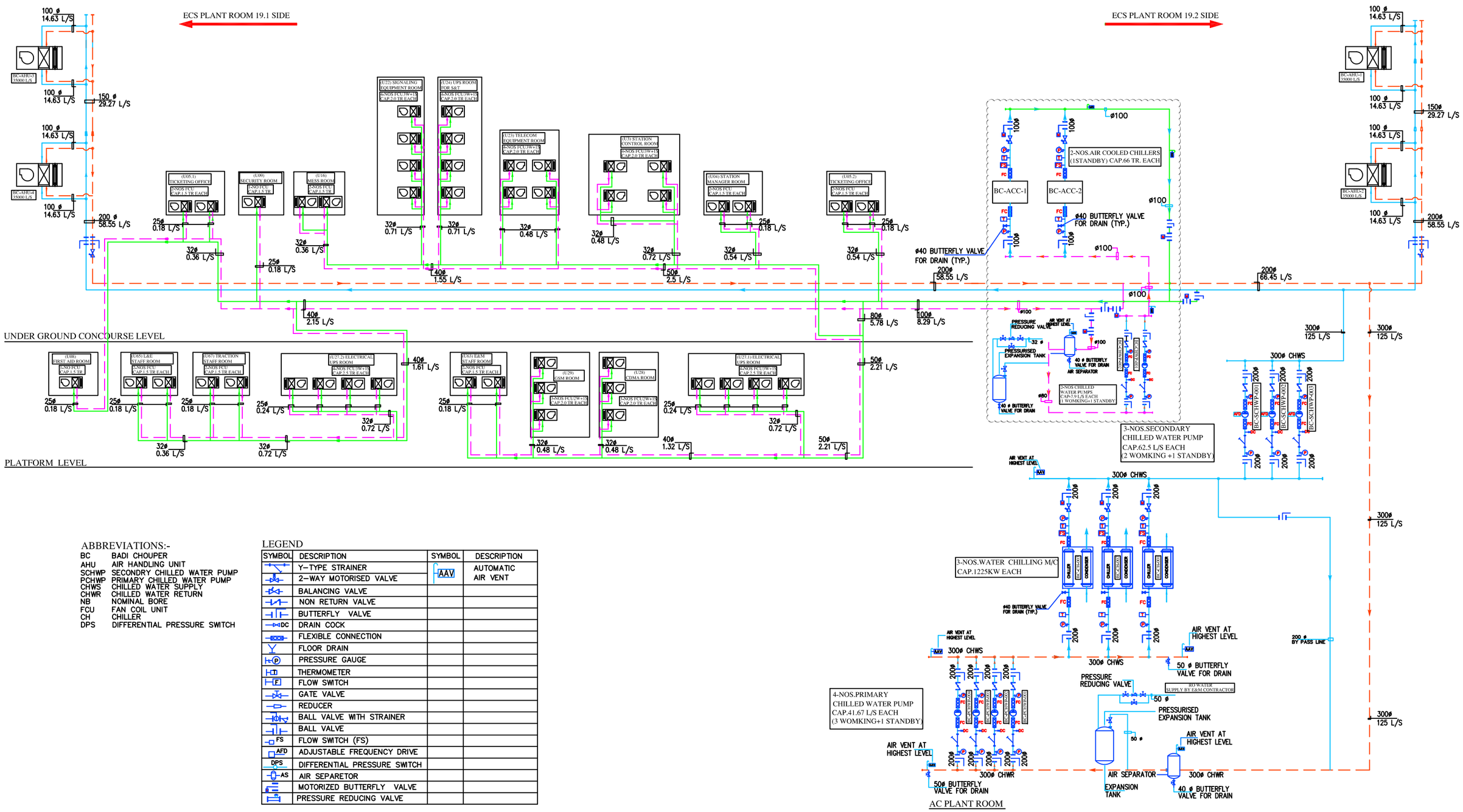

ABBREVIATIONS:-

BC	BADI CHOUPER
AHU	AIR HANDLING UNIT
SCHWP	SECONDRY CHILLED WATER PUMP
PCHWP	PRIMARY CHILLED WATER PUMP
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
NB	NOMINAL BORE
FCU	FAN COIL UNIT
CH	CHILLER
DPS	DIFFERENTIAL PRESSURE SWITCH

LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Y-TYPE STRAINER	AAV	AUTOMATIC AIR VENT
	2-WAY MOTORISED VALVE		
	BALANCING VALVE		
	NON RETURN VALVE		
	BUTTERFLY VALVE		
DC	DRAIN COCK		
	FLEXIBLE CONNECTION		
	FLOOR DRAIN		
P	PRESSURE GAUGE		
T	THERMOMETER		
F	FLOW SWITCH		
	GATE VALVE		
	REDUCER		
	BALL VALVE WITH STRAINER		
	BALL VALVE		
FS	FLOW SWITCH (FS)		
AFD	ADJUSTABLE FREQUENCY DRIVE		
DPS	DIFFERENTIAL PRESSURE SWITCH		
AS	AIR SEPARETOR		
	MOTORIZED BUTTERFLY VALVE		
	PRESSURE REDUCING VALVE		

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Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: CHW WATER PIPING SCHEMATIC

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1601	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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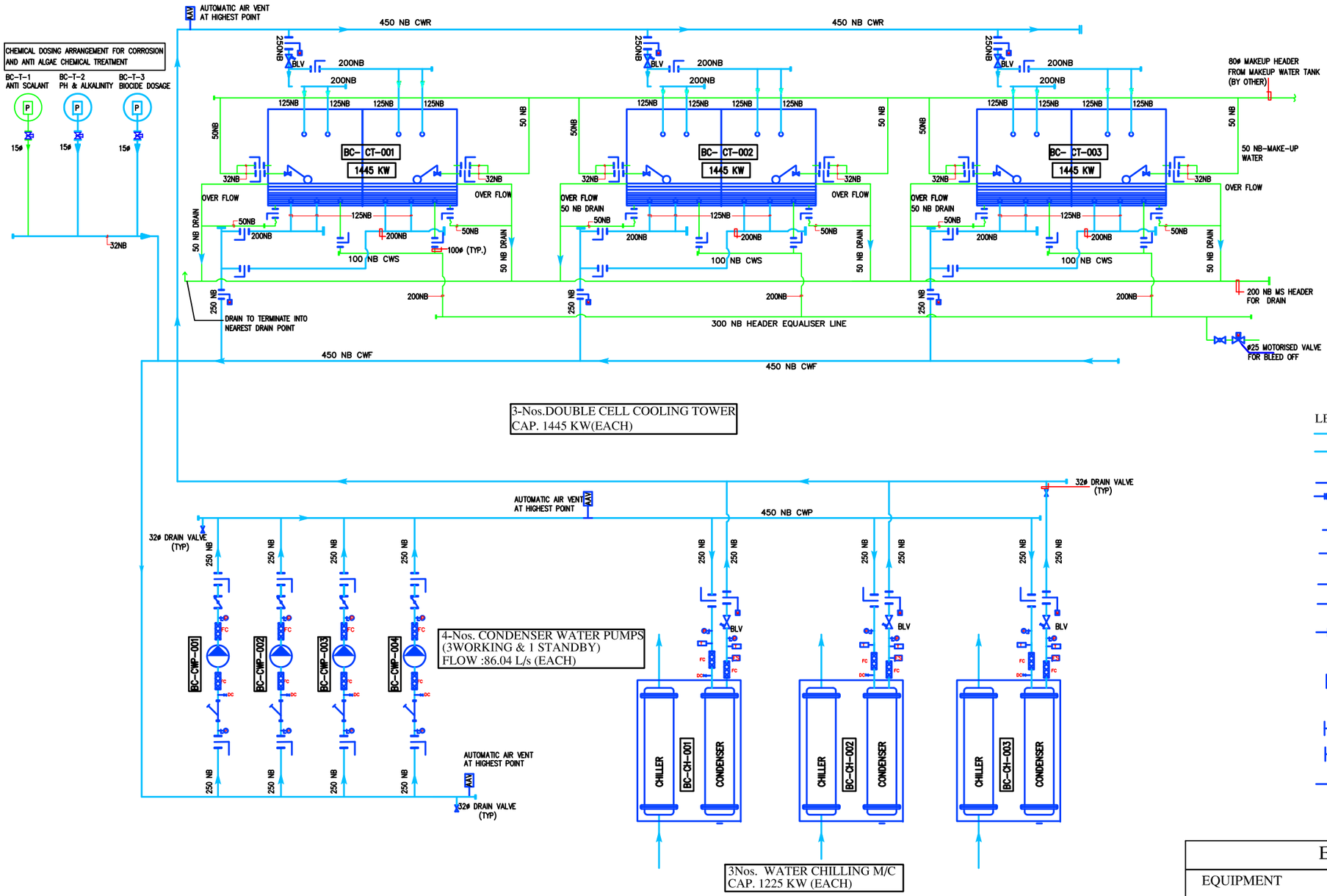

LEGENDS:-

- CONDENSER WATER FLOW PIPE LINE
- CONDENSER WATER RETURN PIPE LINE
- BUTTERFLY VALVE
- Y-TYPE STAINER
- BALANCING VALVE
- NON RETURN VALVE
- MOTORISED BUTTERFLY VALVE
- DRAIN COCK
- FLEXIBLE CONNECTION
- FLOOR DRAIN
- PRESSURE GAUGE
- THERMOMETER
- FLOW SWITCH (DPS)
- AUTOMATIC AIR VENT
- GATE VALVE
- NEEDLE VALVE

ABBREVIATIONS:-

BC	BADI CHOUPER STATION
CH	CHILLING UNIT
CWP	CONDENSER WATER PUMP
NB	NOMINAL BORE
CWF	CONDENSER WATER FLOW
CWR	CONDENSER WATER RETURN
CT	COOLING TOWER

EQUIPMENT SCHEDULE

EQUIPMENT	QTY.	CAPACITY (EACH)	TAG NO.	REMAMKS
COOLING TOWER	3-NOS.	1445 KW	MK-CT-1 TO 3	
CONDENSER WATER PUMP	4-NOS.	86.04 L/s	MK-CWP-1 TO 4	(3W+1S)
CONDENSER	3-NOS.	1225 KW	MK-CH-1 TO 3	
CHEMICAL DOSING SYSTEM	1-NO.		MK-CDT-1 TO 3	

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5. ALL DOOR/WINDOW CILL & LINTEL LEVELS ARE MEASURED FROM MAIN FLOOR FINISHED LEVELS.

REFERENCE DRAWINGS

Drg. No.	Description

REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

APPROVAL BY DMRC

DMRC APPROVAL	MGR/ARCH	DY CA (UG)-III	CA/ARCH
DY CSTE/TELECOM	CSTE-I	DY CE/DESIGN	CE/TECH
DY CSTE/AFC		ED/S&T	CSO
DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
DY CE/PLANNING	DY CEE/E&M	DY CEE/ECS	ED/ELEC -II
DY CEE/(E)UG-TR	CGM(E) UG-TR	PM	CPM

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

Architecture	Structure	E&M
Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

ayesa Engineering. Information. Imagination.
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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: CONDENSER WATER PIPING SCHEMATIC

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1602	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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Legend

- Axial Fan (Schematic)
- Damper Closed
- Damper Open
- Manual Isolation Damper
- Volume Control Damper
- MFD M — Motorised Fire Damper
- Sound Attenuator

Abbreviations

AHU	Air Handling Unit
DC	Damper close
DO	Damper Open
DB	Distribution Board
FAF	Fresh Air Fan
F/A	From Above
F/B	From Below
FCU	Fan Coil Unit
FD	Fire Damper
FMD	Manual Damper (Fire rated)
MD	Manual Damper
MFD	Motorised Fire Damper
SEF	Smoke Extraction Fan
SAP	SUPPLY Air Plenum
RAP	Return Air Plenum
BPD	Back Plate Damper
MOD	Motor Operated Damper
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R.A	Return Air
S.A	SUPPLY Air
T/A	To Above
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TEA	Track Way Exhaust Attenuator
TEF	Track Way Exhaust Fan
UPE	Under Platform Exhaust
VCD	Volume Control Damper (Non fire rated)
VCF	Volume Control Damper (Fire rated)
VEF	Ventilation Exhaust Fan
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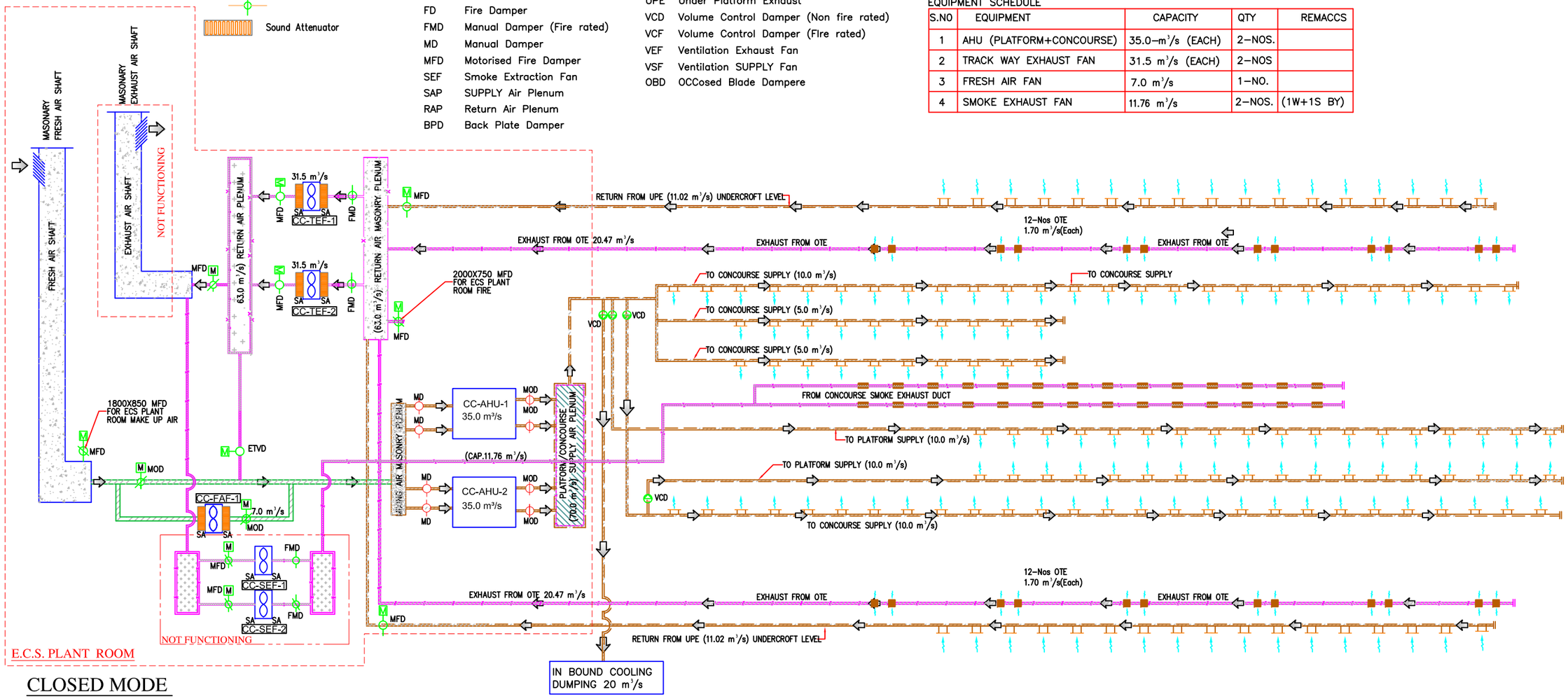
OBD	OCCosed Blade Dampere

EQUIPMENT SCHEDULE

S.NO	EQUIPMENT	CAPACITY	QTY	REMACCS
1	AHU (PLATFORM+CONCOURSE)	35.0–m³/s (EACH)	2–NOS.	
2	TRACK WAY EXHAUST FAN	31.5 m³/s (EACH)	2–NOS	
3	FRESH AIR FAN	7.0 m³/s	1–NO.	
4	SMOKE EXHAUST FAN	11.76 m³/s	2–NOS.	(1W+1S BY)



CLOSED MODE

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REFERENCE DRAWINGS

Drg. No.	Description

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REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

APPROVAL BY DMRC

DMRC APPROVAL	MGR/ARCH	DY CA (UG)-III	CA/ARCH
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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

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Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.1

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS-11BC-1603	1 OF 1	UNE A1	P36-0017

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- Damper Open
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- Volume Control Damper
- MFD — Motorised Fire Damper
- Sound Attenuator

Abbreviations

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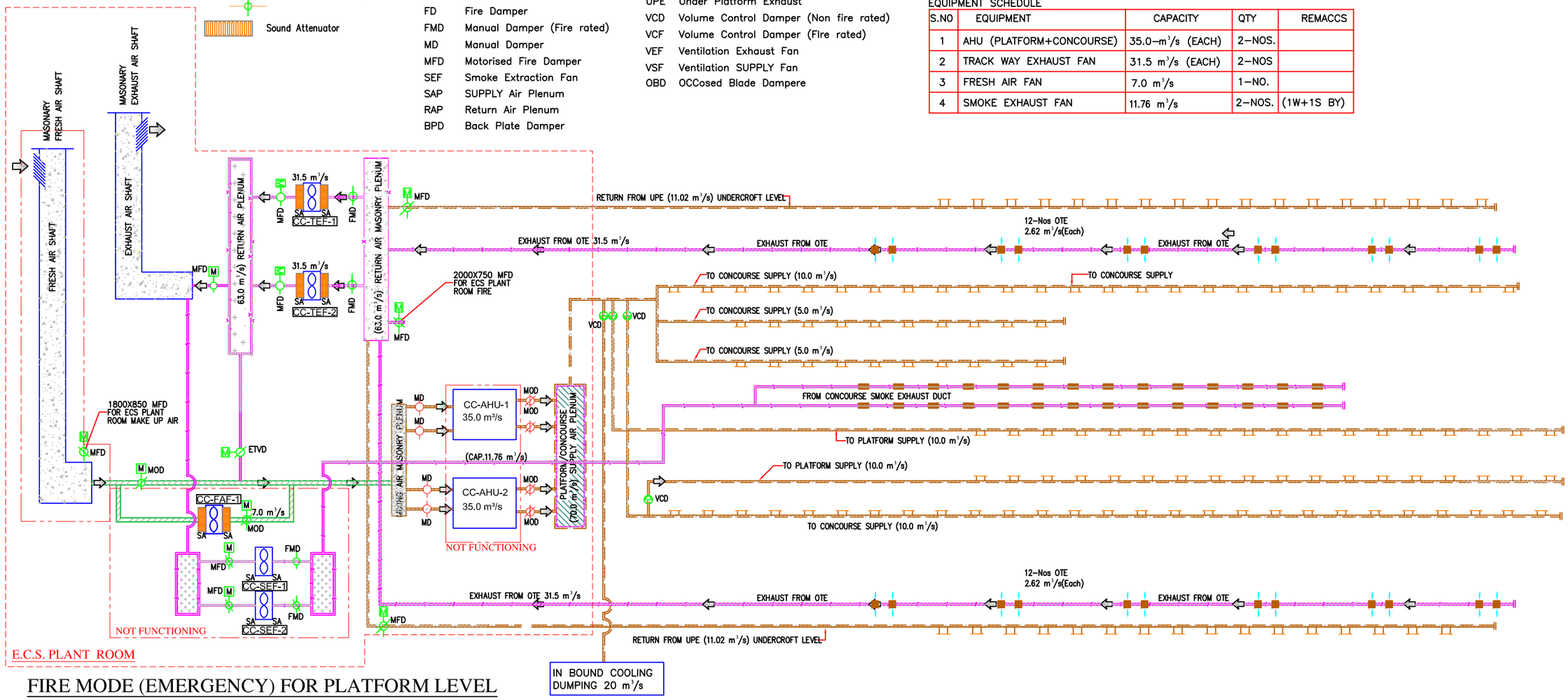

FIRE MODE (EMERGENCY) FOR PLATFORM LEVEL

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Drg. No.	Description

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APPROVAL BY DMRC

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JP/EW/1B/DDC01 Project Manager

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Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.1

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1604	1 OF 1	UNE A1	P36-0017

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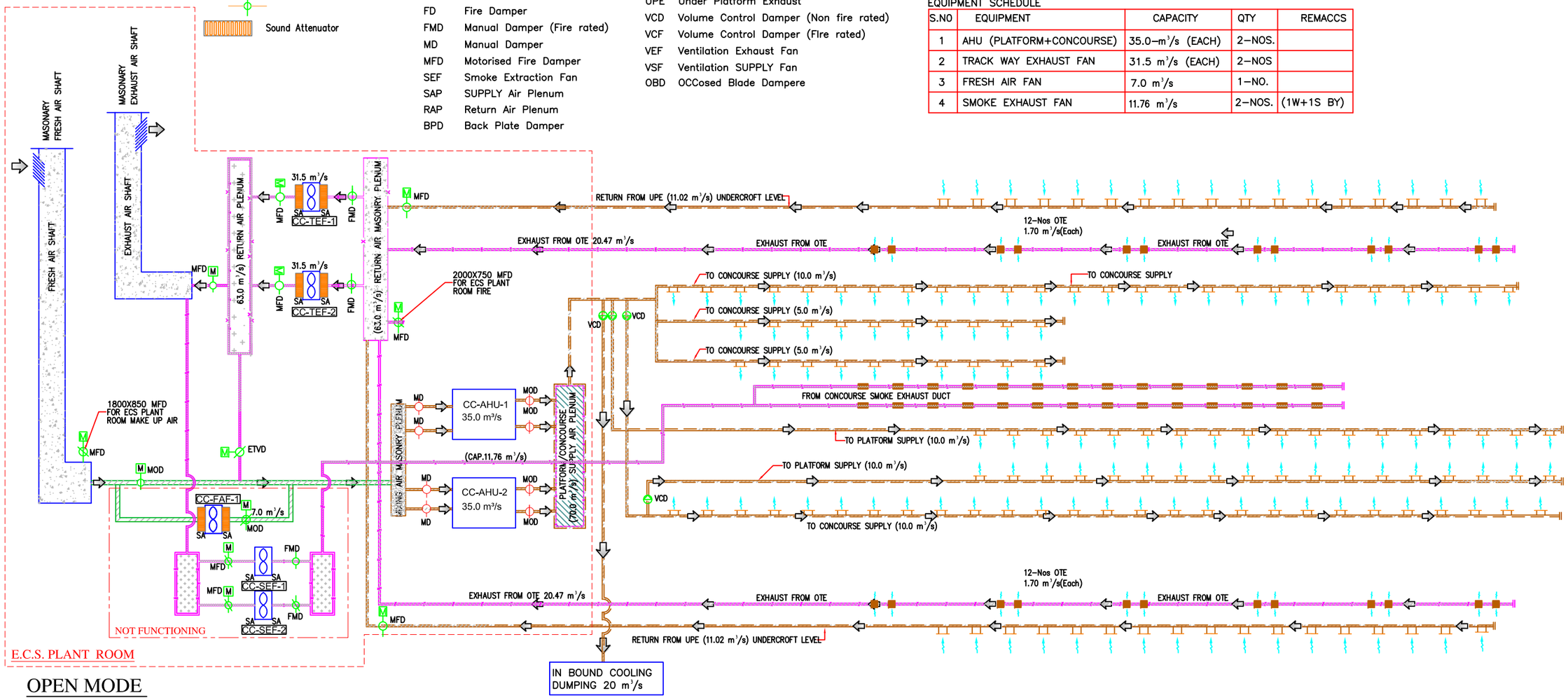

OPEN MODE

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REFERENCE DRAWINGS

Drg. No.	Description

REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

APPROVAL BY DMRC

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

Architecture: Design In-charge/ Coordinator
Structure: Design In-charge/ Coordinator
E&M: Design In-charge/ Coordinator

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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.1

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
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DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1605	1 OF 1	UNE A1	P36-0017

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Legend

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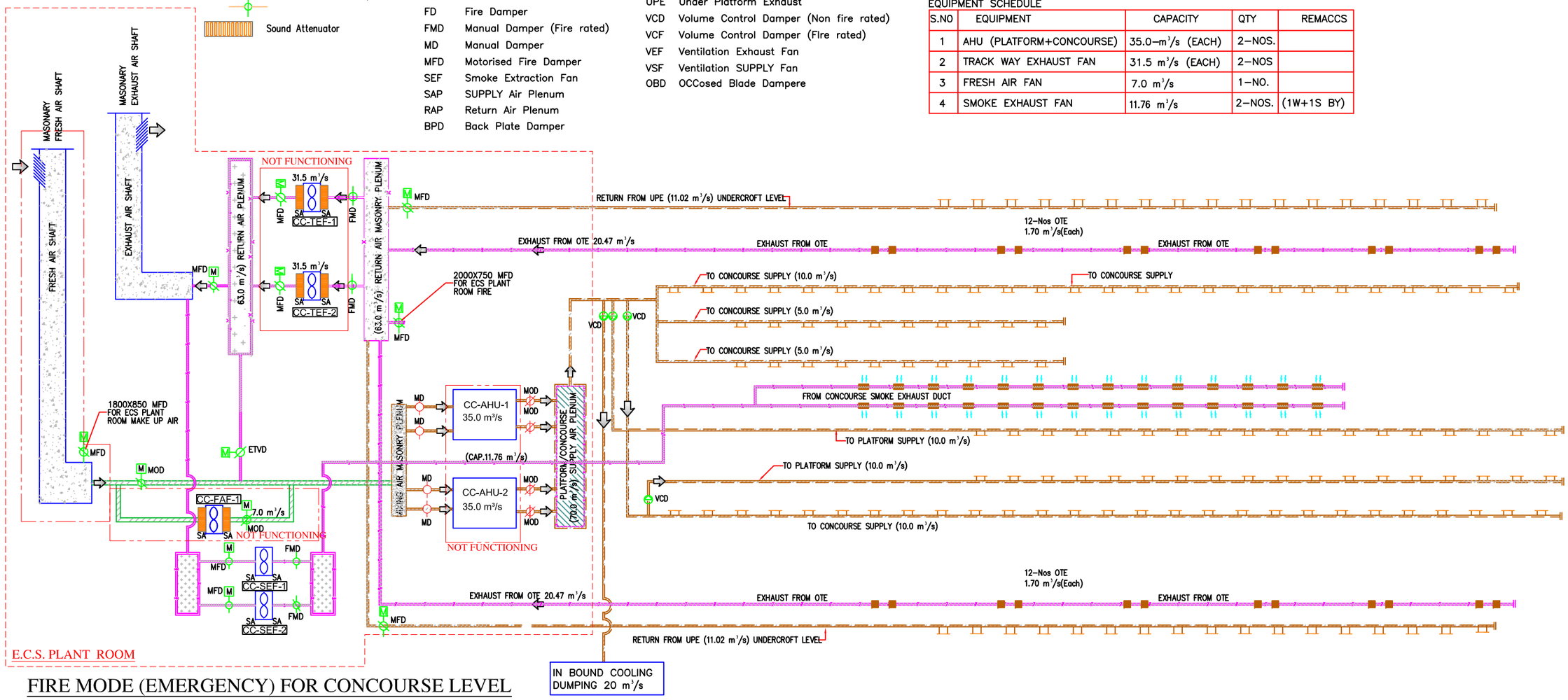

FIRE MODE (EMERGENCY) FOR CONCOURSE LEVEL

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Drg. No.	Description

REVISIONS

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APPROVAL BY DMRC

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

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Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.1

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1605A	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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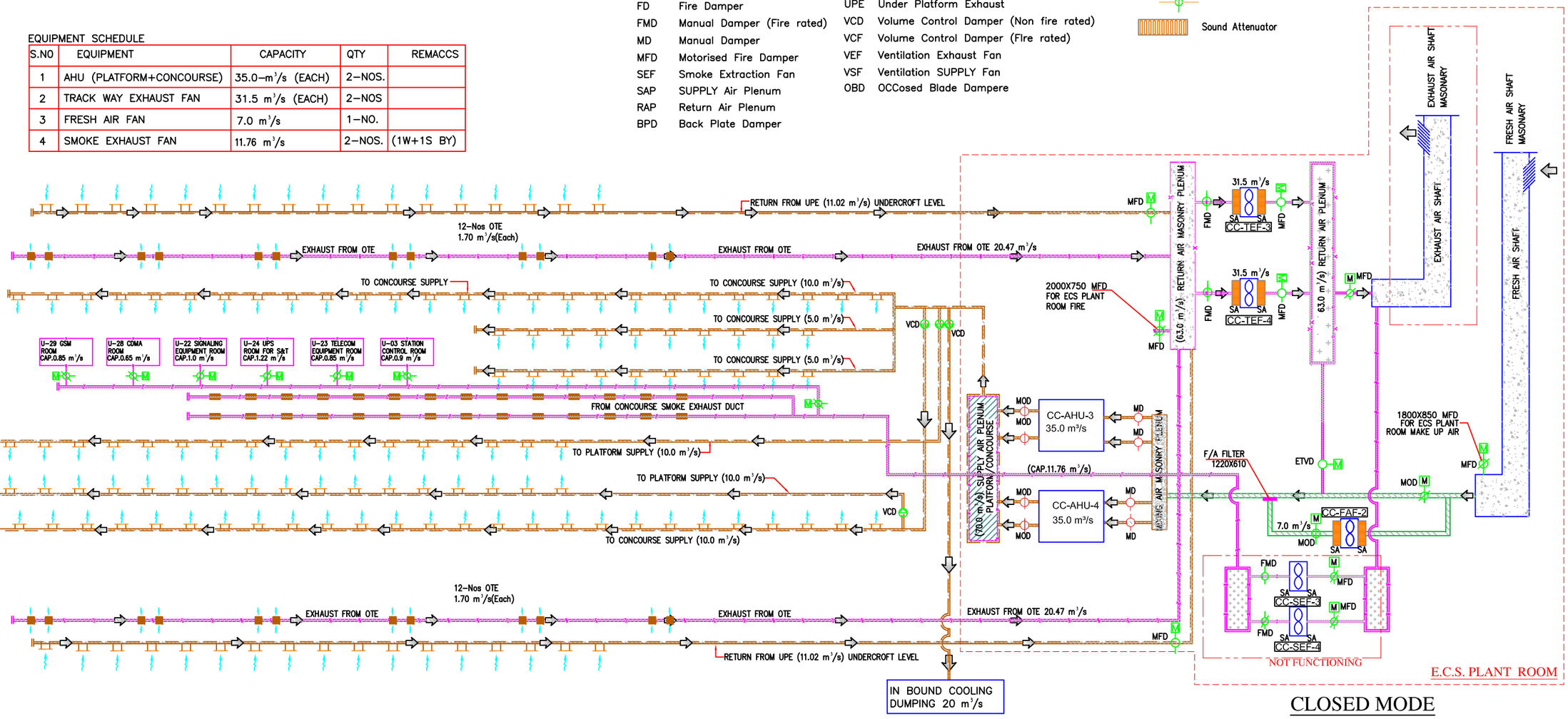

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

Architecture Design In-charge/ Coordinator	Structure Design In-charge/ Coordinator	E&M Design In-charge/ Coordinator

DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

ayesa Engineering. Information. Imagination.
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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.2

DRAWN BY: ADIL	CHECKED BY: NITIN	VERIFIED BY: L.R.S	JP/EW/1B/DDC01
DATE: 31-03-2015	REV: R0	GRAPHICAL SCALE: N.T.S	STATUS: FOR TENDER
DRAWING NUMBER: JP-TD-ECS-11BC-1606	SHEET NO. 1 OF 1	SHEET SIZE UNE A1	ORDER Nº P36-0017

ECS

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Abbreviations

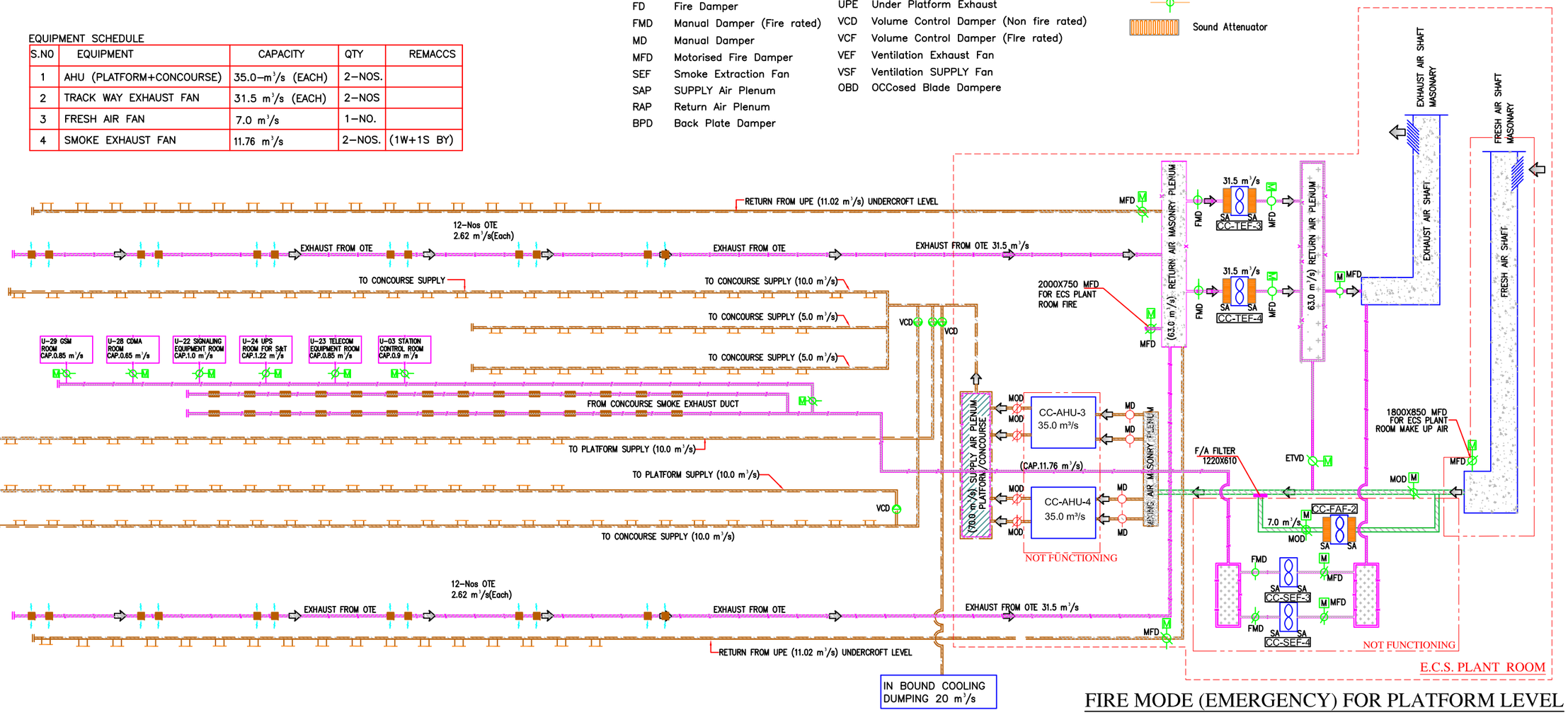
AHU	Air Handling Unit
DC	Damper close
DO	Damper Open
DB	Distribution Board
FAF	Fresh Air Fan
F/A	From Above
F/B	From Below
FCU	Fan Coil Unit
FD	Fire Damper
FMD	Manual Damper (Fire rated)
MD	Manual Damper
MFD	Motorised Fire Damper
SEF	Smoke Extraction Fan
SAP	SUPPLY Air Plenum
RAP	Return Air Plenum
BPD	Back Plate Damper
MOD	Motor Operated Damper
OTE	Over Track Exhaust
R.A	Return Air
S.A	SUPPLY Air
T/A	To Above
T/B	To Below
TEA	Track Way Exhaust Attenuator
TEF	Track Way Exhaust Fan
UPE	Under Platform Exhaust
VCD	Volume Control Damper (Non fire rated)
VCF	Volume Control Damper (FIre rated)
VEF	Ventilation Exhaust Fan
VSF	Ventilation SUPPLY Fan
OBD	OCCosed Blade Dampere

Legend

- Axial Fan (Schematic)
- Damper Closed
- Damper Open
- Manual Isolation Damper
- Volume Control Damper
- MFD M Motorised Fire Damper
- Sound Attenuator

EQUIPMENT SCHEDULE

S.NO	EQUIPMENT	CAPACITY	QTY	REMACCS
1	AHU (PLATFORM+CONCOURSE)	35.0–m³/s (EACH)	2–NOS.	
2	TRACK WAY EXHAUST FAN	31.5 m³/s (EACH)	2–NOS	
3	FRESH AIR FAN	7.0 m³/s	1–NO.	
4	SMOKE EXHAUST FAN	11.76 m³/s	2–NOS.	(1W+1S BY)



FIRE MODE (EMERGENCY) FOR PLATFORM LEVEL

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Drg. No.	Description

REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

APPROVAL BY DMRC

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DY CSTE/AFC		ED/S&T	CSO
DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
DY CE/PLANNING	DY CEE/E&M	DY CEE/ECS	ED/ELEC -II
DY CEE/(E)UG-TR	CGM(E) UG-TR	PM	CPM

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

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DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.2

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1607	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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Abbreviations

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Legend

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- Damper Closed
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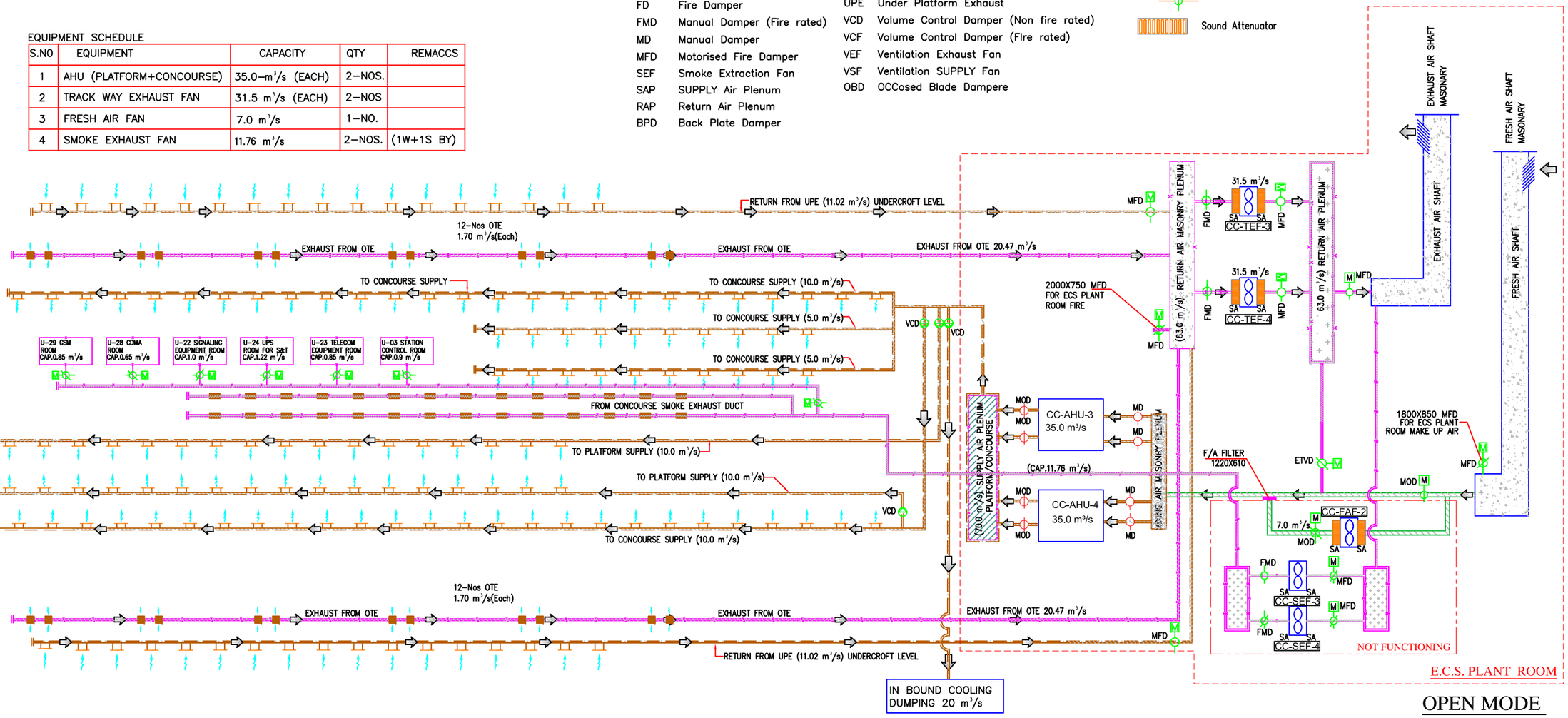

OPEN MODE

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

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DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.2

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1608	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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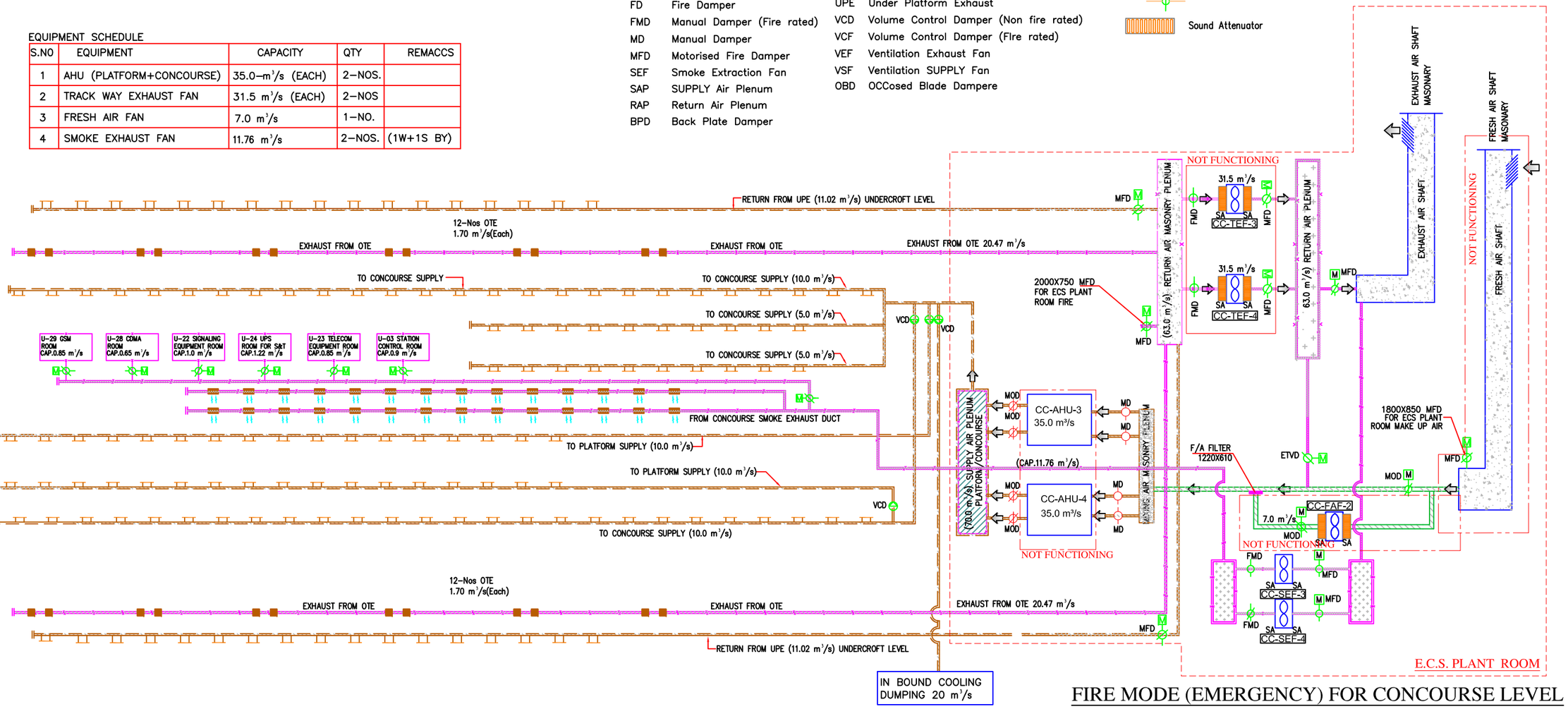

FIRE MODE (EMERGENCY) FOR CONCOURSE LEVEL

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PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW SCHEMATIC-ECS PLANT ROOM 19.2

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

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JP-TD-ECS-11BC-1608A	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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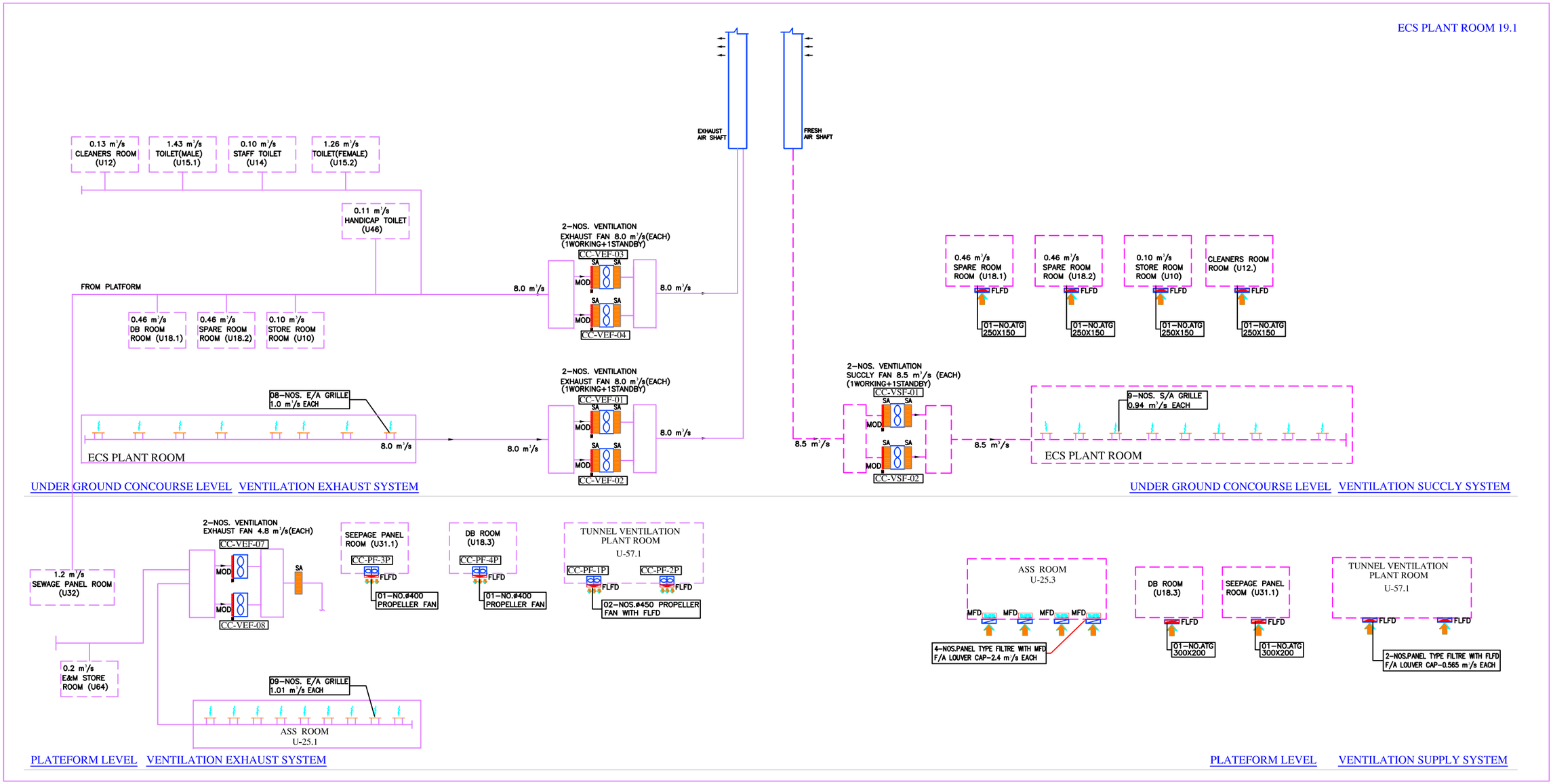
ECS PLANT ROOM 19.1



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PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW VENTILATION ECS PLANT ROOM 19.1

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

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JP-TD-ECS-11BC-1609	1 OF 1	UNE A1	P36-0017

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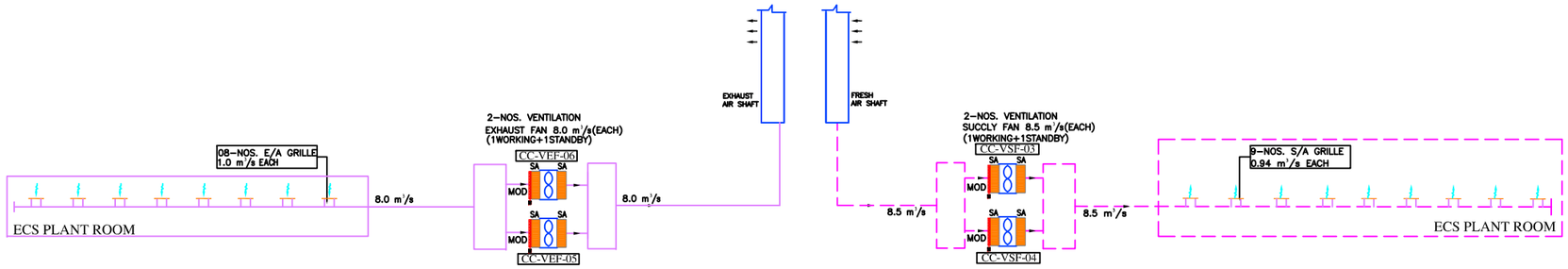
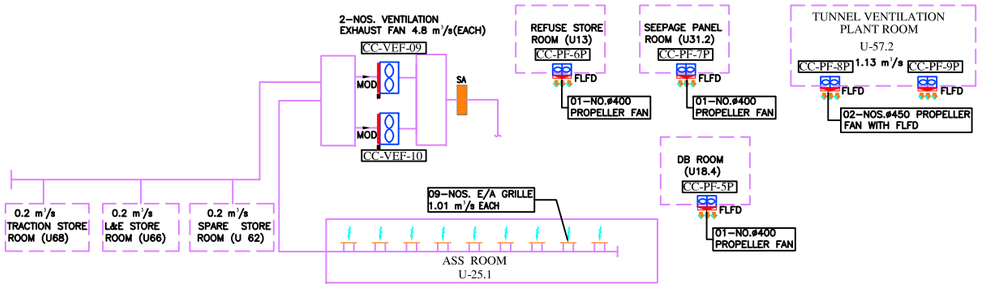
ECS PLANT ROOM 19.2

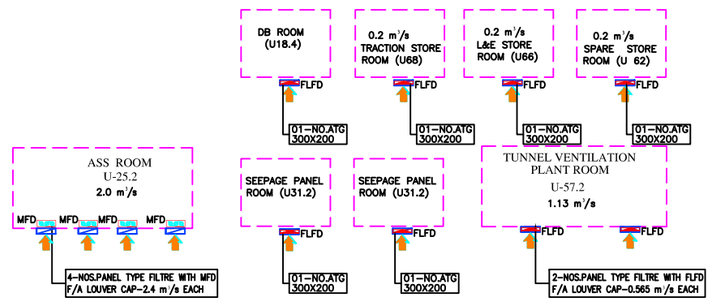


UNDER GROUND CONCOURSE LEVEL VENTILATION EXHAUST SYSTEM

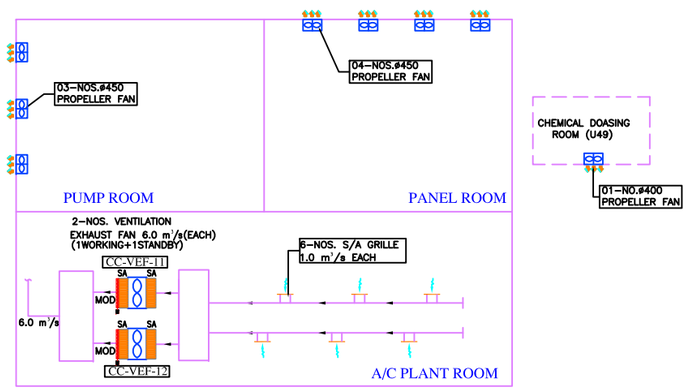
UNDER GROUND CONCOURSE LEVEL VENTILATION SUPPLY SYSTEM



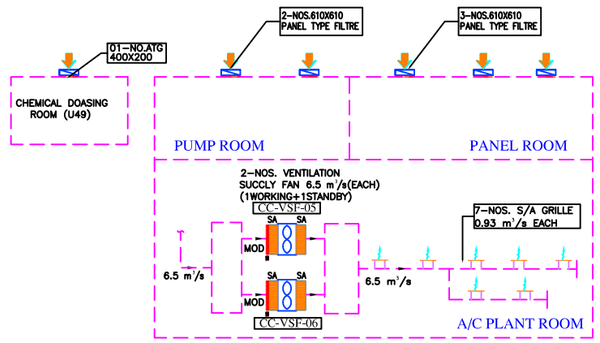
PLATEFORM LEVEL VENTILATION EXHAUST SYSTEM



PLATEFORM LEVEL VENTILATION SUPPLY SYSTEM



VENTILATION EXHAUST SYSTEM



VENTILATION SUPPLY SYSTEM

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PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: AIR FLOW VENTILATION ECS PLANT ROOM 19.2

DRAWN BY:	CHECKED BY:	VERIFIED BY:
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DATE:	REV:	GRAPHICAL SCALE:	STATUS:
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DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-11BC-1610	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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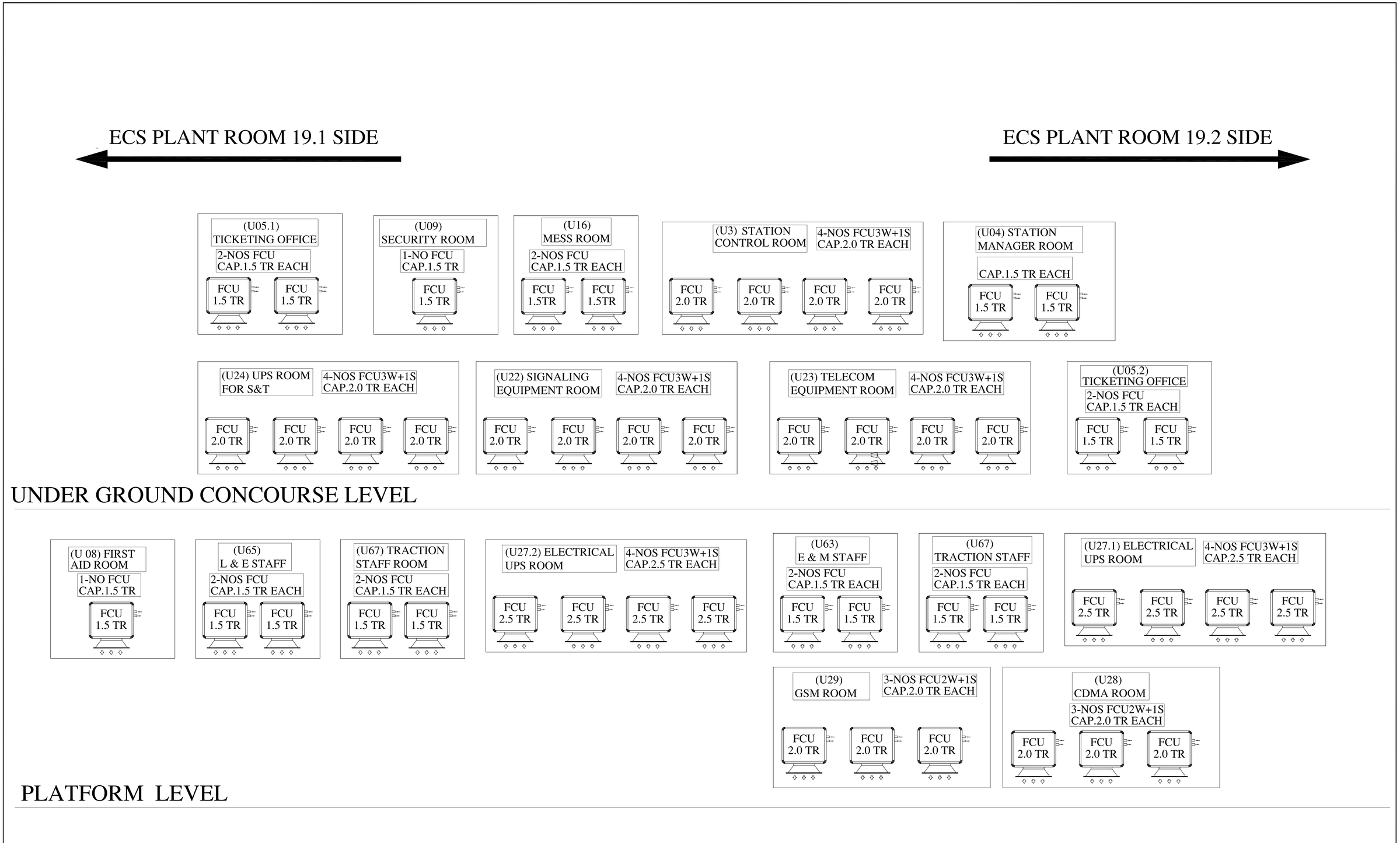

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DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
DY CE/PLANNING	DY CEE/E&M	DY CEE/ECS	ED/ELEC -II
DY CEE/(E)UG-TR	CGM(E) UG-TR	PM	CPM

Certified that this document has been designed and checked in accordance with DDC Quality Assurance Plan.

Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

Architecture	Structure	E&M
Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

ayesa Engineering, Information, Imagination.
56, Indo-Asia House, Institutional Area, sector-44
Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: **AIR FLOW SCHEMATIC FOR FCU**

DRAWN BY :	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	N.T.S	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS-11BC-1611	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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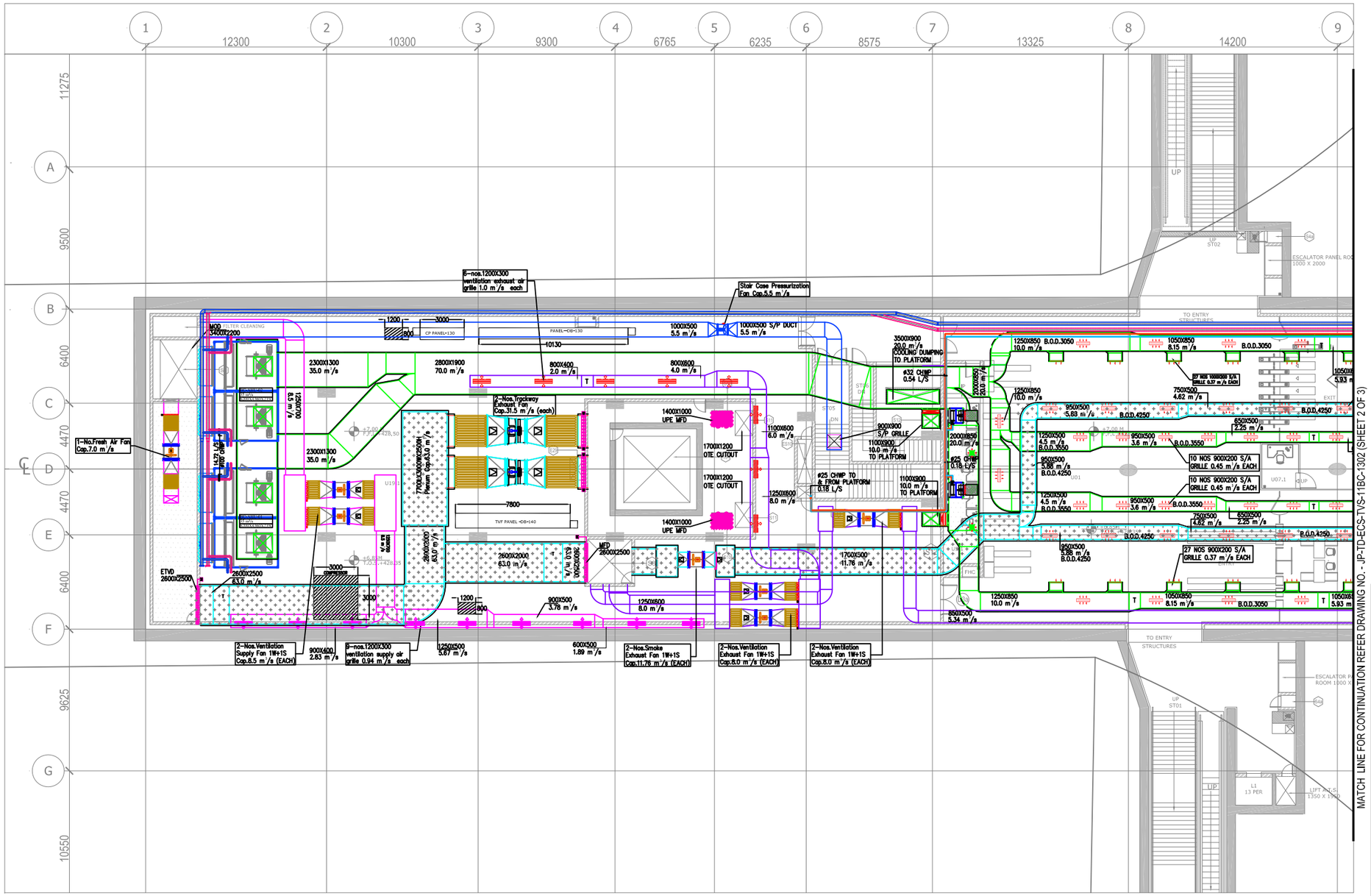
3. ALL SUPPLY AND RETURN AIR DUCTING INSULATED WITH 50mm. THK. FIBREGLASS INSULATION IN NON–A/C AREA.
4. ALL CHILLED WATER PIPING INSULATED AS PER SPECIFICATION.
5. ALL LEVELS OF DUCTS AND PIPES ARE FROM FINISHED FLOOR LEVELS.
6. FOR ECS RELATED ELECTRICAL PLEASE REFER ECS ELECTRICAL LAYOUT.

ABBREVIATIONS

CC	CHOTI CHOUPER STATION
AHU	Air Handling Unit
FAF	Fresh Air Fan
FCU	Fan Coil Unit
MD	Manual Damper
MFD	Motorised Fire Damper
MOD	Motor Operated Damper
OTE	Over Track Exhaust
R.A.G	Return Air Grille
S.A.G	Supply Air Grille
F.A.G	Fresh Air Grille
TEF	Track Way Exhaust Fan
UPE	Under Platform Exhaust
VCD	Volume Control Damper (Non fire rated)
VEF	Ventilation Exhaust Fan
VSF	Ventilation Supply Fan
B.O.D.	Bottom of Duct
CHWP	CHILLED WATER PIPE
CDWP	CONDENSER WATER PIPE
VSD	VENTILATION SUPPLY DUCT
VED	VENTILATION EXHAUST DUCT



LEGEND

- CHW SUPPLY PIPE
- CHW RETURNE PIPE
- CHW SUPPLY PIPE(AIR COOLED CHILLER)
- CHW RETURNE PIPE(AIR COOLED CHILLER)
- CDW SUPPLY PIPE
- CDW RETURNE PIPE
- EQUALIZER HEADER
- MAKEUP HEADER
- DRAIN&OVERFLOW HEADER
- VENTILATION EXHAUST DUCT
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- MOTORISED OPRATED DAMPER
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LEGEND

- AIR HANDLING UNIT FLOOR MOUNTED
- WATER COOLED CHILLER
- CONDENSER PUMP
- SECONDARY PUMP
- PRIMARY PUMP
- FAN COIL UNIT
- AXIL FAN
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- FAN COIL UNIT
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (M.L) (L.xW)	AREA (Sqm.)
1	U01	UNPAID AREA		1230.80*
2	U02	PAID AREA		1210.73*
3	U03	STATION CONTROL ROOM (SCR)	7.200 x 7.060	50.83
4	U04	STATION MANAGER ROOM (SMR)	4.300 x 7.060	29.46*
5	U05.1	TICKET OFFICE (TOM)	2.500 x 14.35	34.76*
6	U05.2	TICKET OFFICE (TOM)	2.500 x 14.35	34.46*
7	U07.1	EXCESS FARE OFFICE (EFO)	2.500 x 3.000	7.50
8	U07.2	EXCESS FARE OFFICE (EFO)	2.500 x 3.000	7.50
9	U09	SECURITY ROOM 1	3.500 x 7.060	24.71
10	U10	STATION STORE ROOM	3.50 x 5.26	18.40
11	U12	JANITOR ROOM	1.700 x 2000	3.40
12	U14	STAFF TOILET	1.700 x 2.500	4.24
13	U15.1(M)	PUBLIC TOILETS (Male)	5.850 x 4.700	25.36
14	U15.2(F)	PUBLIC TOILETS (Female)	4.100 x 5.835	23.47
15	U16	MESS ROOM	6.100 x 5.280	32.20
16	U18.1	DB ROOM	8.100 x 7.060	53.64*
17	U18.2	DB ROOM	6.500 x 7.060	44.80*
18	U19.1	ECS PLANT ROOM (ECS)	53.525 x 20.740	930.00*
19	U19.2	ECS PLANT ROOM (ECS)	53.525 x 20.740	930.00*
20	U22	SIGNALLING EQUIPMENT ROOM (SER)	5.565 x 10.740	59.76
21	U23	TELECOM EQUIPMENT ROOM (TER)	4.335 x 10.740	46.14*
22	U24	UPS ROOM for S&T	5.500 x 10.740	59.06
23	U 42.1	TREATED WATER TANK	5.000 x 4.500	22.50
24	U 42.2	RAIN WATER TANK	5.000 x 4.500	22.50
25	U 42.3	FIRE TANKS	5.000 x 4.500	22.50
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27	U46	HANDICAP TOILET	1.750 x 2.250	3.95
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29	U48	CHILLER ROOM	24.45 X 19.975	446.50*

* AS PER POLY LINE

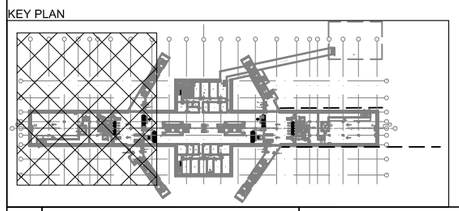
ECS SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S2	FRESH AIR– 2 NO	SHAFT	2.5X4.0	10.00	–
S3	EXHAUST AIR– 2 NO	SHAFT	3.0X3.0	9.00	–
S10	U.P.E CUT OUT–4NO.		1.4X1.0	1.40	FLOOR
S11	O.T.E CUT OUT–4NO.		1.7X1.2	2.04	FLOOR
S12	SUPPLY AIR DUCT TO PLATFORM–4NO.		1.3X1.1	1.43	FLOOR
S13	CUT OUT DUCT FOR DUMP. TO PLATFORM–2NO.		3.8X1.1	4.18	FLOOR

TVS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
TVS–1	TUNNEL VENTILATION CUTOUT 2 NO	4.5X4.5	20.25	FLOOR
	TUNNEL VENTILATION SHAFT 2 NO	5.5X5.5	30.25	–

KEY PLAN



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REFERENCE DRAWINGS

Drg. No.	Description

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REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

APPROVAL BY DMRC

DMRC APPROVAL	MGR/ARCH	DY CA (UG)-III	CA/ARCH
DY CSTE/TELECOM	CSTE-I	DY CE/DESIGN	CE/TECH
DY CSTE/AFC		ED/S&T	CSO
DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
DY CE/PLANNING	DY CEE/E&M	DY CEE/ECS	ED/ELEC -II
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Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT CONCOURSE LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	1:150	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS/TVS-11BC-1301	1 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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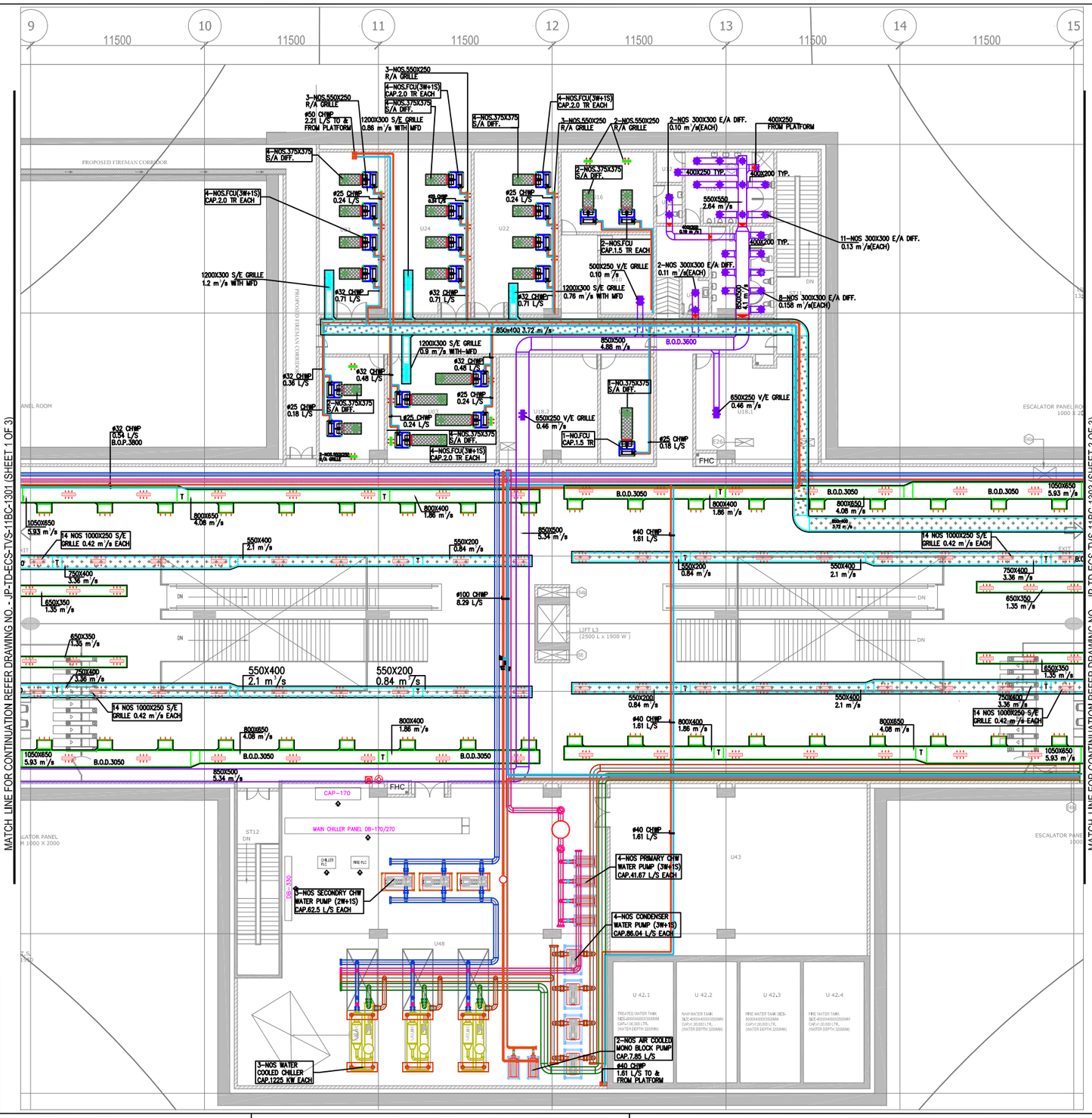

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VCD	Volume Control Damper (Non fire rated)
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B.O.D.	Bottom of Duct
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- PRIMARY PUMP
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ECS SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S2	FRESH AIR- 2 NO	SHAFT	2.5X4.0	10.00	-
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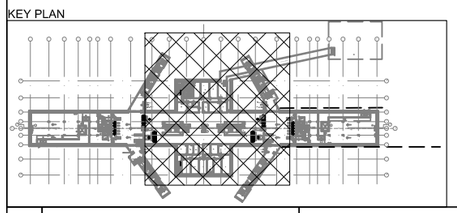
S10	U.P.E. CUT OUT-4NO.		1.4X1.0	1.40	FLOOR
S11	O.T.E CUT OUT-4NO.		1.7X1.2	2.04	FLOOR
S12	SUPPLY AIR DUCT TO PLATFORM-4NO.		1.3X1.1	1.43	FLOOR
S13	CUT OUT DUCT FOR DUMP. TO PLATFORM-2NO.		3.8X1.1	4.18	FLOOR

TVS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
TVS-1	TUNNEL VENTILATION CUTOUT 2 NO	4.5X4.5	20.25	FLOOR
	TUNNEL VENTILATION SHAFT 2 NO	5.5X5.5	30.25	-

KEY PLAN



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REFERENCE DRAWINGS

Drg. No.	Description

REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

APPROVAL BY DMRC

DMRC APPROVAL	MGR/ARCH	DY CA (UG)-III	CA/ARCH
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DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
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JP/EW/1B/DDC01 Project Manager

Architecture
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PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT CONCOURSE LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	1:150	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS/TVS-11BC-1302	2 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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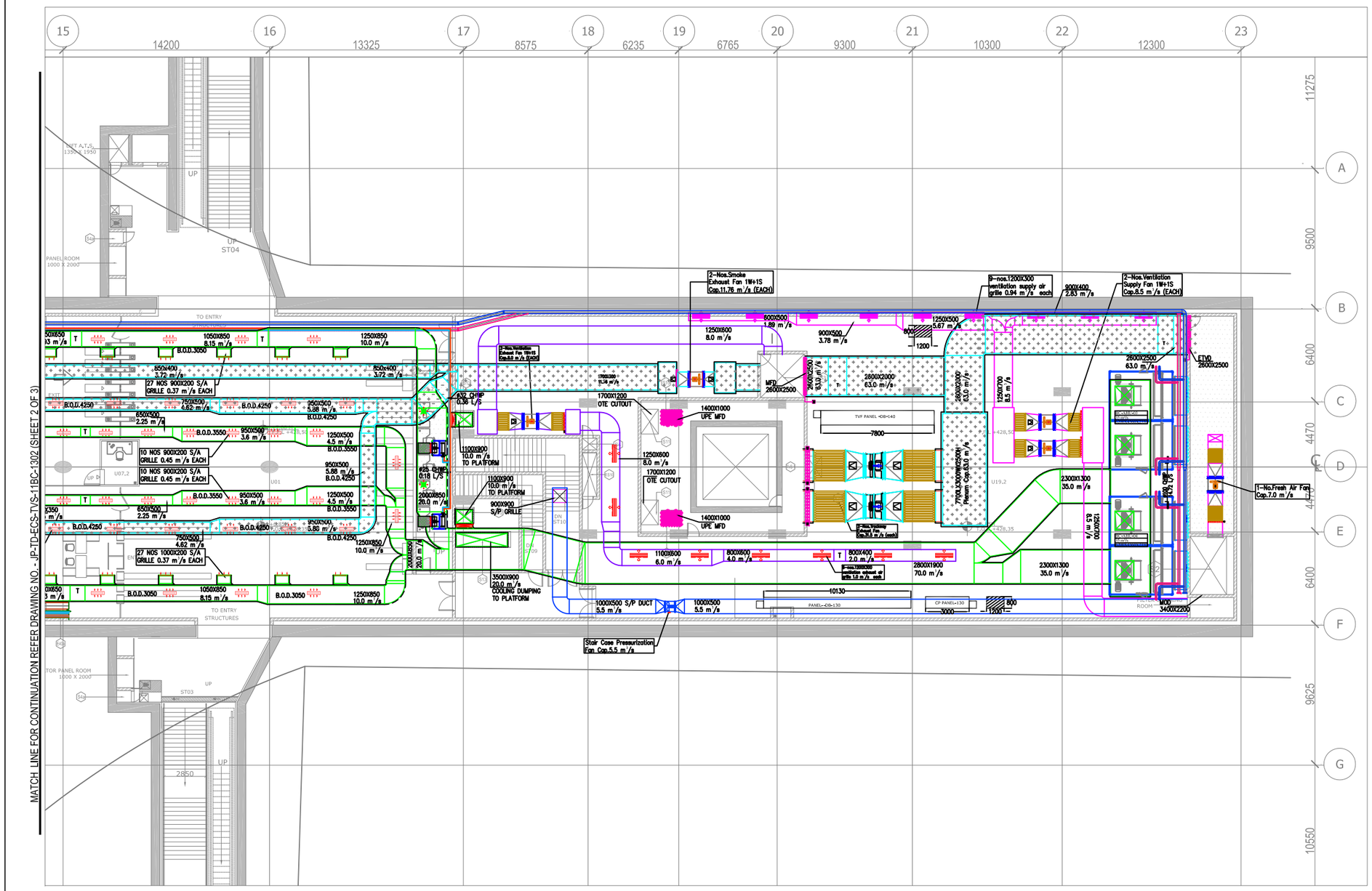
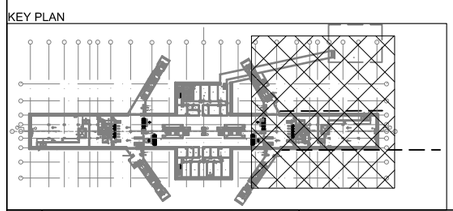


KEY PLAN



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1	U01	UNPAID AREA		1230.80*
2	U02	PAID AREA		1210.73*
3	U03	STATION CONTROL ROOM (SCR)	7.200 x 7.060	50.83
4	U04	STATION MANAGER ROOM (SMR)	4.300 x 7.060	29.46*
5	U05.1	TICKET OFFICE (TOM)	2.500 x 14.35	34.76*
6	U05.2	TICKET OFFICE (TOM)	2.500 x 14.35	34.46*
7	U07.1	EXCESS FARE OFFICE (EFO)	2.500 x 3.000	7.50
8	U07.2	EXCESS FARE OFFICE (EFO)	2.500 x 3.000	7.50
9	U09	SECURITY ROOM 1	3.500 x 7.060	24.71
10	U10	STATION STORE ROOM	3.50 x 5.26	18.40
11	U12	JANITOR ROOM	1.700 x 2000	3.40
12	U14	STAFF TOILET	1.700 x 2.500	4.24
13	U15.1(M)	PUBLIC TOILETS (Male)	5.850 x 4.700	25.36
14	U15.2(F)	PUBLIC TOILETS (Female)	4.100 x 5.835	23.47
15	U16	MESS ROOM	6.100 x 5.280	32.20
16	U18.1	DB ROOM	8.100 x 7.060	53.64*
17	U18.2	DB ROOM	6.500 x 7.060	44.80*
18	U19.1	ECS PLANT ROOM (ECS)	53.525 x 20.740	930.00*
19	U19.2	ECS PLANT ROOM (ECS)	53.525 x 20.740	930.00*
20	U22	SIGNALLING EQUIPMENT ROOM (SER)	5.565 x 10.740	59.76
21	U23	TELECOM EQUIPMENT ROOM (TER)	4.335 x 10.740	46.14*
22	U24	UPS ROOM for S&T	5.500 x 10.740	59.06
23	U 42.1	TREATED WATER TANK	5.000 x 4.500	22.50
24	U 42.2	RAIN WATER TANK	5.000 x 4.500	22.50
25	U 42.3	FIRE TANKS	5.000 x 4.500	22.50
26	U 42.4	FIRE TANKS	5.000 x 4.500	22.50
27	U46	HANDICAP TOILET	1.750 x 2.250	3.95
28	U43	PUMP ROOM	8.100 x 7.060	53.64*
29	U48	CHILLER ROOM	24.45 X 19.975	446.50*

* AS PER POLY LINE

ECS SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S2	FRESH AIR- 2 NO	SHAFT	2.5X4.0	10.00	-
S3	EXHAUST AIR- 2 NO	SHAFT	3.0X3.0	9.00	-
S10	U.P.E CUT OUT-4NO.		1.4X1.0	1.40	FLOOR
S11	O.T.E CUT OUT-4NO.		1.7X1.2	2.04	FLOOR
S12	SUPPLY AIR DUCT TO PLATFORM-4NO.		1.3X1.1	1.43	FLOOR
S13	CUT OUT DUCT FOR DUMP. TO PLATFORM-2NO.		3.8X1.1	4.18	FLOOR

TVS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
TVS-1	TUNNEL VENTILATION CUTOUT 2 NO	4.5X4.5	20.25	FLOOR
	TUNNEL VENTILATION SHAFT 2 NO	5.5X5.5	30.25	-

N

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REFERENCE DRAWINGS

Drg. No.	Description

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REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

APPROVAL BY DMRC

DMRC APPROVAL	MGR/ARCH	DY CA (UG)-III	CA/ARCH
DY CSTE/TELECOM	CSTE-I	DY CE/DESIGN	CE/TECH
DY CSTE/AFC		ED/S&T	CSO
DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
DY CE/PLANNING	DY CEE/E&M	DY CEE/ECS	ED/ELEC -II
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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

Architecture	Structure	E&M
Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

ayesa Engineering. Information. Imagination.
56, Indo-Asia House, Institutional Area, sector-44
Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT CONCOURSE LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	1:150	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS/TVS-11BC-1303	3 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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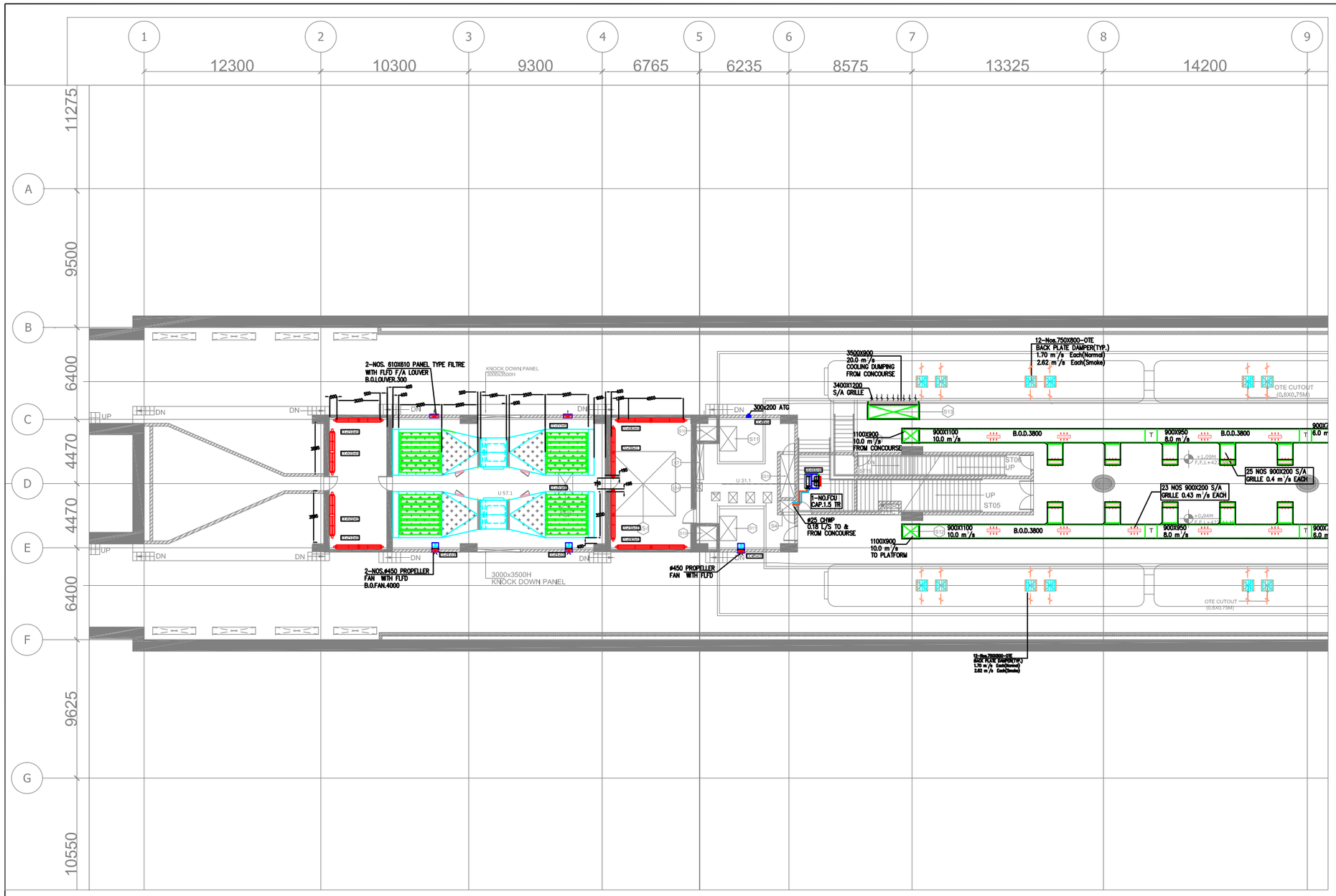

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ABBREVIATIONS

CC	CHOTI CHOUPER STATION
AHU	Air Handling Unit
FAF	Fresh Air Fan
FCU	Fan Coil Unit
MD	Manual Damper
MFD	Motorised Fire Damper
MOD	Motor Operated Damper
OTE	Over Track Exhaust
R.A.G	Return Air Grille
S.A.G	Supply Air Grille
F.A.G	Fresh Air Grille
TEF	Track Way Exhaust Fan
UPE	Under Platform Exhaust
VCD	Volume Control Damper (Non fire rated)
VEF	Ventilation Exhaust Fan
VSF	Ventilation Supply Fan
B.O.D.	Bottom of Duct
CHWP	**CHILLED WATER PIPE**
CDWP	**CONDENSER WATER PIPE**
VSD	**VENTILATION SUPPLY DUCT**
VED	**VENTILATION EXHAUST DUCT**

LEGEND

- CHW SUPPLY PIPE
- CHW RETURNE PIPE
- CHW SUPPLY PIPE(AIR COOLED CHILLER)
- CHW RETURNE PIPE(AIR COOLED CHILLER)
- CDW SUPPLY PIPE
- CDW RETURNE PIPE
- EQUALIZER HEADER
- MAKEUP HEADER
- DRAIN&OVERFLOW HEADER
- VENTILATION EXHAUST DUCT
- VENTILATION SUPPLY DUCT
- MOTORISED OPRATED DAMPER
- VOLUME CONTROL DAMPER
- MOTORISED FIRE DAMPER
- FIRE RATED MANUAL DAMPER
- MANUAL DAMPER
- RETURNE AIR DUCT FIRE RATED
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- VENTILATION EXHAUST AIR DUCT
- STAIRCASE PRESSURIZATION DUCT
- SMOKE EXHAUST DUCT
- SUPPLY AIR GRILLE
- EXHAUST/SMOKE EXHAUST GRILLE
- UNDER PLATFORM EXHAUST GRILLE

LEGEND

- AIR HANDLING UNIT FLOOR MOUNTED
- FAN COIL UNIT
- AXIL FAN
- PROPELLER FAN
- FAN COIL UNIT
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

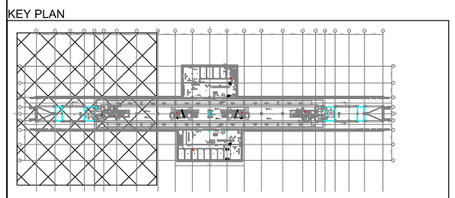
S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (Mt.) (LxW)	AREA (Sqm.)
1	U02	PAID AREA		133.2*
2	U08	FIRST AID SPACE	3.960 x 3.960	15.68
3	U13	REFUSE STORE 1	3.960 x 3.960	15.68
4	U18.3	DB ROOM	5.810 x 2.450	14.23
5	U18.4	DB ROOM	5.810 x 2.450	14.23
6	U25.1	AUXILLIARY SUB STATION(ASS)1	35.200 x 10.060	349.43*
7	U25.2	AUXILLIARY SUB STATION(ASS)2	36.100 x 10.025	357.21*
8	U27.1	ELECTRICAL UPS ROOM 1	11.050 x 10.340	114.21
9	U27.2	ELECTRICAL UPS ROOM 2	11.250 x 9.750	109.68
10	U28	GSM ROOM	4.105 x 7.740	31.77
11	U29	COMA ROOM	4.000 x 7.740	30.96
12	U31.1	SEEPAGE ROOM 1	6.835 x 9.140	52.40*
13	U31.2	SEEPAGE ROOM 2	6.835 x 9.140	52.40*
14	U32	SEEWAGE ROOM	3.550 x 7.740	24.30*
15	U57.1	TUNNEL VENTILATION ROOM(TVS)1	14.800 x 9.140	133.70*
16	U57.2	TUNNEL VENTILATION ROOM(TVS)2	14.800 x 9.140	133.70*
17	PSB	PLATFORM SUPERVISOR BOOTH- 2 NO	2.500 x 2.600	6.50
18	U62.1	SPARE ROOM	4.100 x 7.075	29.00
19	U62.2	SPARE ROOM	4.100 x 7.075	29.00
20	U62.3	SPARE ROOM	4.100 x 7.075	28.31*
21	U63	E & M STAFF ROOM	4.550 x 7.740	35.22
22	U64	E & M STORE ROOM	4.000 x 7.740	30.96
23	U65	L & E STAFF	4.100 x 7.075	29.00
24	U66	L & E STORE	4.100 x 7.075	29.00
25	U67	TRACTION STAFF	4.100 x 7.075	29.00
26	U68	TRACTION STAFF-STORAGE	4.100 x 7.075	29.00

* AS PER POLY LINE

ECS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S10	UPE CUT OUT-4NO.	1.4X1.0	1.40	FLOOR

KEY PLAN



N

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REFERENCE DRAWINGS

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REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT PLATFORM LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	1:150	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS/TVS-11BC-1401	1 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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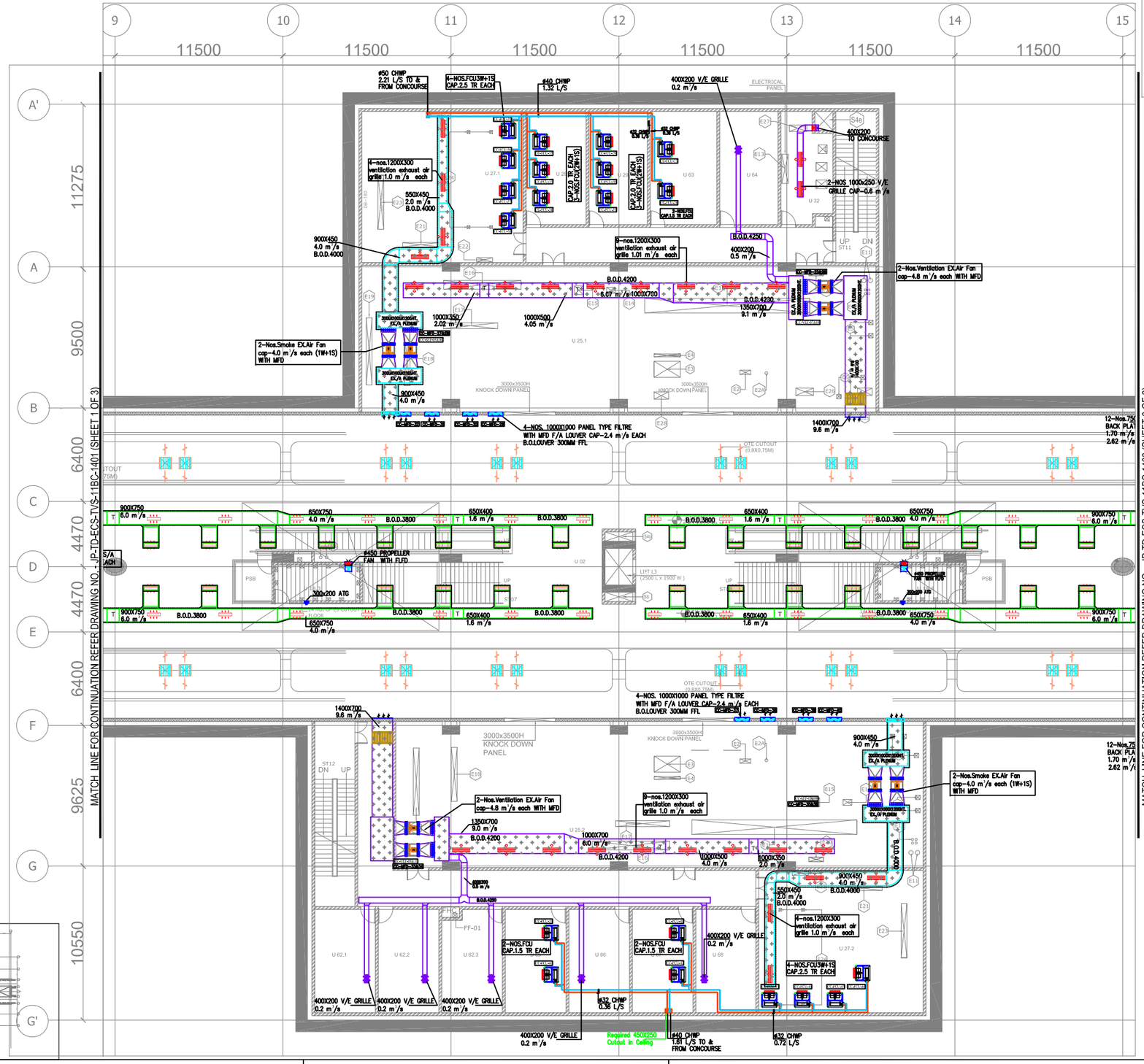

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ABBREVIATIONS

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FAF	Fresh Air Fan
FCU	Fan Coil Unit
MD	Manual Damper
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MOD	Motor Operated Damper
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LEGEND

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LEGEND

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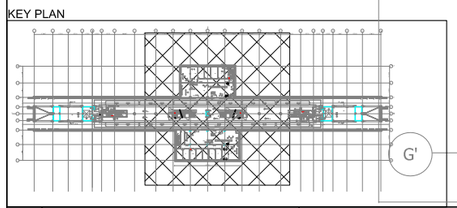
* AS PER POLY LINE

ECS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S10	UPE CUT OUT-4NO.	1.4X1.0	1.40	FLOOR

KEY PLAN



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REVISIONS

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DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT PLATFORM LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:	
ADIL	NITIN	L.R.S	
DATE: 31-03-2015	REV: R0	GRAPHICAL SCALE: 1:150	STATUS: FOR TENDER

DRAWING NUMBER: JP-TD-ECS/TVS-11BC-1402 | SHEET NO. 2 OF 3 | SHEET SIZE UNE A1 | ORDER N° P36-0017

JP/EW/1B/DDC01 | ECS/TVS

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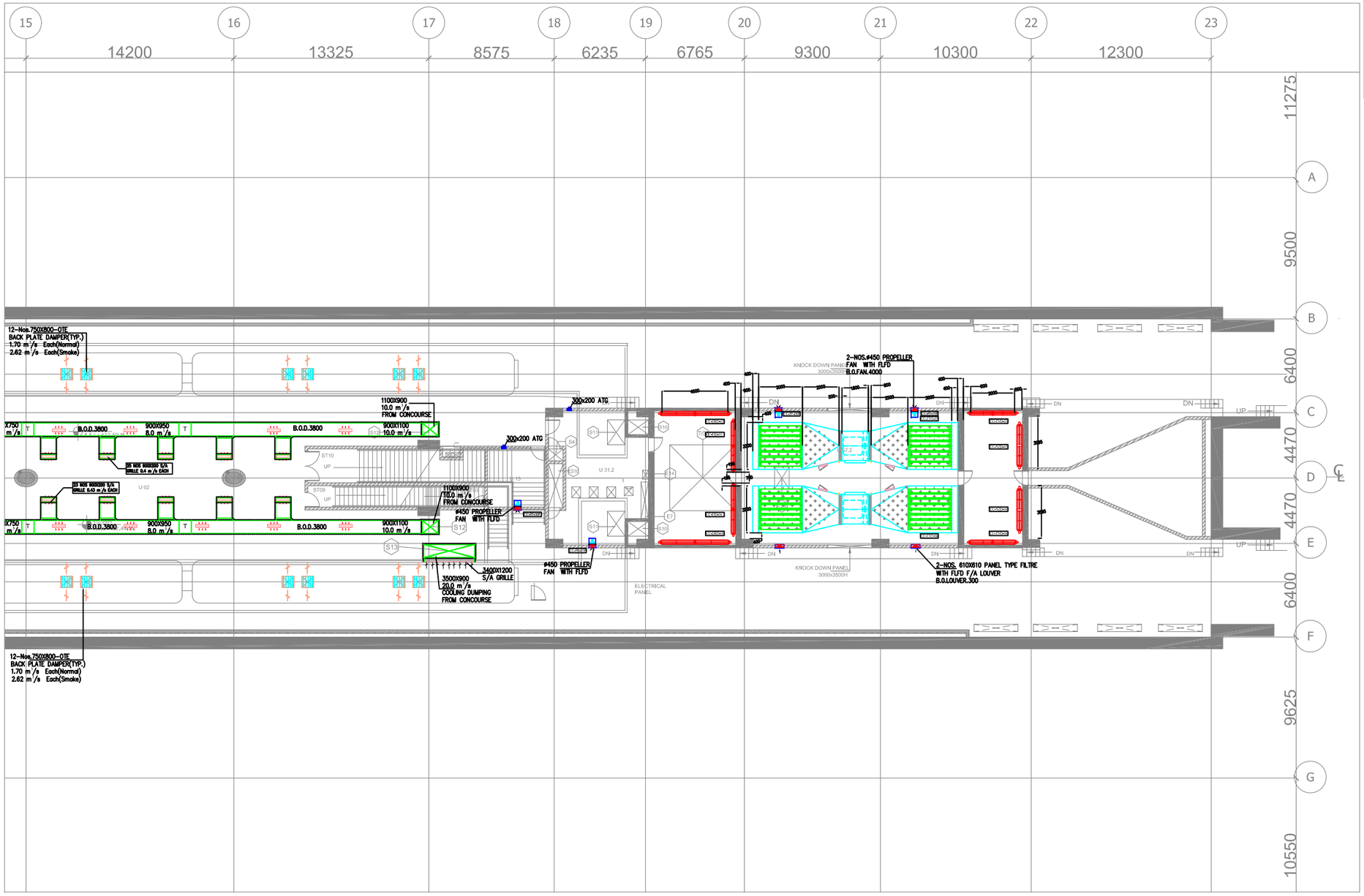

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VED	VENTILATION EXHAUST DUCT

LEGEND

- CHW SUPPLY PIPE
- CHW RETURNE PIPE
- CHW SUPPLY PIPE(AIR COOLED CHILLER)
- CHW RETURNE PIPE(AIR COOLED CHILLER)
- CDW SUPPLY PIPE
- CDW RETURNE PIPE
- EQUALIZER HEADER
- MAKEUP HEADER
- DRAIN&OVERFLOW HEADER
- VENTILATION EXHAUST DUCT
- VENTILATION SUPPLY DUCT
- MOTORISED OPRATED DAMPER
- VOLUME CONTROL DAMPER
- MOTORISED FIRE DAMPER
- FIRE RATED MANUAL DAMPER
- MANUAL DAMPER
- RETURNE AIR DUCT FIRE RATED
- SUPPLY AIR DUCT
- VENTILATION SUPPLY AIR DUCT
- VENTILATION EXHAUST AIR DUCT
- STAIRCASE PRESSURIZATION DUCT
- SMOKE EXHAUST DUCT
- SUPPLY AIR GRILLE
- EXHAUST/SMOKE EXHAUST GRILLE
- UNDER PLATFORM EXHAUST GRILLE

LEGEND

- AIR HANDLING UNIT FLOOR MOUNTED
- FAN COIL UNIT
- AXIL FAN
- PROPELLER FAN
- FAN COIL UNIT
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

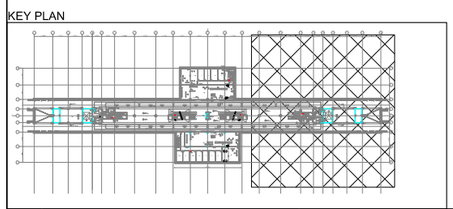
S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (Mt.) (LxW)	AREA (Sqm.)
1	U02	PAID AREA		1332*
2	U08	FIRST AID SPACE	3.960 x 3.960	15.68
3	U13	REFUSE STORE 1	3.960 x 3.960	15.68
4	U18.3	DB ROOM	5.810 x 2.450	14.23
5	U18.4	DB ROOM	5.810 x 2.450	14.23
6	U25.1	AUXILLIARY SUB STATION(ASS)1	35.200 x 10.060	349.43*
7	U25.2	AUXILLIARY SUB STATION(ASS)2	36.100 x 10.025	357.21*
8	U27.1	ELECTRICAL UPS ROOM 1	11.050 x 10.340	114.21
9	U27.2	ELECTRICAL UPS ROOM 2	11.250 x 9.750	109.68
10	U28	GSM ROOM	4.105 x 7.740	31.77
11	U29	CDMA ROOM	4.000 x 7.740	30.96
12	U31.1	SEEPAGE ROOM 1	6.835 x 9.140	52.40*
13	U31.2	SEEPAGE ROOM 2	6.835 x 9.140	52.40*
14	U32	SEEWAGE ROOM	3.550 x 7.740	24.30*
15	U57.1	TUNNEL VENTILATION ROOM(TVS)1	14.800 x 9.140	133.70*
16	U57.2	TUNNEL VENTILATION ROOM(TVS)2	14.800 x 9.140	133.70*
17	PSB	PLATFORM SUPERVISOR BOOTH– 2 NO	2.500 x 2.600	6.50
18	U62.1	SPARE ROOM	4.100 x 7.075	29.00
19	U62.2	SPARE ROOM	4.100 x 7.075	29.00
20	U62.3	SPARE ROOM	4.100 x 7.075	28.31*
21	U63	E & M STAFF ROOM	4.550 x 7.740	35.22
22	U64	E & M STORE ROOM	4.000 x 7.740	30.96
23	U65	L & E STAFF	4.100 x 7.075	29.00
24	U66	L & E STORE	4.100 x 7.075	29.00
25	U67	TRACTION STAFF	4.100 x 7.075	29.00
26	U68	TRACTION STAFF–STORAGE	4.100 x 7.075	29.00

* AS PER POLY LINE

ECS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S10	UPE CUT OUT–4NO.	1.4X1.0	1.40	FLOOR

KEY PLAN



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REFERENCE DRAWINGS

Drg. No.	Description

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REVISIONS

REV	PARTICULARS	DRN.	CHD.	VER.	DATE	ISSUE DATE	REV. FOR CONSTRUCTION

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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

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DETAIL DESIGN CONSULTANT (DDC) FOR CIVIL, ARCHITECTURAL & BUILDING WORKS OF TWO UNDERGROUND STATION (CHOTI CHOUPAR & BADI CHOUPAR), SHAFT AND TUNNELS OF PHASE 1B OF JAIPUR METRO

ayesa Engineering. Information. Imagination.
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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT CONCOURSE LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	1:150	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS/TVS-11BC-1403	3 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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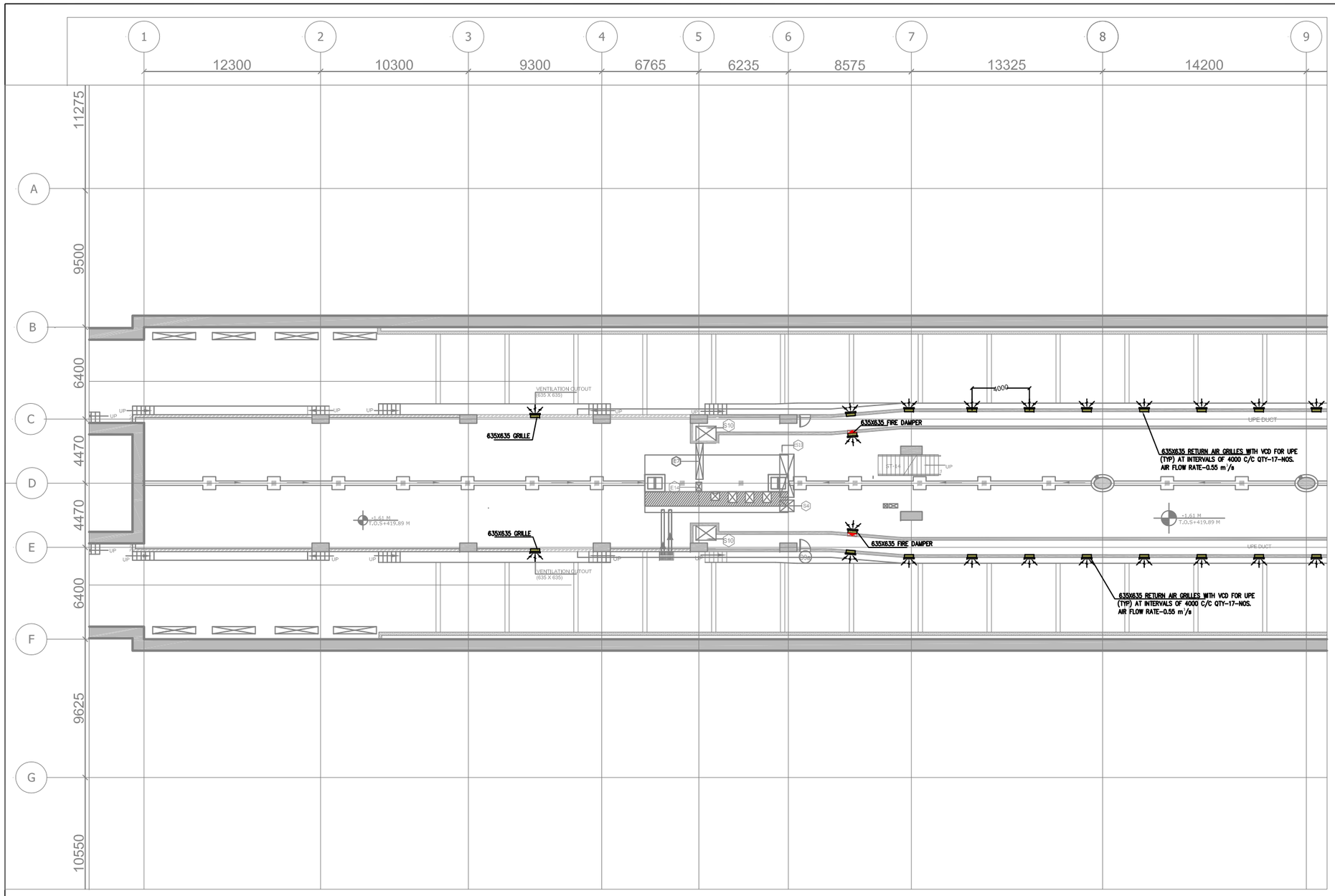

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ABBREVIATIONS

CC	CHOTI CHOUPER STATION
AHU	Air Handling Unit
FAF	Fresh Air Fan
FCU	Fan Coil Unit
MD	Manual Damper
MFD	Motorised Fire Damper
MOD	Motor Operated Damper
OTE	Over Track Exhaust
R.A.G	Return Air Grille
S.A.G	Supply Air Grille
F.A.G	Fresh Air Grille
TEF	Track Way Exhaust Fan
UPE	Under Platform Exhaust
VCD	Volume Control Damper (Non fire rated)
VEF	Ventilation Exhaust Fan
VSF	Ventilation Supply Fan
B.O.D.	Bottom of Duct
CHWP	**CHILLED WATER PIPE**
CDWP	**CONDENSER WATER PIPE**
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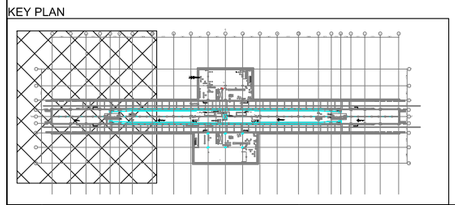
KEY PLAN



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Authorised Signatory for DDC.
JP/EW/1B/DDC01 Project Manager

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Design In-charge/ Coordinator	Design In-charge/ Coordinator	Design In-charge/ Coordinator

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Gurgaon - 122002 (Haryana)

DELHI METRO RAIL CORPORATION LTD.
Metro Bhawan , Fire Brigade Lane, Barakhamba Road, New Delhi-110001

PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT UNDER CROFT LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
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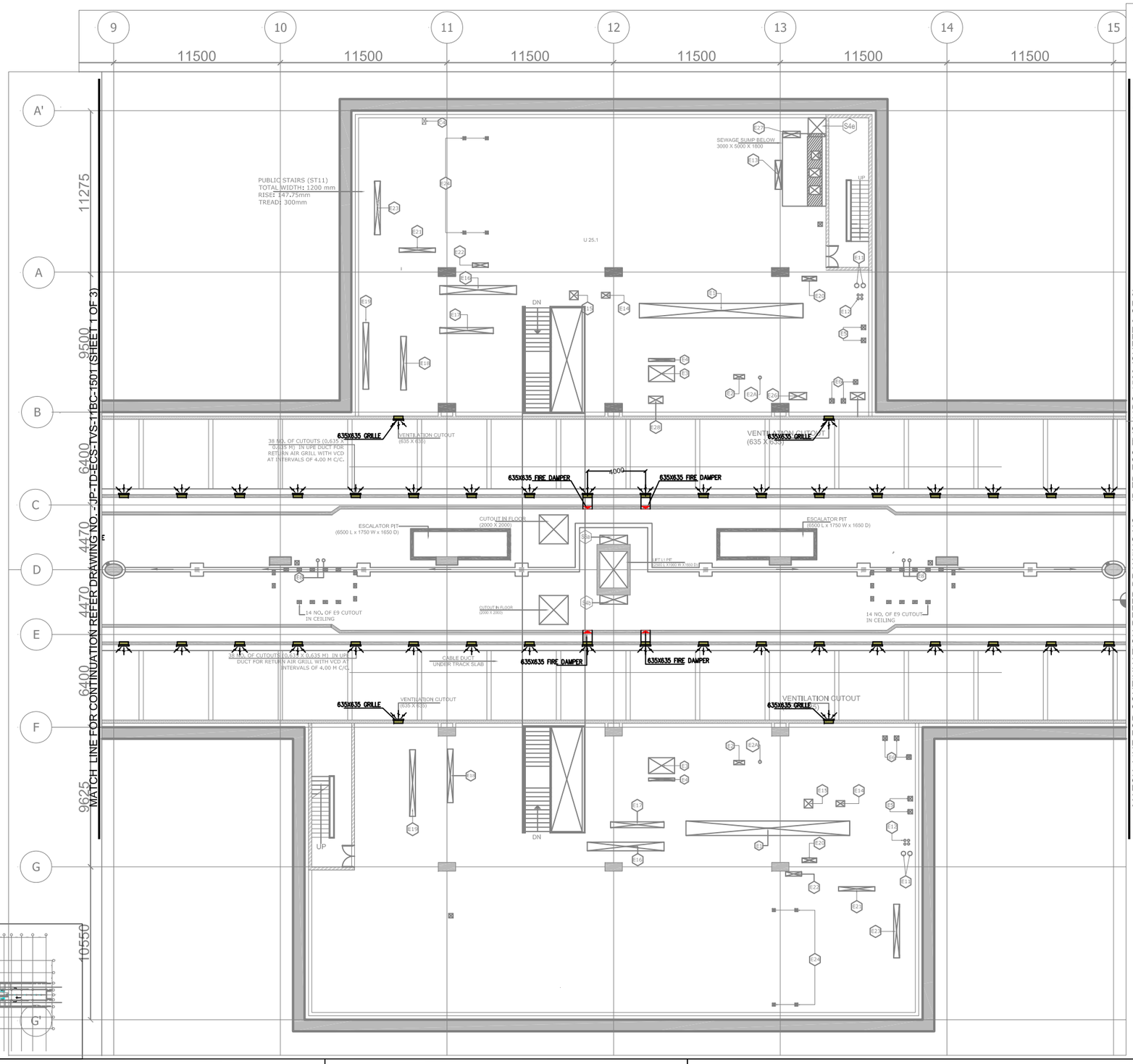

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ABBREVIATIONS

CC	CHOTI CHOUPER STATION
AHU	Air Handling Unit
FAF	Fresh Air Fan
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MOD	Motor Operated Damper
OTE	Over Track Exhaust
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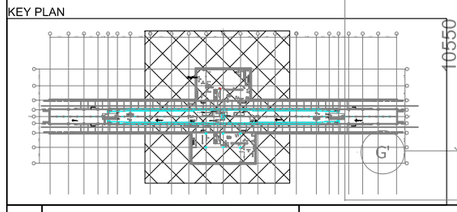
KEY PLAN



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JP/EW/1B/DDC01 Project Manager

Architecture
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Structure
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PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT UNDER CROFT LEVEL

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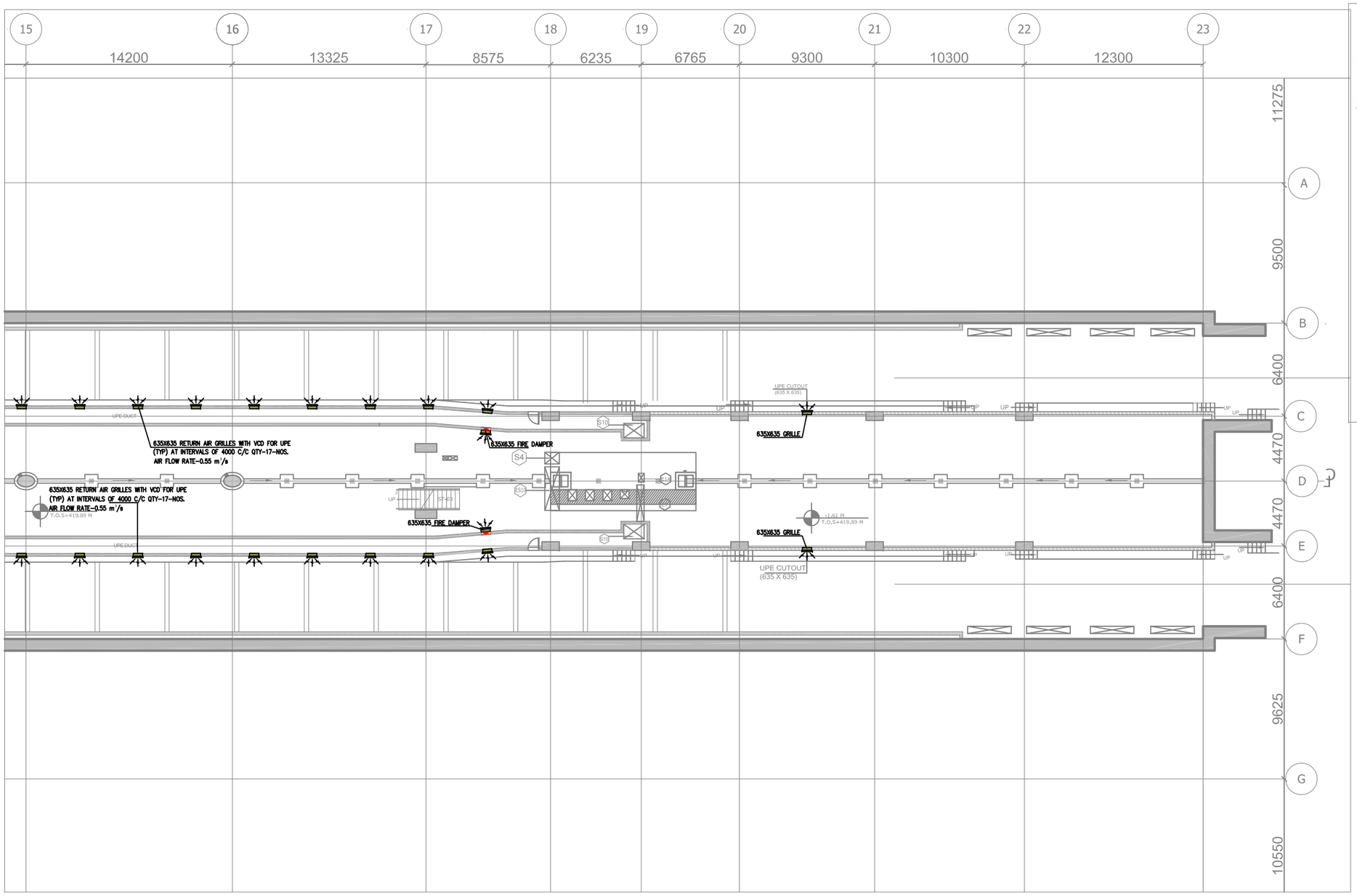

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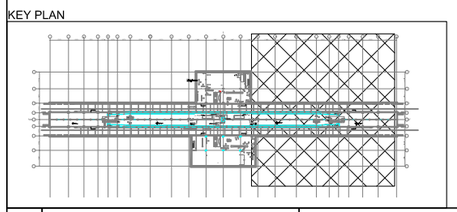

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PHASE 1B JAIPUR METRO PROJECT

STATION: **BADI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT UNDER CROFT LEVEL

DRAWN BY:	CHECKED BY:	VERIFIED BY:
ADIL	NITIN	L.R.S

DATE:	REV:	GRAPHICAL SCALE:	STATUS:
31-03-2015	R0	1:150	FOR TENDER

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JP/EW/1B/DDC01 ECS/TVS

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