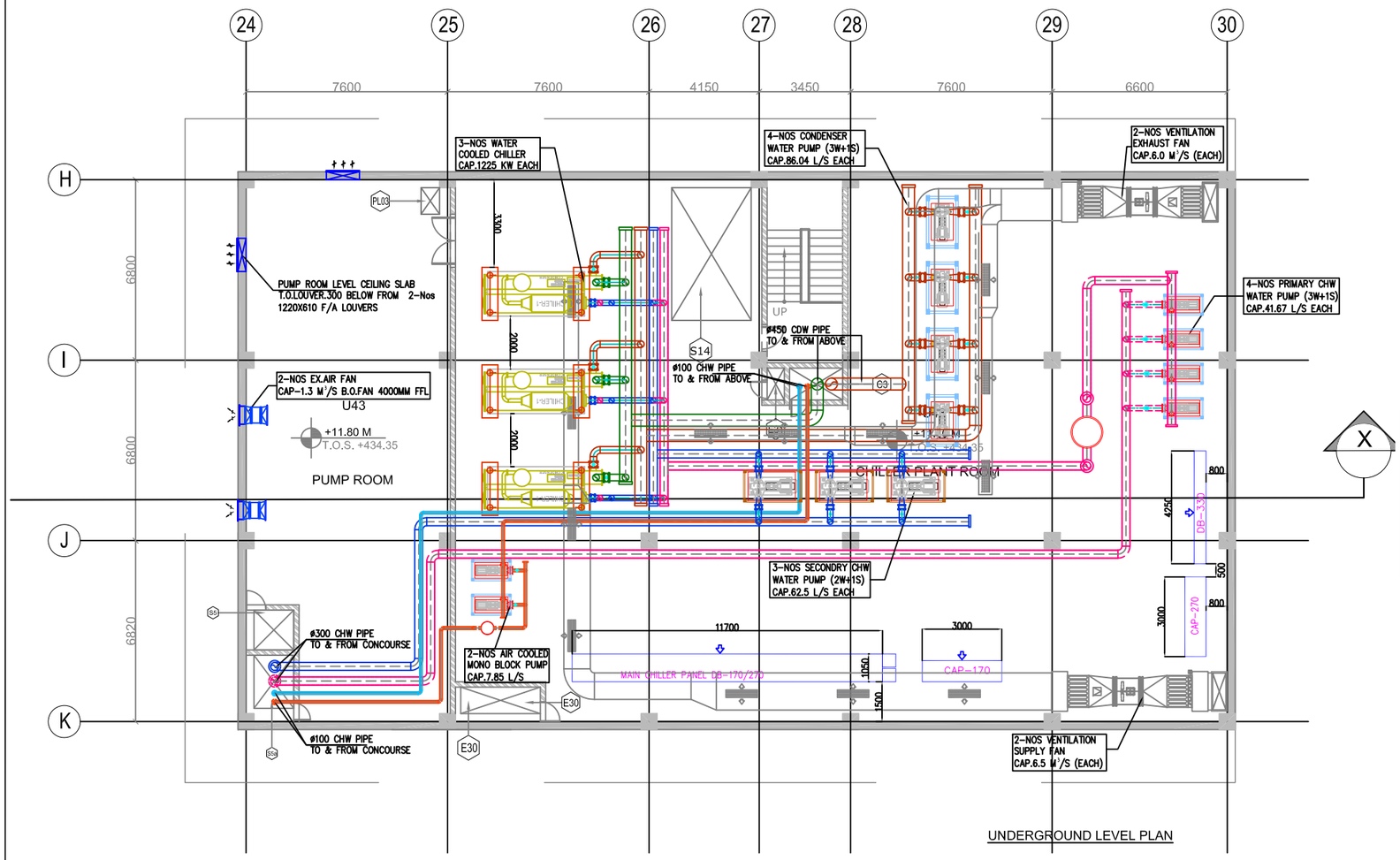


UNDERGROUND LEVEL PLAN

NOTES:-

1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.
2. ALL SUPPLY AND RETURN AIR DUCTING INSULATED WITH 25mm. THK. FIBREGLASS INSULATION IN A/C AREA.
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
- 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

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

UNDERGROUND LEVEL

SR. NO	ROOM SCHEDULE	ROOM NAME	DIMENSION (MT) L X B	AREA (SQM.)
1	U 48	CHILLER PLANT ROOM	22.80 X 20.42	429.55*

*AREA AS PER PLINE

PLUMBING & FIRE FIGHTING SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUT OUT POSITION
S5	PLUMBING & FIRE SHAFT	SHAFT	1.8X1.5	2.70	–
		CUTOUT	1.5X1.5	2.25	FLOOR
S5a	CHILLER WATER PIPE	SHAFT	1.8X2.5	4.50	–
		CUTOUT	1.5X2.0	3.20	FLOOR
ECS-C3	CUTOUT FOR CHILLED WATER PIPE	SHAFT	2.0X1.2	2.40	-
PL01	SUMP CUTOUT		0.60X0.75	0.45	FLOOR
PL02	SUMP ACCESS CUTOUT		0.60X0.60	0.36	FLOOR

*AREA AS PER PLINE

ROOM SCHEDULE GROUND LEVEL

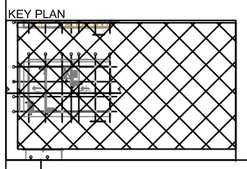
SR. NO	ROOM SCHEDULE	ROOM NAME	DIMENSION (MT) L X B	AREA (SQM)
1	U 18.5	DB AND CHILLER PANEL ROOM	5.60 X 7.00	38.88*
2	U 42.1	TREATED WATER TANK	6.00 X 4.88	29.28
3	U 42.2	RAIN WATER TANK	6.00 X 4.88	29.28
4	U 42.3	FIRE TANKS	6.00 X 4.88	29.28
5	U 42.4	FIRE TANKS	6.00 X 4.88	29.28
6	U 45	DG SET	12.20 X 20.62	209.80*
7	U 49	CHEMICAL DOSING PLANT ROOM	2.00 X 7.00	13.68*
8	U 50	COOLING TOWERS	18.00 X 20.62	317.19*

*AREA AS PER PLINE

ECS-TVS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUT OUT POSITION
S14	CUTOUT FOR INSERTING EQUIPMENTS	5.0X3.0	15.00	FLOOR
ECS-C3	CUTOUT FOR CHILLED WATER PIPE	2.0X1.2	2.40	FLOOR

KEY PLAN



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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

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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

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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

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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: **CHOTI CHOUPAR**

DRAWING TITLE: ECS LAYOUT ANCILLARY BUILDING LOWER GROUND 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°
JP-TD-ECS-10CC-1201	1 OF 2	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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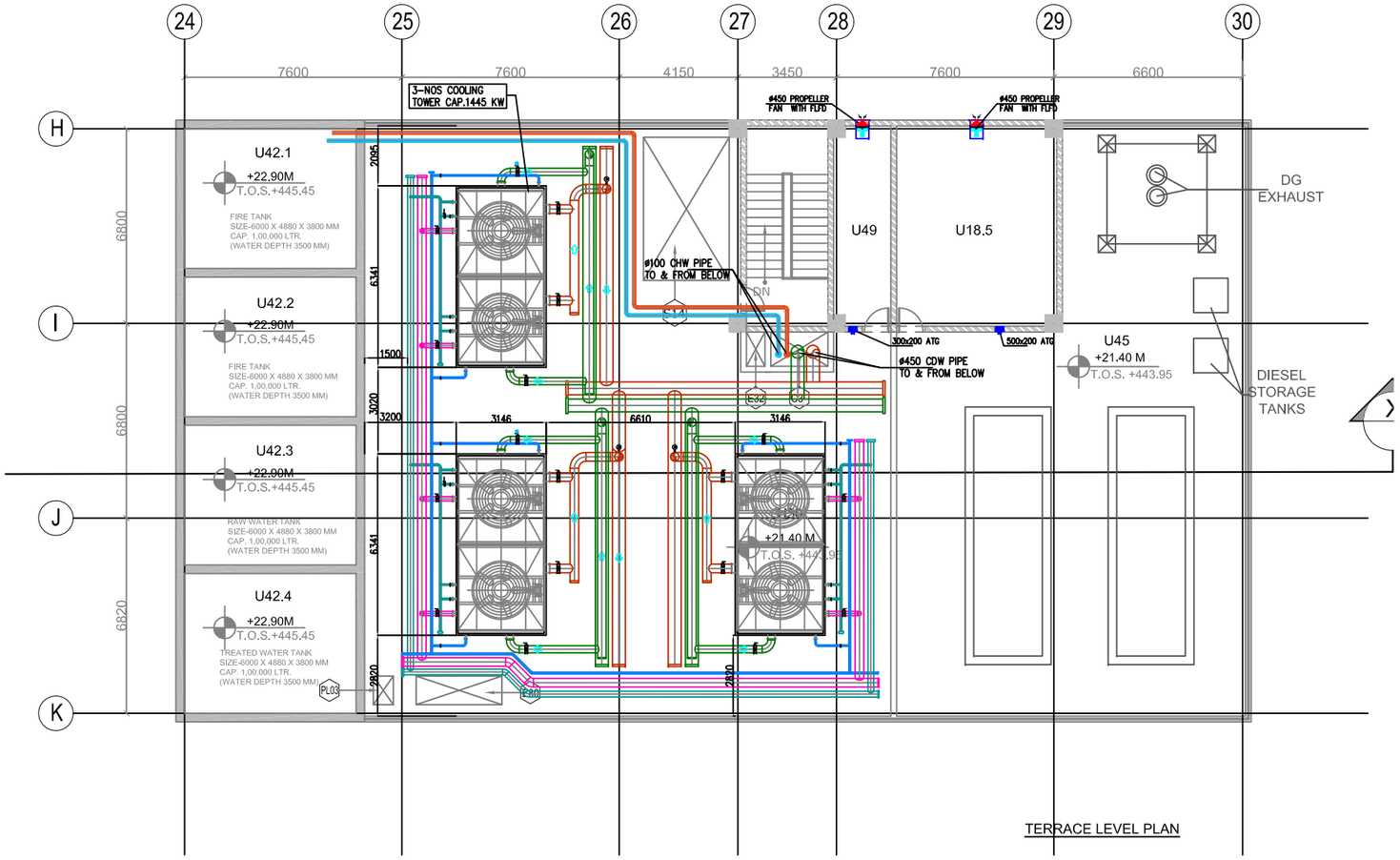

TERRACE LEVEL PLAN

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ABBREVIATIONS

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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
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- 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

UNDERGROUND LEVEL

SR. NO	ROOM SCHEDULE	ROOM NAME	DIMENSION (MT) L X B	AREA (SQM.)
1	U 48	CHILLER PLANT ROOM	22.80 X 20.42	429.55*

*AREA AS PER PLINE

PLUMBING & FIRE FIGHTING SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUT OUT POSITION
S5	PLUMBING & FIRE SHAFT	SHAFT	1.8X1.5	2.70	–
		CUTOUT	1.5X1.5	2.25	FLOOR
S5a	CHILLER WATER PIPE	SHAFT	1.8X2.5	4.50	–
		CUTOUT	1.5X2.0	3.20	FLOOR
ECS-C3	CUTOUT FOR CHILLED WATER PIPE	SHAFT	2.0X1.2	2.40	-
PL01	SUMP CUTOUT		0.60X0.75	0.45	FLOOR
PL02	SUMP ACCESS CUTOUT		0.60X0.60	0.36	FLOOR

*AREA AS PER PLINE

ROOM SCHEDULE GROUND LEVEL

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CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUT OUT POSITION
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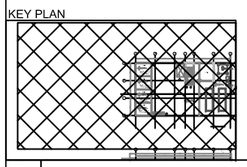
KEY PLAN



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DY CSTE/SIGNALLING	CSTE-III	GM/O	GM/M
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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: **CHOTI CHOUPAR**

DRAWING TITLE: ECS LAYOUT ANCILLARY BUILDING 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

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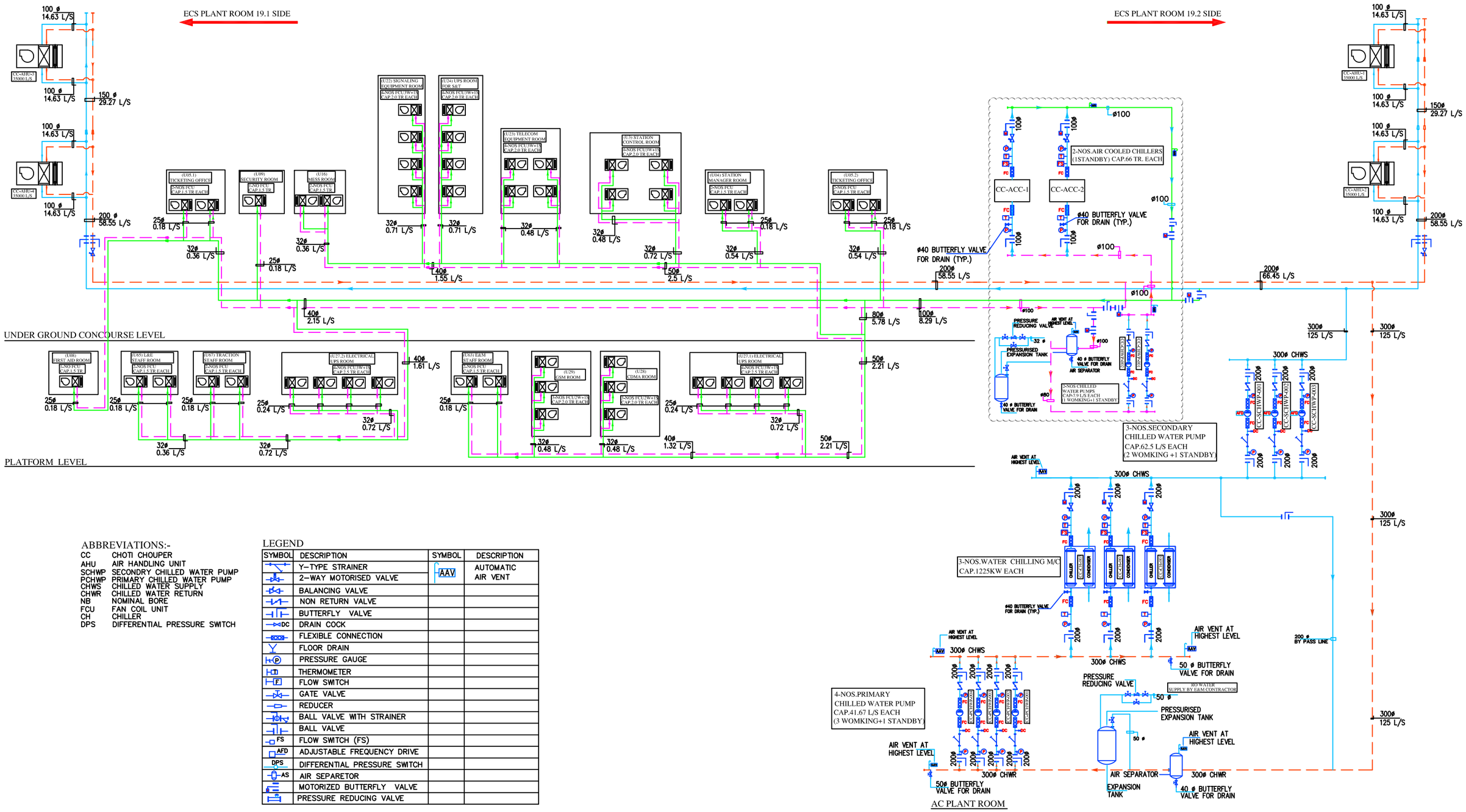

ABBREVIATIONS:-

CC	CHOTI 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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JP/EW/1B/DDC01 Project Manager

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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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Gurgaon - 122002 (Haryana)

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

PHASE 1B JAIPUR METRO PROJECT

STATION: **CHOTI 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

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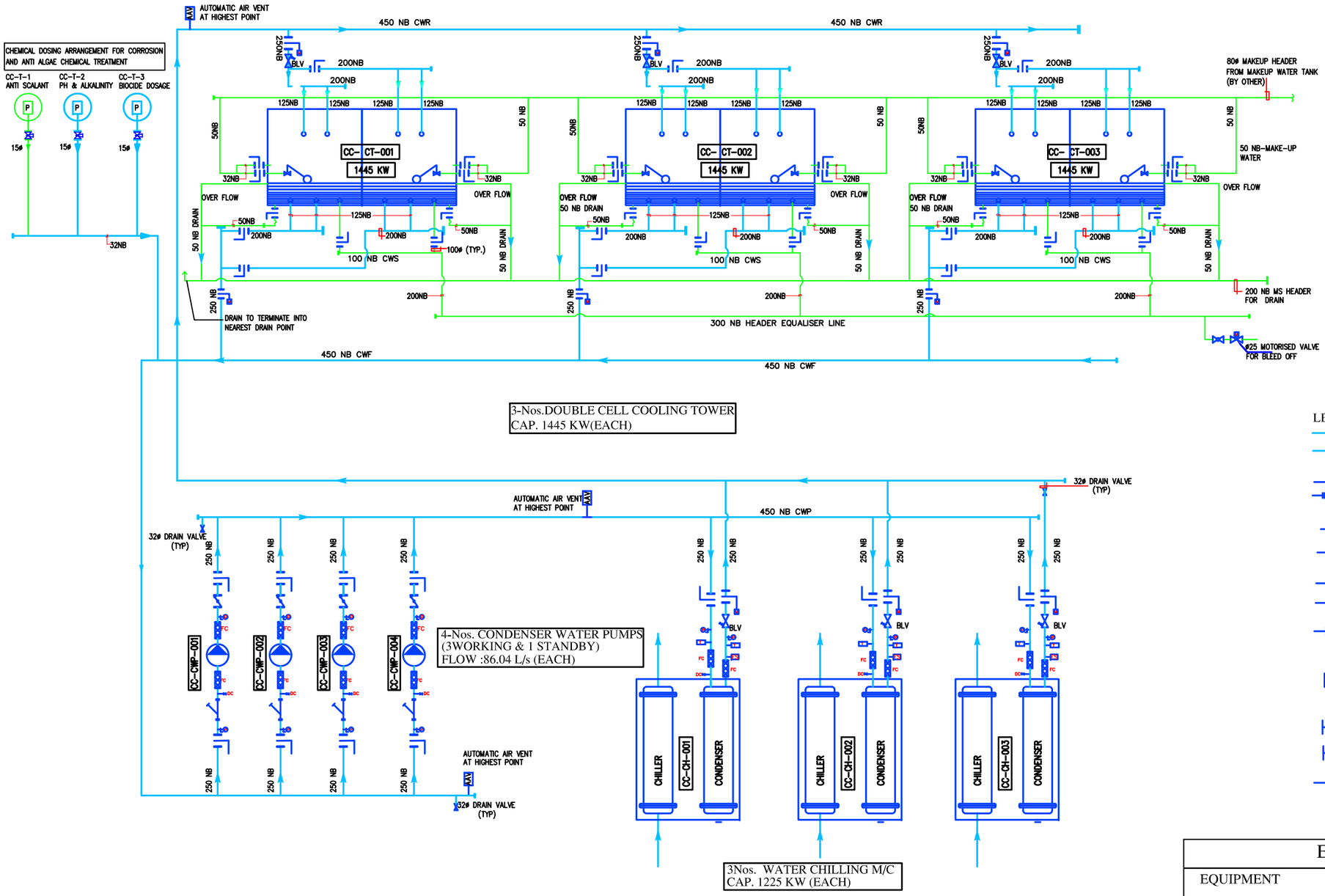

LEGENDS:-

- 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:-

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

PHASE 1B JAIPUR METRO PROJECT

STATION: **CHOTI 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
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JP/EW/1B/DDC01 ECS

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Legend

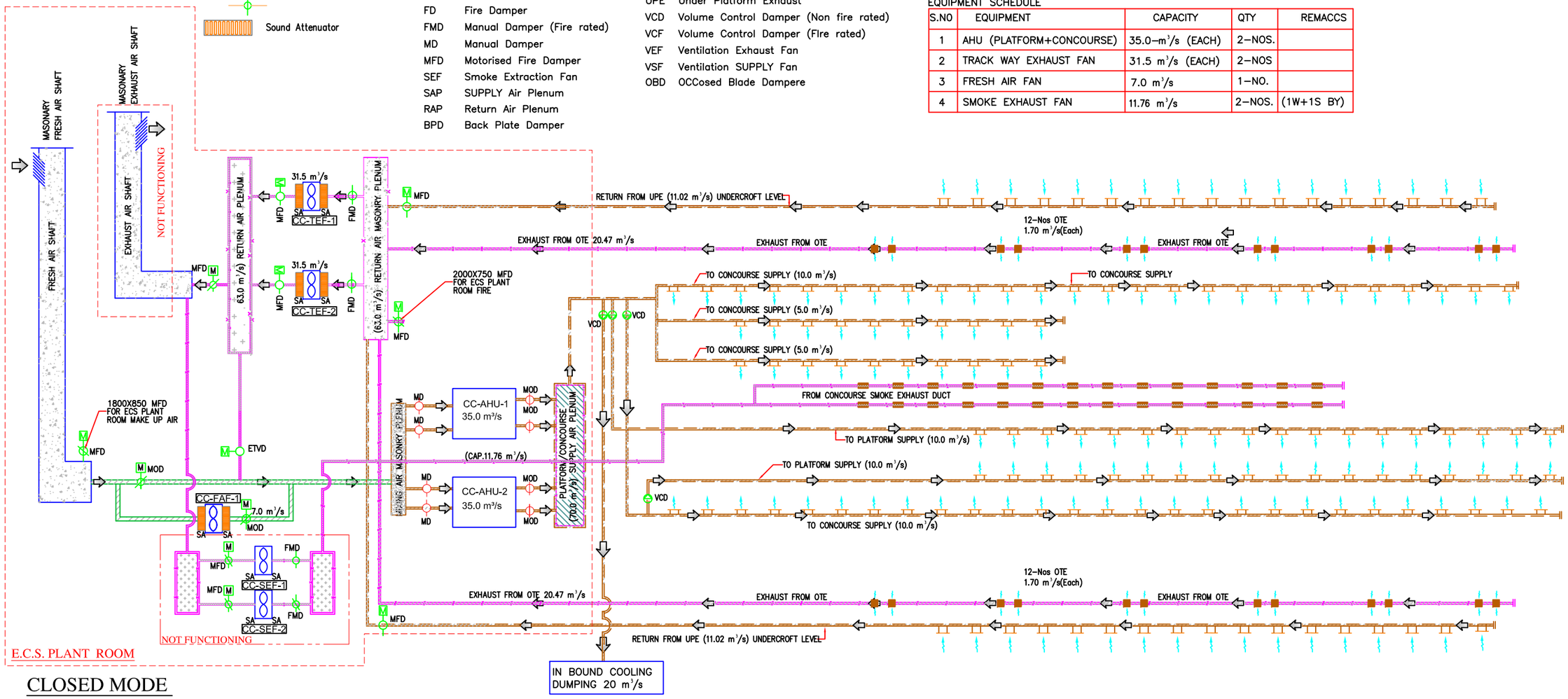
- Axial Fan (Schematic)
- Damper Closed
- Damper Open
- Manual Isolation Damper
- Volume Control Damper
- MFD M Motorised Fire Damper
- Sound Attenuator

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
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

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

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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

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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: **CHOTI 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-10CC-1603	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 — Motorised Fire Damper
- Sound Attenuator

Abbreviations

AHU	Air Handling Unit
DC	Damper close
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F/B	From Below
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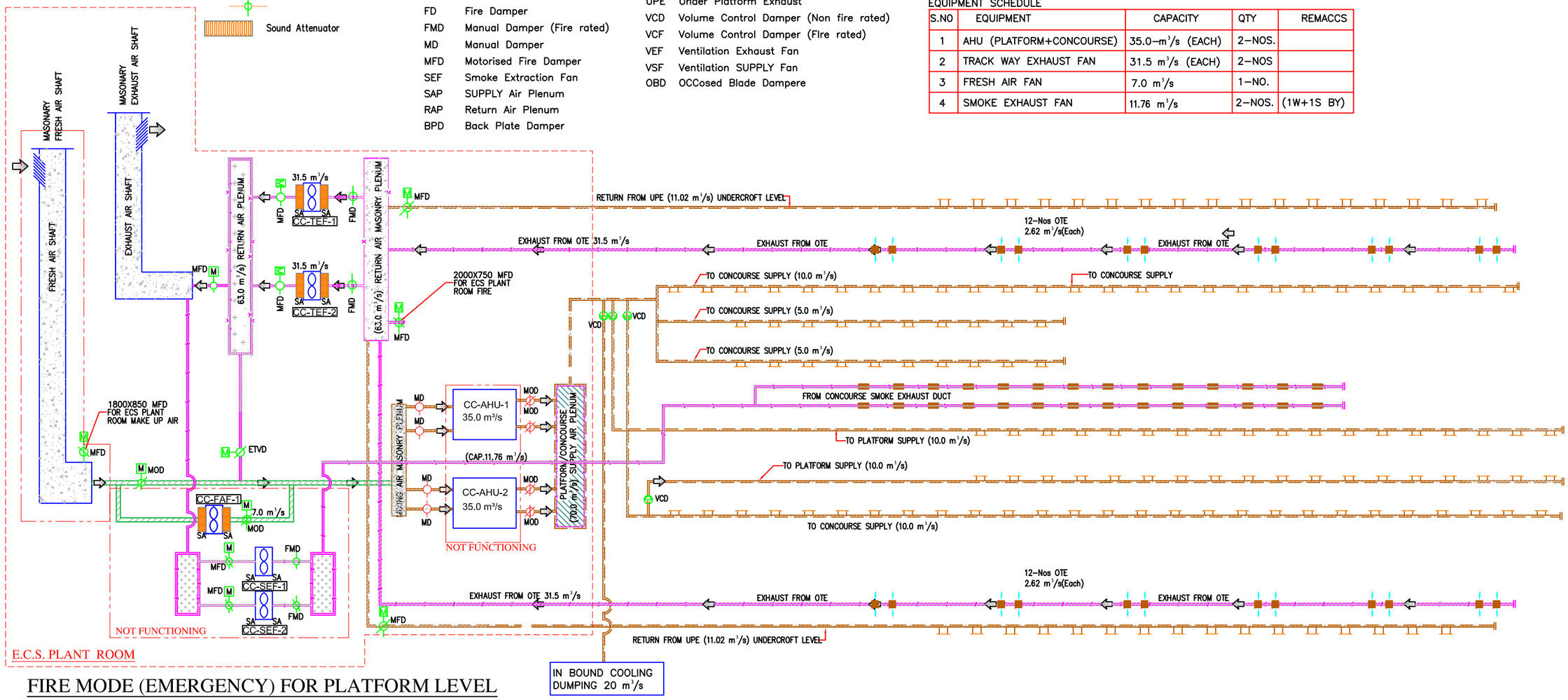

FIRE MODE (EMERGENCY) FOR PLATFORM LEVEL

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Drg. No.	Description

REVISIONS

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

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DMRC APPROVAL	MGR/ARCH	DY CA (UG)-III	CA/ARCH
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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

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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: **CHOTI 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-10CC-1604	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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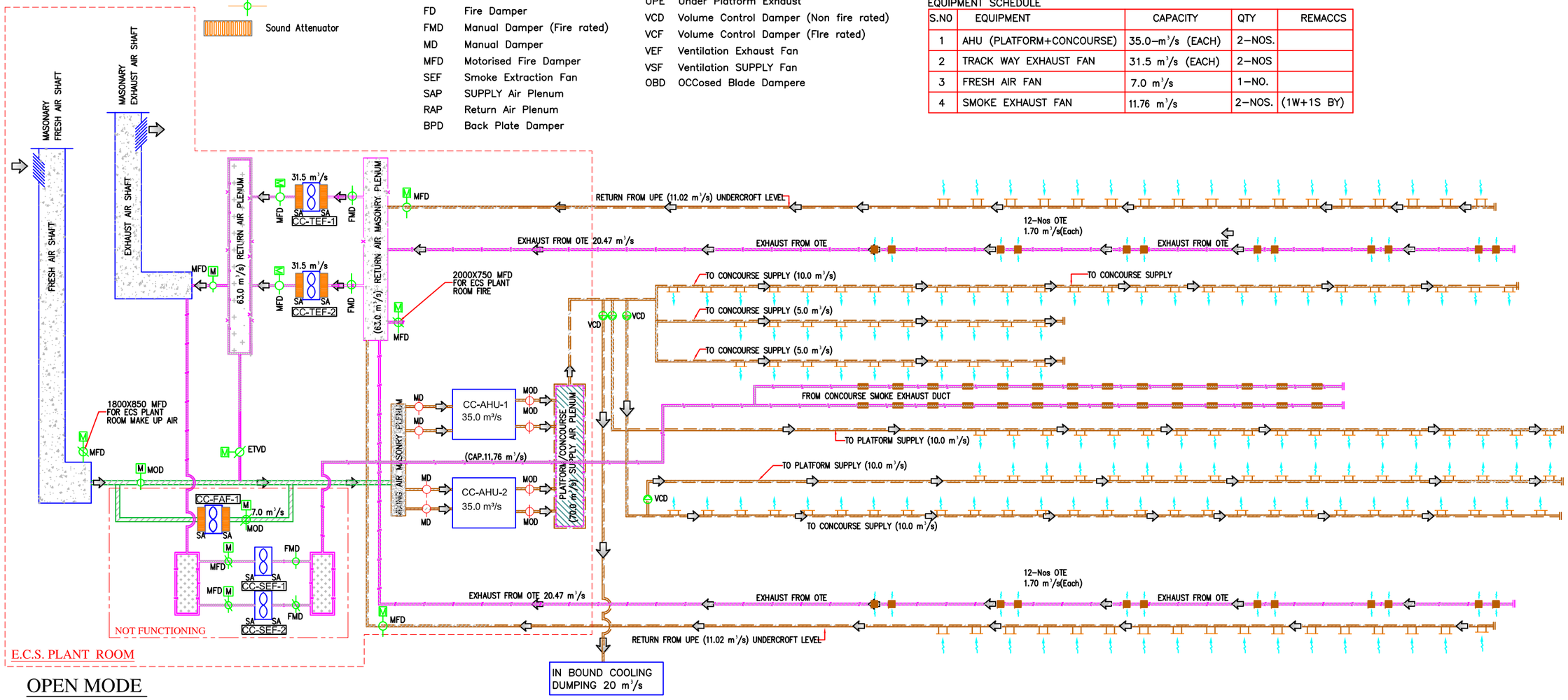

OPEN MODE

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REFERENCE DRAWINGS

Drg. No.	Description

REVISIONS

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

APPROVAL BY DMRC

DMRC APPROVAL	MGR/ARCH	DY CA (UG)-III	CA/ARCH
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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 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: **CHOTI 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-10CC-1605	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
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- MFD M Motorised Fire Damper
- Sound Attenuator

Abbreviations

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EQUIPMENT SCHEDULE

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1	AHU (PLATFORM+CONCOURSE)	35.0–m³/s (EACH)	2–NOS.	
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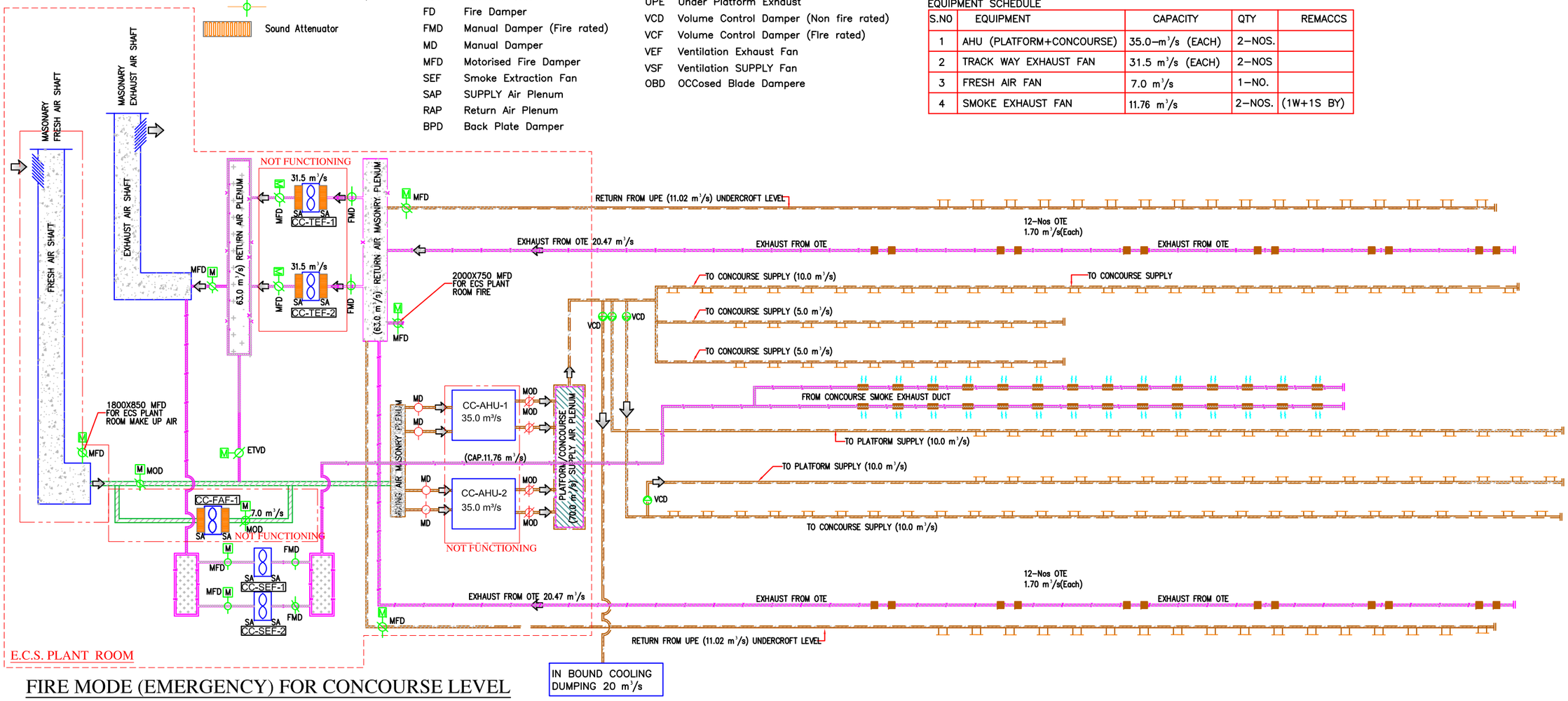

FIRE MODE (EMERGENCY) FOR CONCOURSE LEVEL

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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

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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

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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: **CHOTI 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-10CC-1605A	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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Abbreviations

AHU	Air Handling Unit	MOD	Motor Operated Damper
DC	Damper close	OTE	Over Track Exhaust
DO	Damper Open	R.A	Return Air
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EQUIPMENT SCHEDULE

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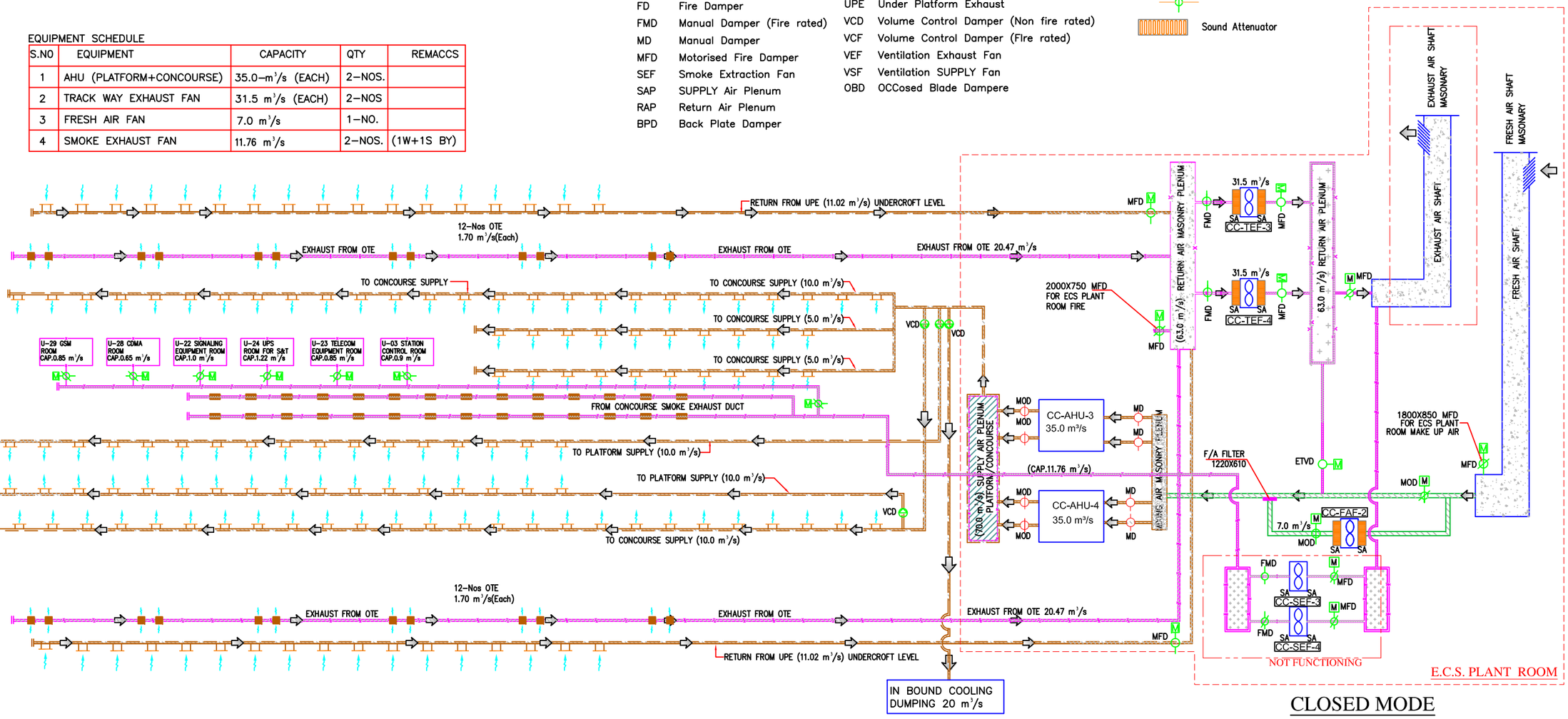

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Drg. No.	Description

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APPROVAL BY DMRC

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

Architecture	Structure	E&M
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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: **CHOTI 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-10CC-1606	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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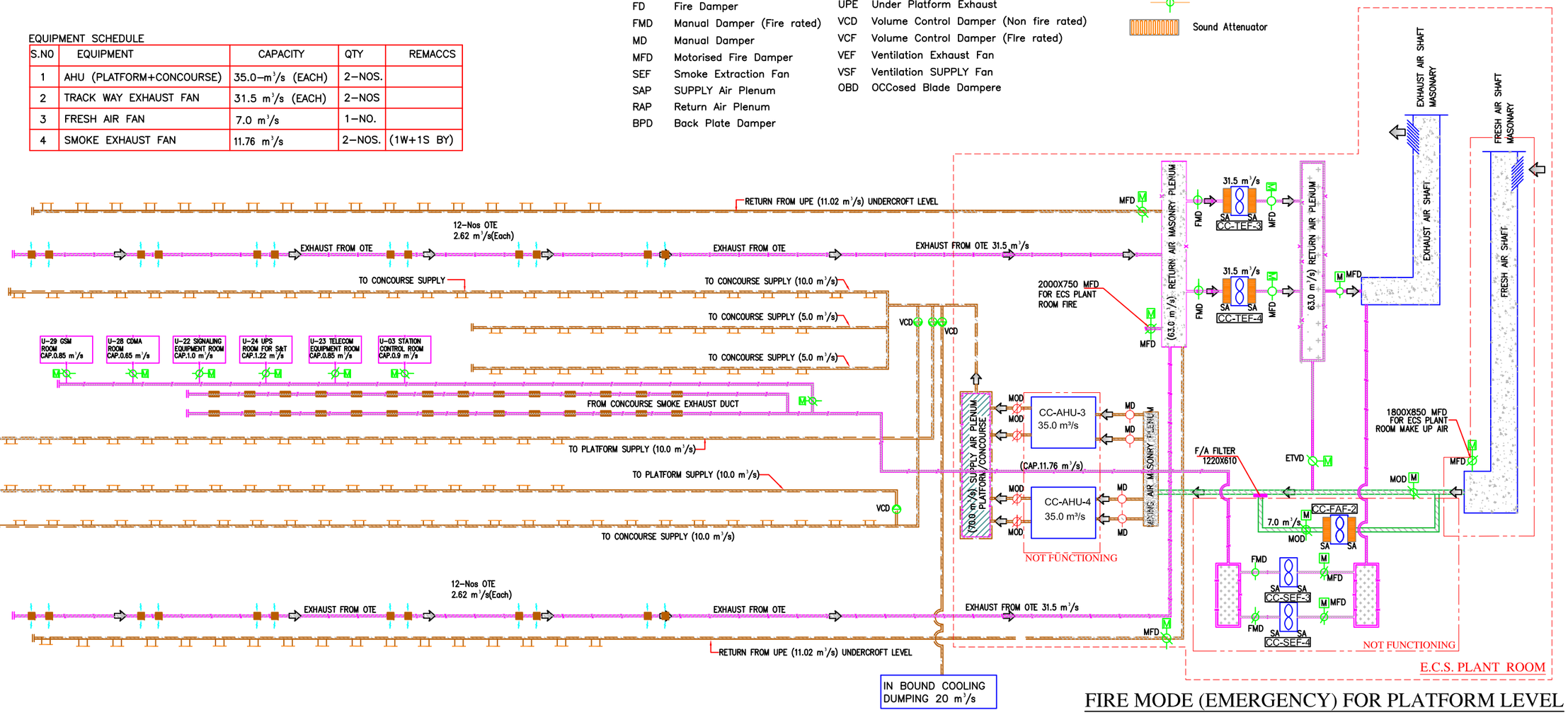
3	FRESH AIR FAN	7.0 m³/s	1–NO.	
4	SMOKE EXHAUST FAN	11.76 m³/s	2–NOS.	(1W+1S BY)



FIRE MODE (EMERGENCY) FOR PLATFORM LEVEL

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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

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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

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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: **CHOTI 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-10CC-1607	1 OF 1	UNE A1	P36-0017

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Abbreviations

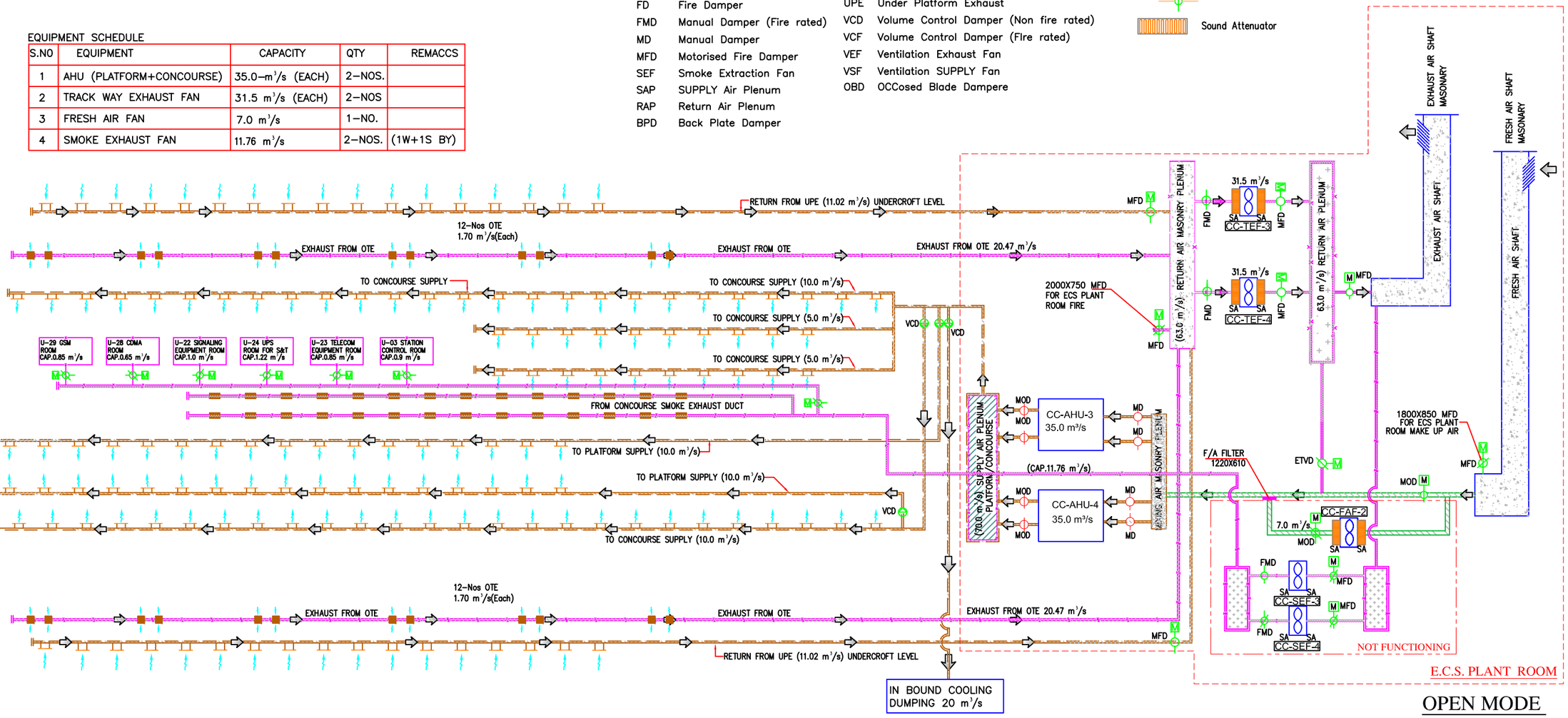
AHU	Air Handling Unit	MOD	Motor Operated Damper
DC	Damper close	OTE	Over Track Exhaust
DO	Damper Open	R.A	Return Air
DB	Distribution Board	S.A	SUPPLY Air
FAF	Fresh Air Fan	T/A	To Above
F/A	From Above	T/B	To Below
F/B	From Below	TEA	Track Way Exhaust Attenuator
FCU	Fan Coil Unit	TEF	Track Way Exhaust Fan
FD	Fire Damper	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
SEF	Smoke Extraction Fan	VSF	Ventilation SUPPLY Fan
SAP	SUPPLY Air Plenum	OBD	OCCosed Blade Dampere
RAP	Return Air Plenum		
BPD	Back Plate Damper		

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)



OPEN 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

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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

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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: **CHOTI 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-10CC-1608	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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Abbreviations

AHU	Air Handling Unit	MOD	Motor Operated Damper
DC	Damper close	OTE	Over Track Exhaust
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RAP	Return Air Plenum		
BPD	Back Plate Damper		

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- Damper Closed
- Damper Open
- Manual Isolation Damper
- Volume Control Damper
- MFD Motorised Fire Damper
- Sound Attenuator

EQUIPMENT SCHEDULE

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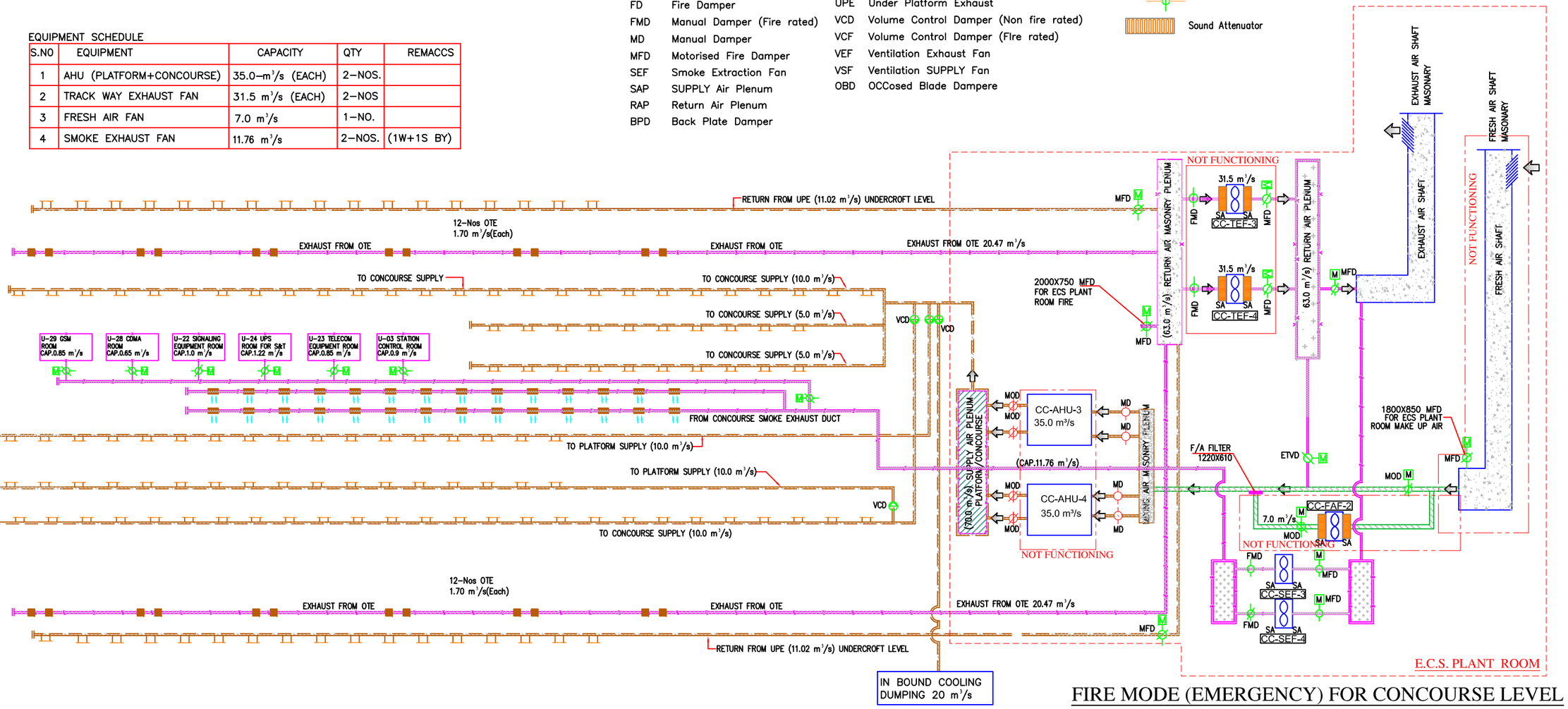
3	FRESH AIR FAN	7.0 m³/s	1–NO.	
4	SMOKE EXHAUST FAN	11.76 m³/s	2–NOS.	(1W+1S BY)



FIRE MODE (EMERGENCY) FOR CONCOURSE LEVEL

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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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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

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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: **CHOTI 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:
03-02-2015	R0	1:100	FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS-10CC-1608A	1 OF 1	UNE A1	P36-0017

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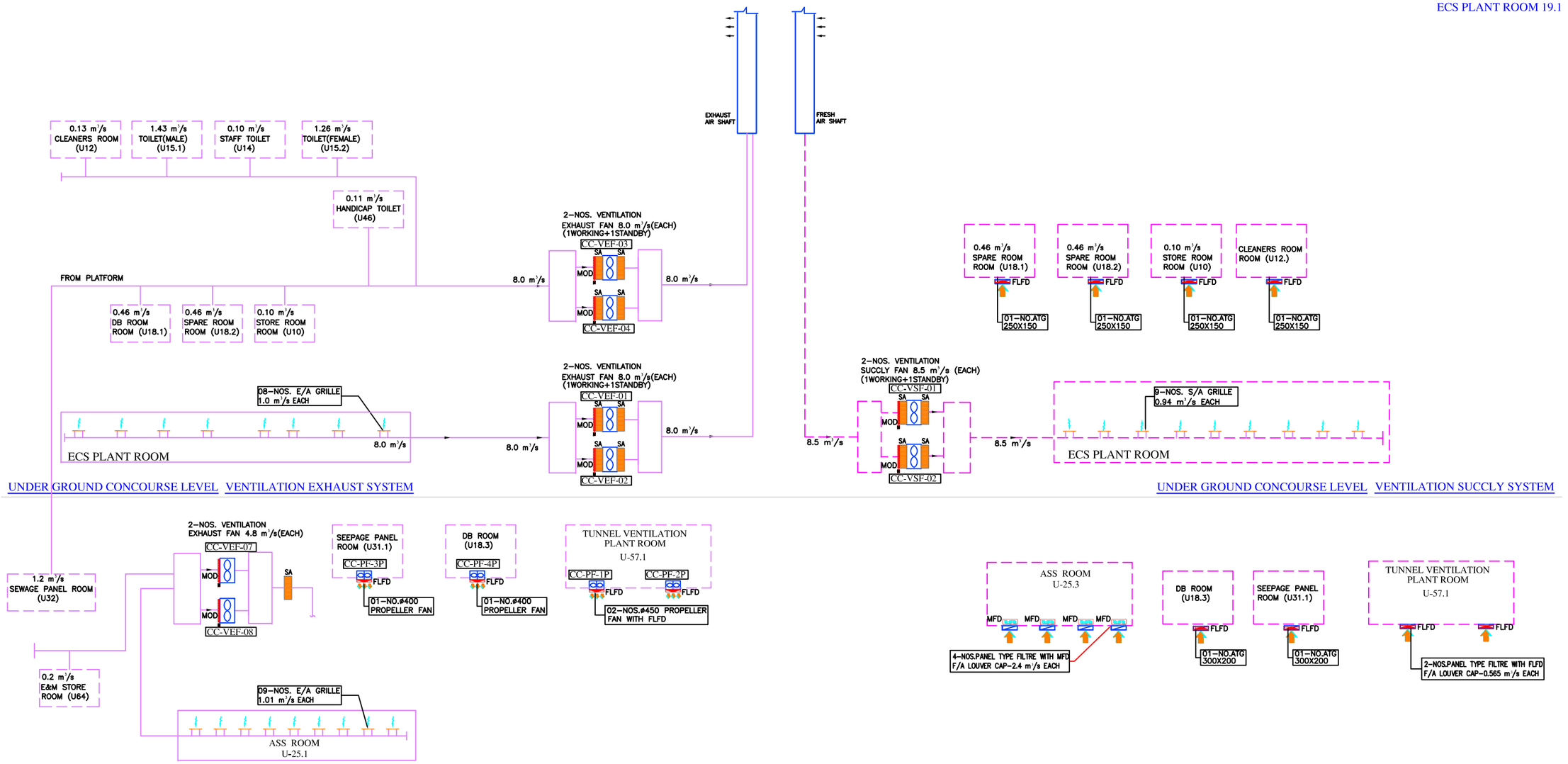
ECS PLANT ROOM 19.1



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

APPROVAL BY DMRC

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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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Gurgaon - 122002 (Haryana)

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

PHASE 1B JAIPUR METRO PROJECT

STATION: **CHOTI 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-10CC-1609	1 OF 1	UNE A1	P36-0017

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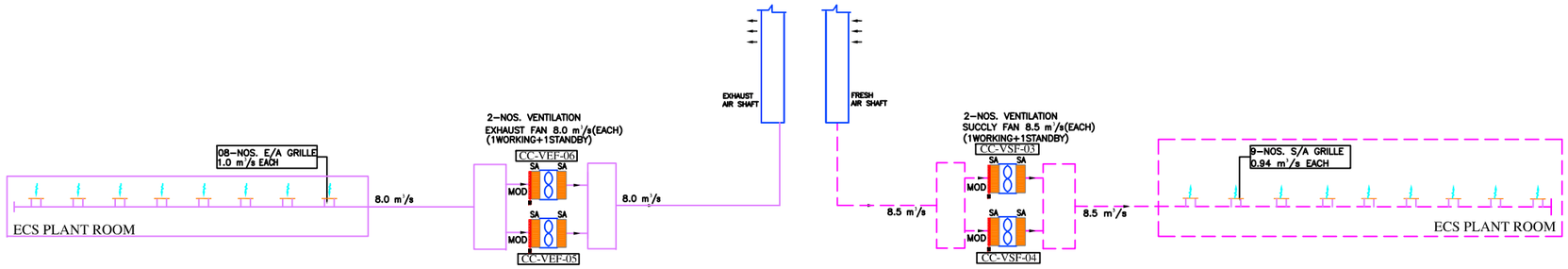
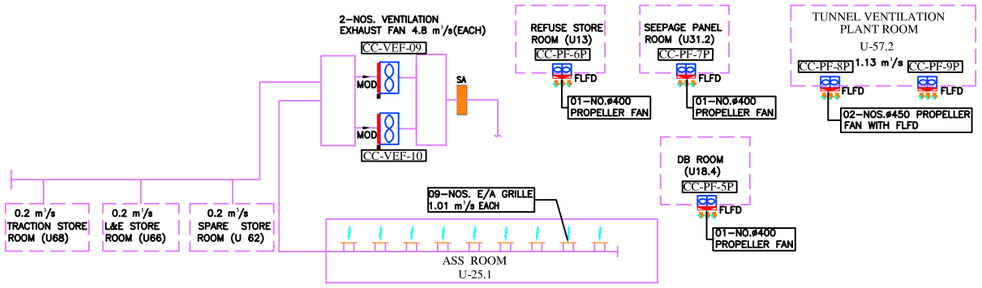
ECS PLANT ROOM 19.2

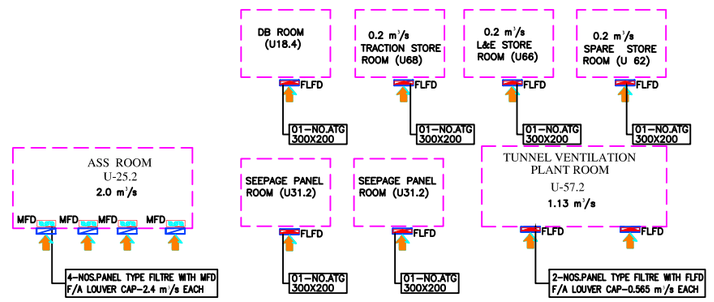


UNDER GROUND CONCOURSE LEVEL VENTILATION EXHAUST SYSTEM

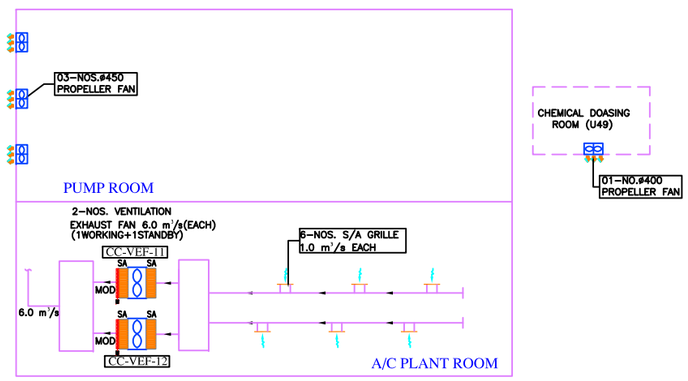
UNDER GROUND CONCOURSE LEVEL VENTILATION SUPPLY SYSTEM



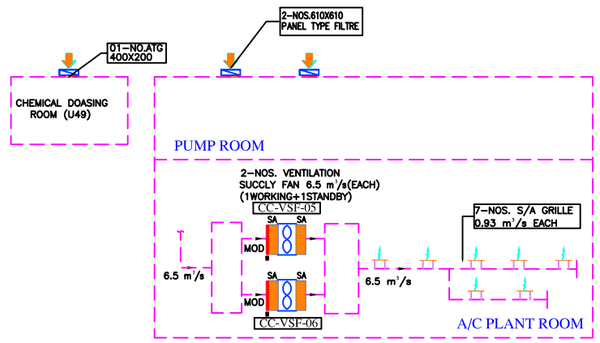
PLATEFORM LEVEL VENTILATION EXHAUST SYSTEM



PLATEFORM LEVEL VENTILATION SUPPLY SYSTEM



VENTILATION EXHAUST SYSTEM



VENTILATION SUPPLY SYSTEM

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REFERENCE DRAWINGS

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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: **CHOTI CHOUPAR**

DRAWING TITLE: AIR FLOW VENTILATION 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-10CC-1610	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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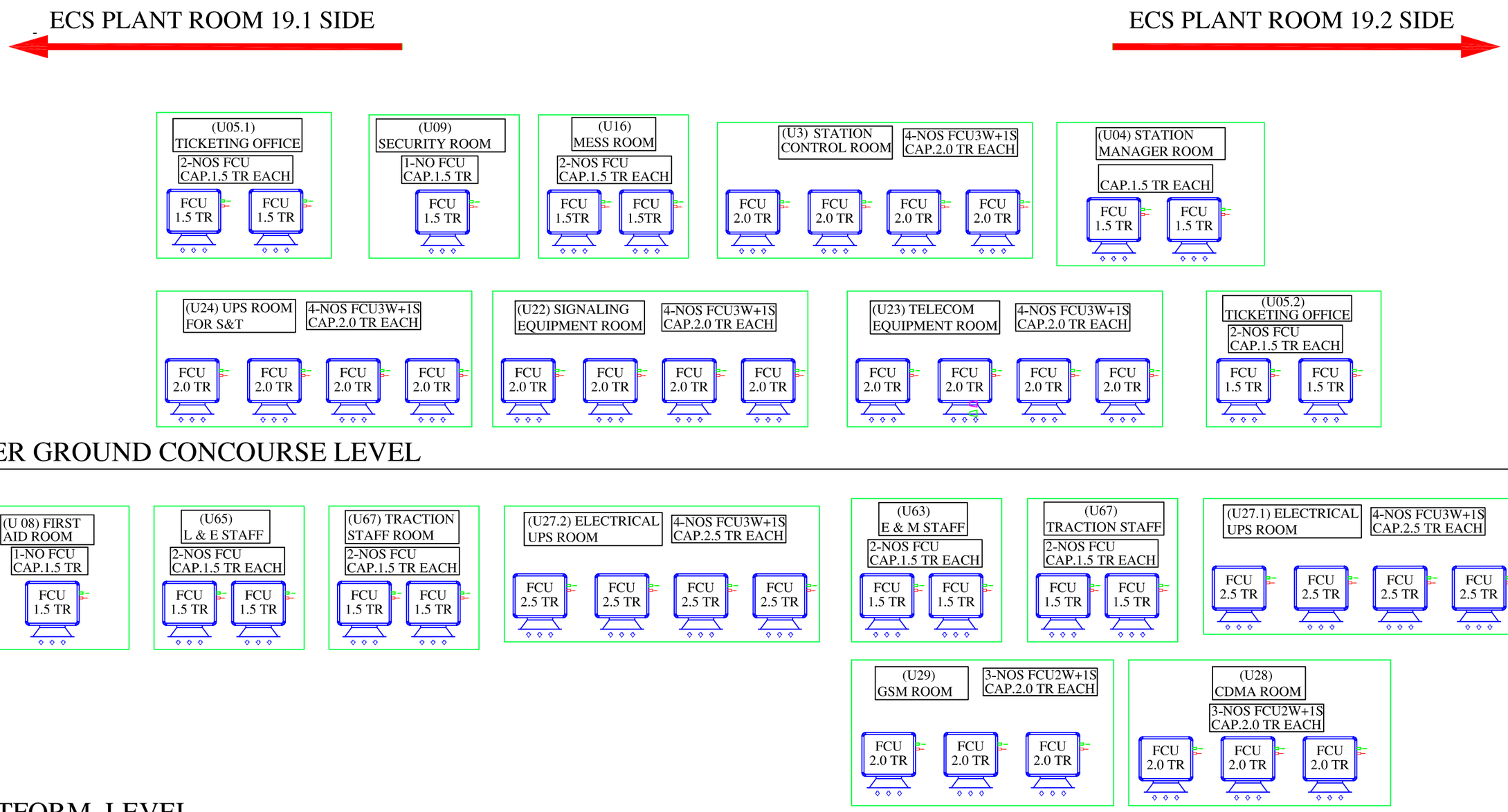

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REFERENCE DRAWINGS

Drg. No.	Description

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JP/EW/1B/DDC01 Project Manager

Architecture	Structure	E&M
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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: **CHOTI 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-10CC-1611	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS

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LIST OF ECS/TVS DRAWINGS

SR.NO.	DESCRIPTION	DRAWING NO.	REVISION NO.
	CHOTI CHOUPER STATION		
01	LIST OF ECS/TVS DRAWINGS	JP-TD-ECS/TVS-10CC-1001	R0
02	ECS-TVS LAYOUT LEGENDS & NOTES	JP-TD-ECS/TVS-10CC-1002	R0
03	ECS LAYOUT ANCIALLARY BUILDING LOWER GROUND LEVEL	JP-TD-ECS-10CC-1201	R0
04	ECS LAYOUT ANCIALLARY BUILDING TERRACE LEVEL	JP-TD-ECS-10CC-1202	R0
05	ECS-TVS LAYOUT CONCOURSE LEVEL (SHEET-1 OF 3)	JP-TD-ECS/TVS-10CC-1301	R0
06	ECS-TVS LAYOUT CONCOURSE LEVEL (SHEET-2 OF 3)	JP-TD-ECS/TVS-10CC-1302	R0
07	ECS-TVS LAYOUT CONCOURSE LEVEL (SHEET-3 OF 3)	JP-TD-ECS/TVS-10CC-1303	R0
08	ECS-TVS LAYOUT PLATFORM LEVEL (SHEET-1 OF 3)	JP-TD-ECS/TVS-10CC-1401	R0
09	ECS-TVS LAYOUT PLATFORM LEVEL (SHEET-2 OF 3)	JP-TD-ECS/TVS-10CC-1402	R0
10	ECS-TVS LAYOUT PLATFORM LEVEL (SHEET-3 OF 3)	JP-TD-ECS/TVS-10CC-1403	R0
11	ECS-TVS LAYOUT UNDERCROFT LEVEL (SHEET-1 OF 3)	JP-TD-ECS/TVS-10CC-1501	R0
12	ECS-TVS LAYOUT UNDERCROFT LEVEL (SHEET-2 OF 3)	JP-TD-ECS/TVS-10CC-1502	R0
13	ECS-TVS LAYOUT UNDERCROFT LEVEL (SHEET-3 OF 3)	JP-TD-ECS/TVS-10CC-1503	R0
14	CHILLED WATER PIPING SCHEMATIC LAYOUT	JP-TD-ECS-10CC-1601	R0
15	CONDENSER WATER PIPING SCHEMATIC	JP-TD-ECS-10CC-1602	R0
16	AIR FLOW SCHEMATIC - ECS PLANT ROOM 19.1 CLOSE MODE (SUMMER)	JP-TD-ECS-10CC-1603	R0
17	AIR FLOW SCHEMATIC - PLATFORM 19.1 FIRE MODE (EMERGENCY)	JP-TD-ECS-10CC-1604	R0
18	AIR FLOW SCHEMATIC - ECS PLANT 19.1 END OPEN MODE (WINTER)	JP-TD-ECS-10CC-1605	R0
19	AIR FLOW SCHEMATIC - ECS PLANT ROOM 19.2 CLOSED MODE (SUMMER)	JP-TD-ECS-10CC-1606	R0
20	AIR FLOW SCHEMATIC - PLATFORM 19.2 FIRE MODE (EMERGENCY)	JP-TD-ECS-10CC-1607	R0
21	AIR FLOW SCHEMATIC - ECS PLANT ROOM 19.2 OPEN MODE (WINTER)	JP-TD-ECS-10CC-1608	R0
22	AIR FLOW SCHEMATIC - ECS PLANT 19.1 (EMERGENCY CONCOURSE)	JP-TD-ECS-10CC-1605A	R0
23	AIR FLOW SCHEMATIC - ECS PLANT 19.2 (EMERGENCY CONCOURSE)	JP-TD-ECS-10CC-1608A	R0
24	AIR FLOW SCHEMATIC - AIR FLOW VENTILATION ECS PLANT ROOM 19.1	JP-TD-ECS-10CC-1609	R0
25	AIR FLOW SCHEMATIC - AIR FLOW VENTILATION ECS PLANT ROOM 19.2	JP-TD-ECS-10CC-1610	R0
26	AIR FLOW SCHEMATIC FOR FCU	JP-TD-ECS-10CC-1611	R0

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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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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.
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: CHOTI CHOUPAR

DRAWING TITLE: LIST OF ECS/TVS DRAWINGS

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-TVS/10CC-1001	SHEET NO. 1 OF 1	SHEET SIZE UNE A1	ORDER Nº P36-0017

ECS/TVS

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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 SECTION REFER DRG. NO L8-CRD-ECS-09VV-1701 .
7. FOR ECS RELATED ELECTRICAL PLEASE REFER ELECTRICAL LAYOUT.

ABBREVIATIONS

CC	CHOTI 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

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

APPROVAL BY DMRC

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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

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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: CHOTI 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°
JP-TD-ECS/TVS-10CC-1002	1 OF 1	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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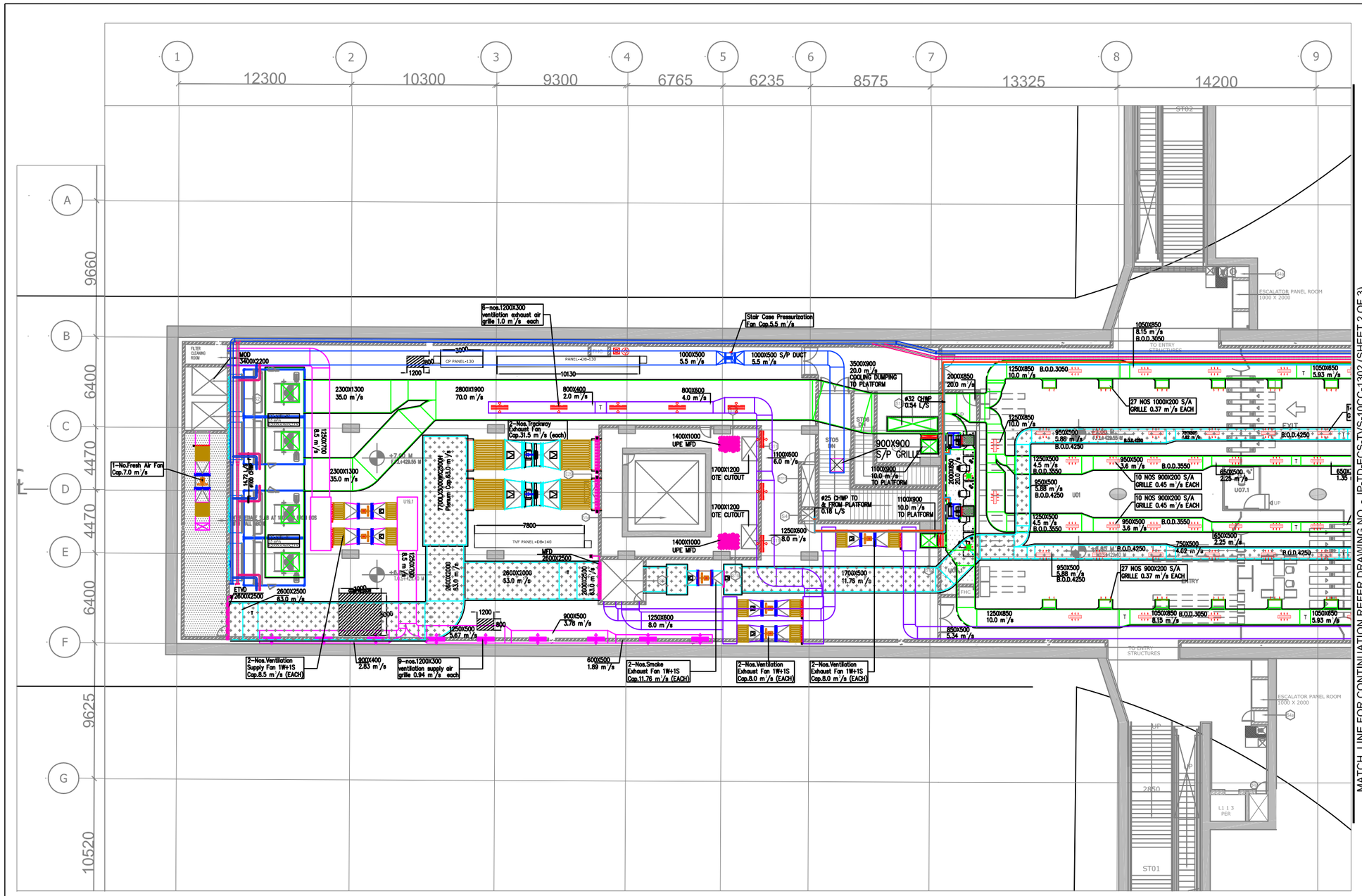

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6. FOR ECS RELATED ELECTRICAL PLEASE REFER ECS ELECTRICAL LAYOUT.

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
- 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
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (ML) (LxW)	AREA (Sqm.)
1	U01	UNPAID AREA		1035.90*
2	U02	PAID AREA		1487.75*
3	U03	STATION CONTROL ROOM (SCR)	7.700 x 7.050	54.29
4	U04	STATION MANAGER ROOM (SMR)	4.300 x 7.035	29.37*
5	U05.1	TICKET OFFICE (TOM)	2.500 x 14.34	34.80*
6	U05.2	TICKET OFFICE (TOM)	2.500 x 14.34	34.80*
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	1.700X2.000	3.40
10	U10	STATION STORE ROOM	7.100 x 5.260	37.35
11	U12	CLEANER'S ROOM	1.700 x 2.000	3.40
12	U14	STAFF TOILET	1.700 x 2.475	4.21
13	U15.1	PUBLIC TOILETS (Male)	5.850 x 4.675	27.32
14	U15.2	PUBLIC TOILETS (Female)	4.100 x 5.550	23.50*
15	U16	MESS ROOM	5.280 x 6.100	32.21
16	U18.1	DB ROOM	8.100 x 7.085	53.74*
17	U18.2	DB ROOM	6.000 x 7.085	41.24*
18	U19.1	ECS PLANT ROOM (ECS)	50.350 x 20.740	803.05*
19	U19.2	ECS PLANT ROOM (ECS)	53.300 x 20.740	804.05*
20	U22	SIGNALLING EQUIPMENT ROOM (SER)	6.820 x 10.715	72.60*
21	U23	TELECOM EQUIPMENT ROOM (TER)	5.000 x 10.715	53.58
22	U24	UPS ROOM for S&T	4.400 x 10.715	46.72*
23	U46	HANDICAP TOILET	1.750 x 2.250	3.94
24	U47	PD AREA	32.25 x 20.00	637.26*

* AS PER POLY LINE

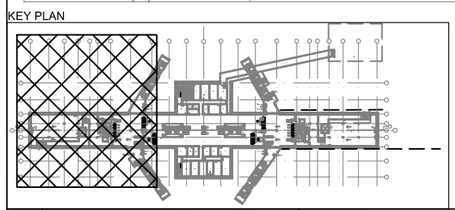
ECS SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S2	FRESH AIR - 2NO.	SHAFT	2.5X2.0	5.0	-
S2a	FRESH AIR - 1NO.	SHAFT	2.5X4.0	10.0	-
S3	EXHAUST AIR - 2NO.	SHAFT	3.0X3.0	9.0	-
S10	UPE CUT OUT- 4 NO.		1.4X1.0	1.40	FLOOR
S11	O.T.E CUT OUT-4NO.		1.2X1.7	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.		3.7X1.1	4.07	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	25.25	-

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

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

Architecture
Design In-charge/ Coordinator

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

PHASE 1B JAIPUR METRO PROJECT

STATION: **CHOTI 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-10CC-1301	1 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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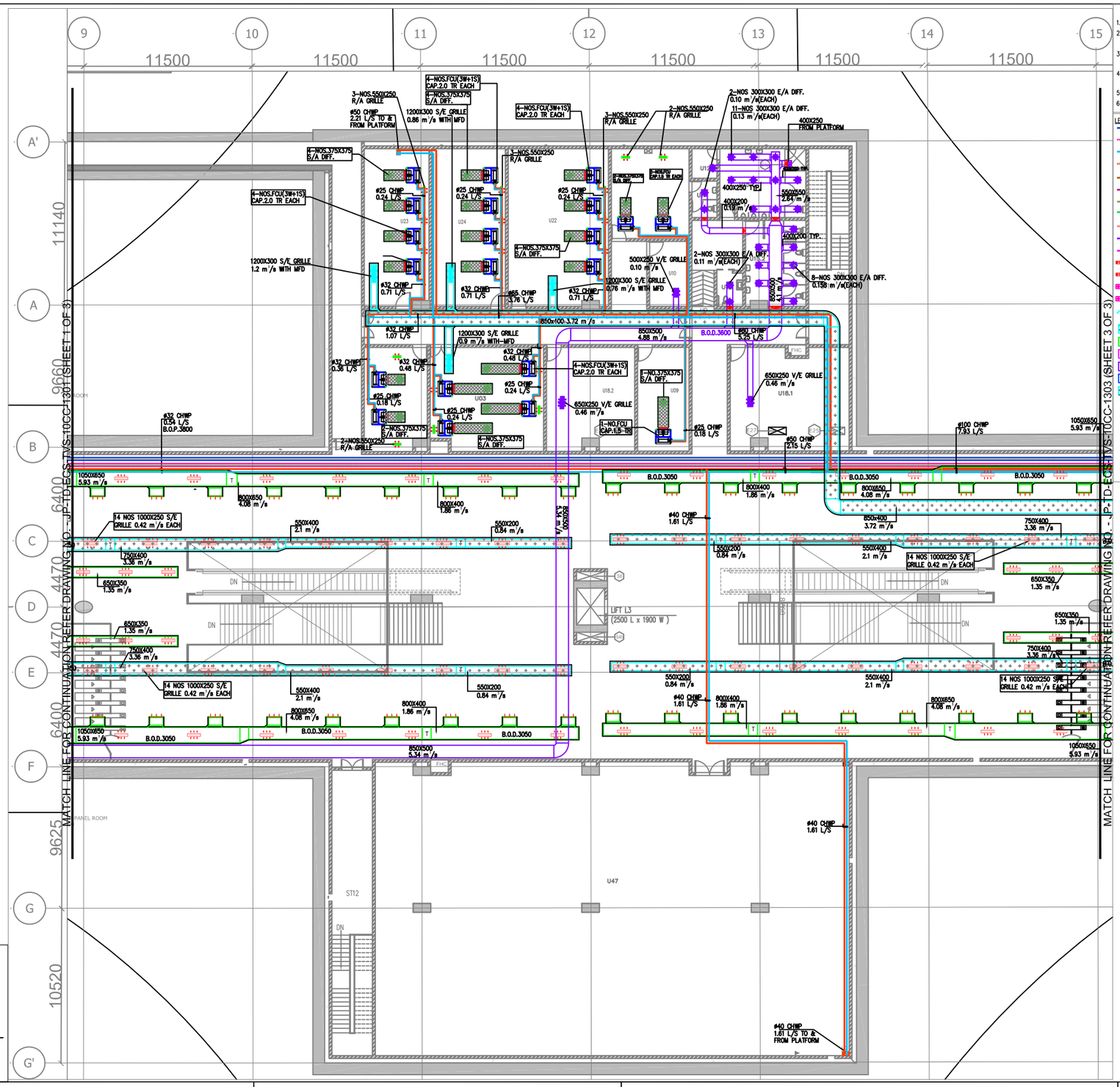

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ABBREVIATIONS

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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- 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
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (ML) (LxW)	AREA (Sqm.)
1	U01	UNPAID AREA		1035.90*
2	U02	PAID AREA		1497.75*
3	U03	STATION CONTROL ROOM (SCR)	7.700 x 7.050	54.29
4	U04	STATION MANAGER ROOM (SMR)	4.300 x 7.035	29.37*
5	U05.1	TICKET OFFICE (TOM)	2.500 x 14.34	34.80*
6	U05.2	TICKET OFFICE (TOM)	2.500 x 14.34	34.80*
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	1.70002.000	3.40
10	U10	STATION STORE ROOM	7.100 x 5.260	37.35
11	U12	CLEANER'S ROOM	1.700 x 2.000	3.40
12	U14	STAFF TOILET	1.700 x 2.475	4.21
13	U15.1	PUBLIC TOILETS (Male)	5.850 x 4.675	27.32
14	U15.2	PUBLIC TOILETS (Female)	4.100 x 5.550	23.50*
15	U16	MESS ROOM	5.280 x 6.100	32.21
16	U18.1	DB ROOM	8.100 x 7.085	53.74*
17	U18.2	DB ROOM	6.000 x 7.065	41.24*
18	U19.1	ECS PLANT ROOM (ECS)	50.350 x 20.740	803.05*
19	U19.2	ECS PLANT ROOM (ECS)	53.300 x 20.740	804.05*
20	U22	SIGNALING EQUIPMENT ROOM (SER)	6.820 x 10.715	72.60*
21	U23	TELECOM EQUIPMENT ROOM (TER)	5.000 x 10.715	53.58
22	U24	UPS ROOM for S&T	4.400 x 10.715	46.72*
23	U46	HANDICAP TOILET	1.750 x 2.250	3.94
24	U47	PD AREA	32.25 x 20.00	637.26*

* AS PER POLY LINE

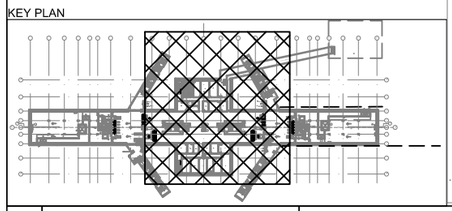
ECS SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S2	FRESH AIR – 2NO.	SHAFT	2.5X2.0	5.0	–
S2a	FRESH AIR – 1NO.	SHAFT	2.5X4.0	10.0	–
S3	EXHAUST AIR – 2NO.	SHAFT	3.0X3.0	9.0	–
S10	UPE CUT OUT– 4 NO.		1.4X1.0	1.40	FLOOR
S11	O.T.E CUT OUT–4NO.		1.2X1.7	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.		3.7X1.1	4.07	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	25.25	–

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

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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
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.
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: **CHOTI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT CONCOURSE LEVEL

DRAWN BY: ADIL	CHECKED BY: NITIN	VERIFIED BY: L.R.S	JP/EW/1B/DDC01
DATE: 31-03-2015	REV: R0	GRAPHICAL SCALE: 1:150	STATUS: FOR TENDER

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°	
JP-TD-ECS/TVS-10CC-1302	2 OF 3	UNE A1	P36-0017	ECS/TVS

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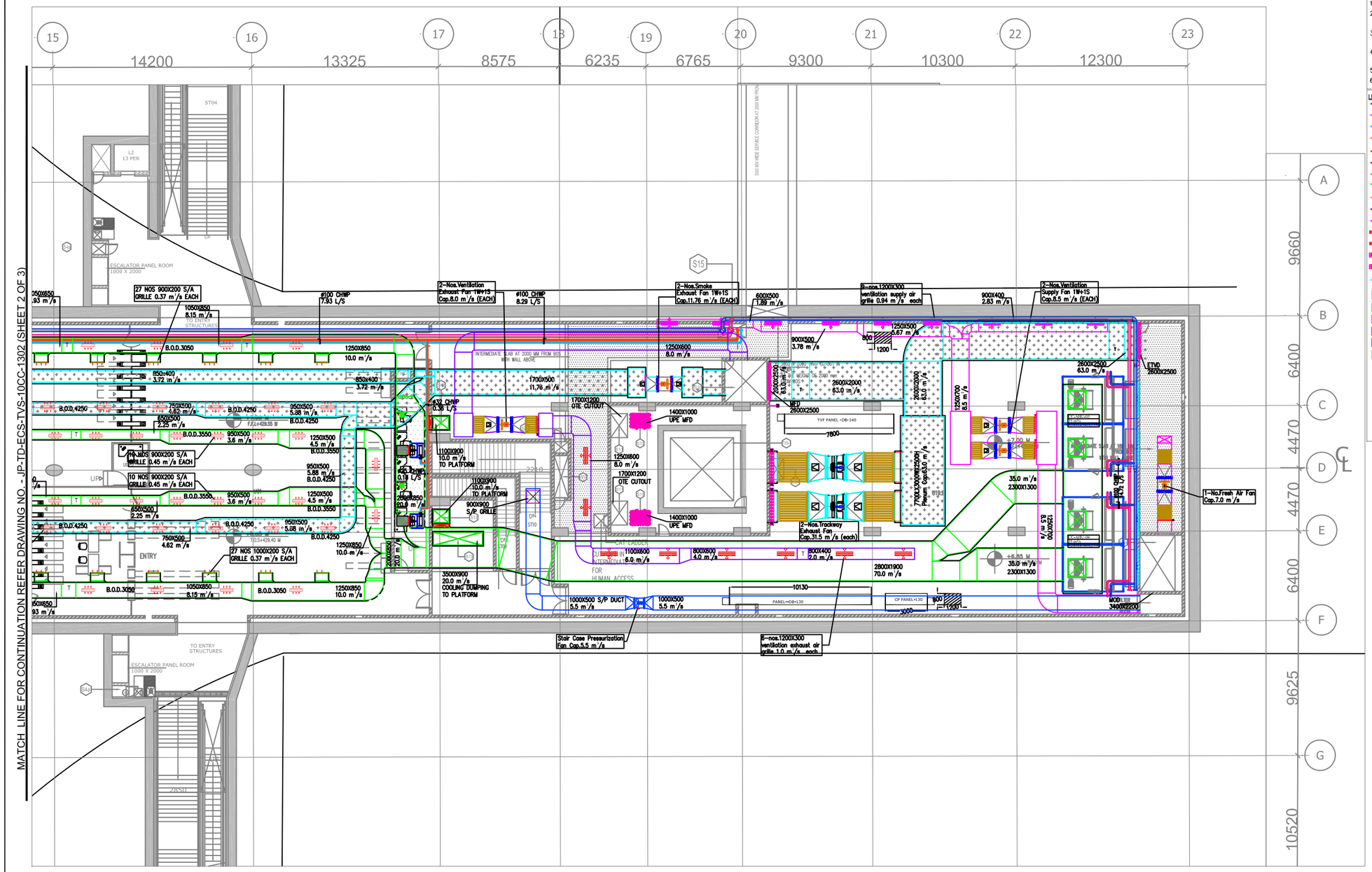

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3. ALL SUPPLY AND RETURN AIR DUCTING INSULATED WITH 50mm. THK. FIBREGLASS INSULATION IN NON-A/C AREA.
4. ALL CHILLED WATER PIPING INSULATED AS PER SPECIFICATION.
5. ALL LEVELS OF DUCTS AND PIPES ARE FROM FINISHED FLOOR LEVELS.
6. FOR ECS RELATED ELECTRICAL 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
- 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
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (ML) (LxW)	AREA (Sqm.)
1	U01	UNPAID AREA		1035.90*
2	U02	PAID AREA		1487.75*
3	U03	STATION CONTROL ROOM (SCR)	7.700 x 7.050	54.29
4	U04	STATION MANAGER ROOM (SMR)	4.300 x 7.035	29.37*
5	U05.1	TICKET OFFICE (TOM)	2.500 x 14.34	34.80*
6	U05.2	TICKET OFFICE (TOM)	2.500 x 14.34	34.80*
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	1.700X2.000	3.40
10	U10	STATION STORE ROOM	7.100 x 5.260	37.35
11	U12	CLEANER'S ROOM	1.700 x 2.000	3.40
12	U14	STAFF TOILET	1.700 x 2.475	4.21
13	U15.1	PUBLIC TOILETS (Male)	5.850 x 4.675	27.32
14	U15.2	PUBLIC TOILETS (Female)	4.100 x 5.550	23.50*
15	U16	MESS ROOM	5.280 x 6.100	32.21
16	U18.1	DB ROOM	8.100 x 7.085	53.74*
17	U18.2	DB ROOM	6.000 x 7.085	41.24*
18	U19.1	ECS PLANT ROOM (ECS)	50.350 x 20.740	803.05*
19	U19.2	ECS PLANT ROOM (ECS)	53.300 x 20.740	804.05*
20	U22	SIGNALLING EQUIPMENT ROOM (SER)	6.820 x 10.715	72.60*
21	U23	TELECOM EQUIPMENT ROOM (TER)	5.000 x 10.715	53.58
22	U24	UPS ROOM for S&T	4.400 x 10.715	46.72*
23	U46	HANDICAP TOILET	1.750 x 2.250	3.94
24	U47	PD AREA	32.25 x 20.00	637.28*

* AS PER POLY LINE

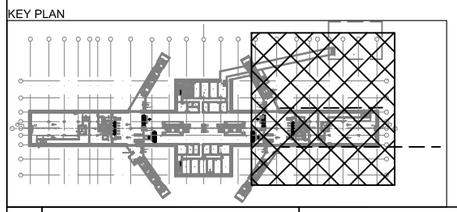
ECS SCHEDULE

CUT OUT NUMBER	PURPOSE		SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S2	FRESH AIR - 2NO.	SHAFT	2.5X2.0	5.0	-
S2a	FRESH AIR - 1NO.	SHAFT	2.5X4.0	10.0	-
S3	EXHAUST AIR - 2NO.	SHAFT	3.0X3.0	9.0	-
S10	UPE CUT OUT- 4 NO.		1.4X1.0	1.40	FLOOR
S11	O.T.E CUT OUT-4NO.		1.2X1.7	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.		3.7X1.1	4.07	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	25.25	-

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

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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: **CHOTI 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-10CC-1303	3 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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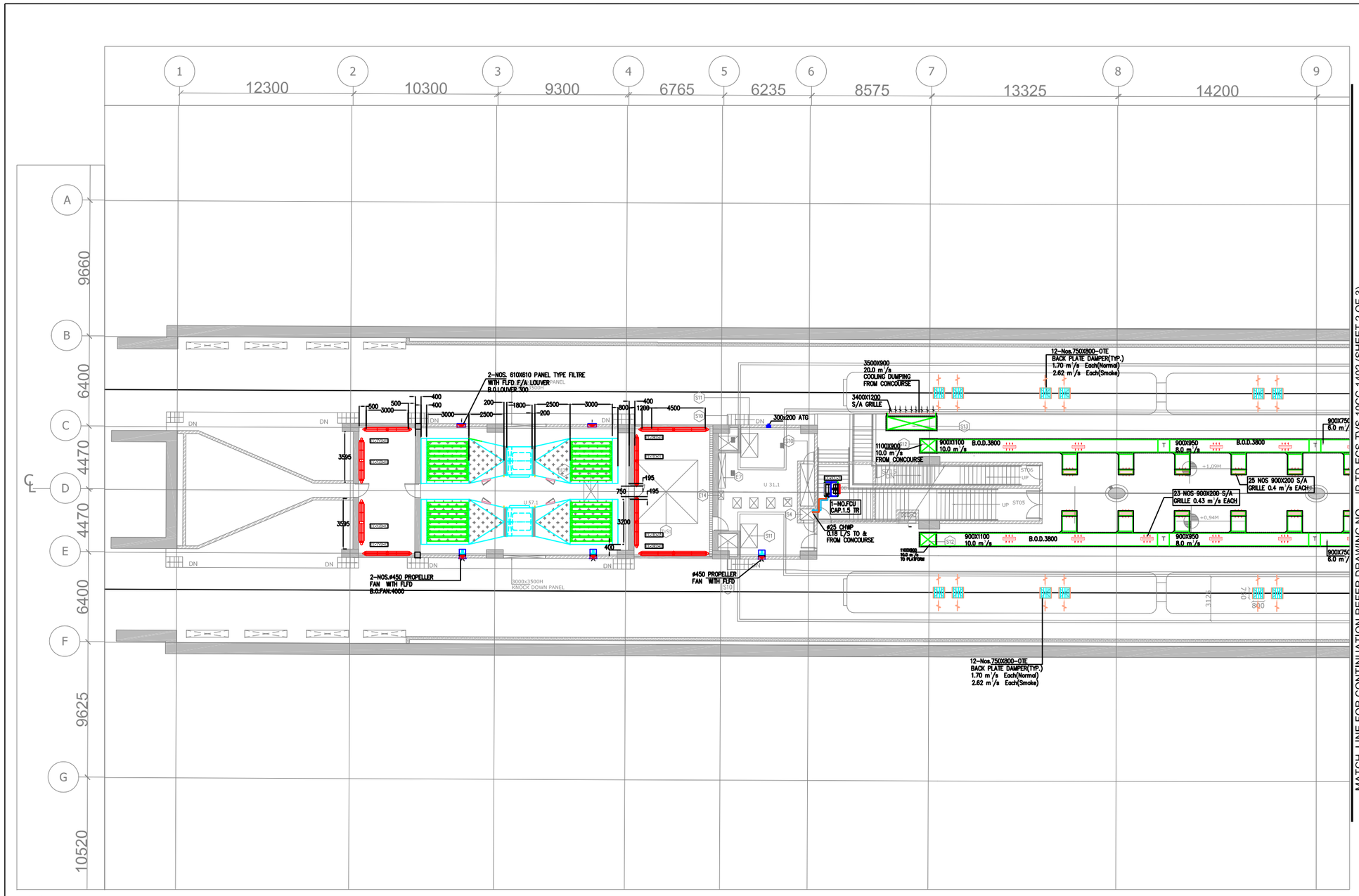

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5. ALL LEVELS OF DUCTS AND PIPES ARE FROM FINISHED FLOOR LEVELS.
6. FOR ECS RELATED ELECTRICAL PLEASE REFER ECS ELECTRICAL LAYOUT.

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
- 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
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

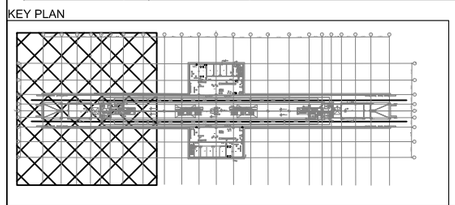
S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (Mt.) (LxW)	AREA (Sqm.)
1	U02	PAID AREA		1362.05*
2	U06	FIRST AID SPACE	3.960 x 3.960	15.68
3	U12	CLEANER'S ROOM 1	4.000 x 7.715	30.86
4	U13	REFUSE STORE 1	3.960 x 3.960	15.68
5	U18.3	DB ROOM	5.955 x 2.450	14.59
6	U18.4	DB ROOM	5.655 x 2.450	13.85
7	U25.1	AUXILLIARY SUB STATION(ASS)1	35.200 x 10.000	348.40*
8	U25.2	AUXILLIARY SUB STATION(ASS)2	35.200 x 10.000	356.60*
9	U27.1	ELECTRICAL UPS ROOM 1	11.000 x 10.300	112.83*
10	U27.2	ELECTRICAL UPS ROOM 2	11.000 x 9.750	107.25
11	U28	GSM ROOM	4.700 x 7.715	36.26
12	U29	CDMA ROOM	4.000 x 7.715	30.86
13	U31.1	SEEPAGE ROOM 1	5.900 x 4.470	22.77*
14	U31.2	SEEPAGE ROOM 2	5.900 x 4.470	22.77*
15	U32	SEEWAGE ROOM	3.550 x 7.715	26.34*
16	U57.1	TUNNEL VENTILATION ROOM(TVS)1	14.800 x 9.140	133.67*
17	U57.2	TUNNEL VENTILATION ROOM(TVS)2	14.800 x 9.140	133.67*
18	PSB	PLATFORM SUPERVISOR BOOTH	2.550 x 2.650	6.76
19	U62	SPARE ROOM	4.000 x 7.100	28.06*
20	U63	E & M STAFF ROOM	4.000 x 7.715	30.86
21	U64	E & M STORE ROOM	4.000 x 7.715	30.86
22	U65	L & E STAFF	4.000 x 7.100	28.40
23	U66	L & E STORE	4.000 x 7.100	28.40
24	U67	TRACTION STAFF	4.000 x 7.100	28.40
25	U68	TRACTION STORE	4.150 x 7.100	29.47

* AS PER POLY LINE

ECS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S10	UPE CUT OUT	1.40X1.00	1.40	FLOOR

KEY PLAN



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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

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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: **CHOTI 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-10CC-1401	1 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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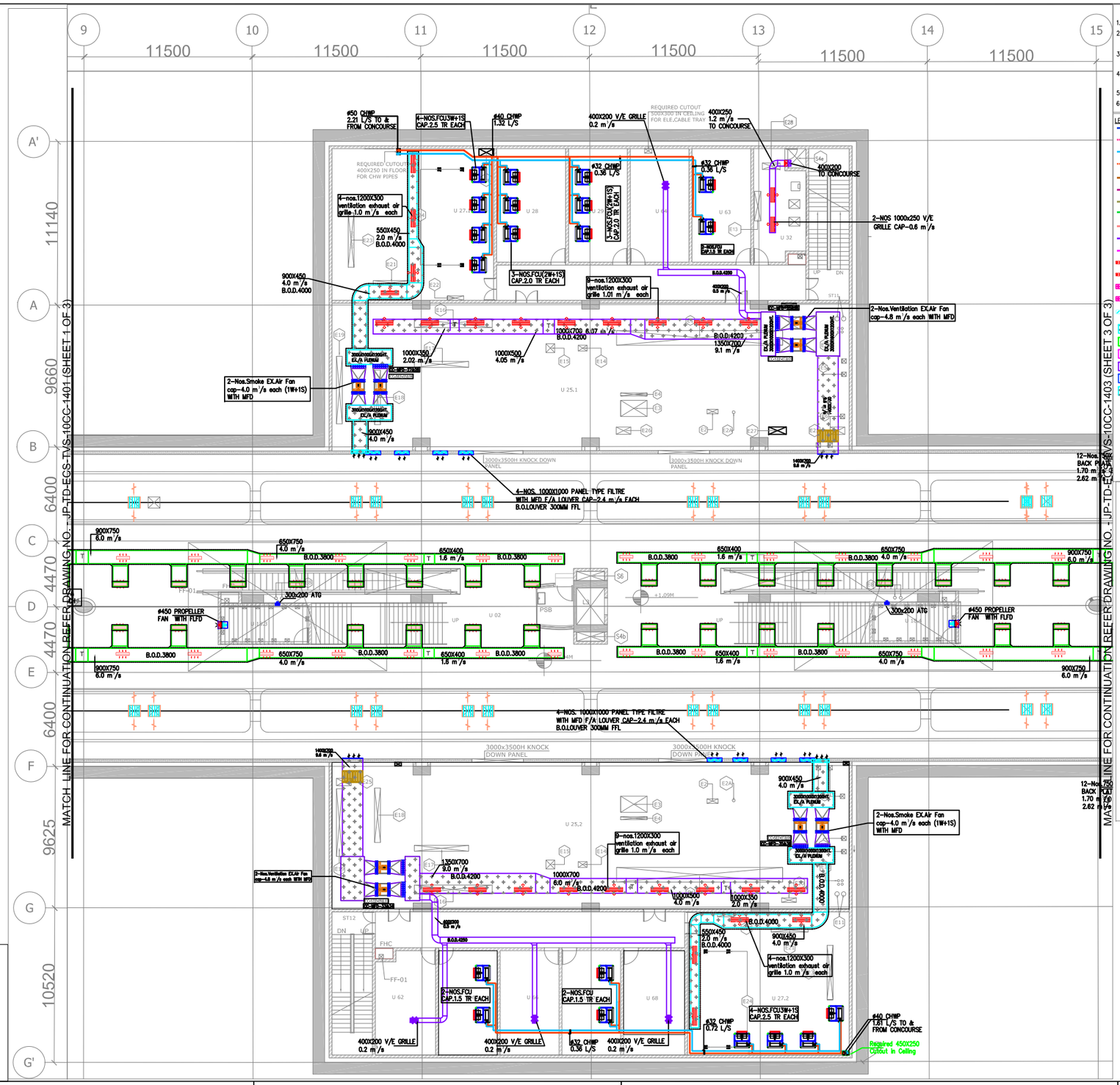

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ABBREVIATIONS

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)
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- 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
- TRACK WAY EXHAUST FAN
- AXIL FAN
- PROPELLER FAN
- TUNNEL VENTILATION FAN

ROOM SCHEDULE

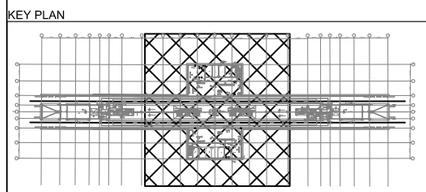
S.NO.	ROOM SCHEDULE	ROOM NAME	DIMENSION (Mt.) (LxW)	AREA (Sqm.)
1	U02	PAID AREA		1362.05*
2	U08	FIRST AID SPACE	3.960 x 3.960	15.68
3	U12	CLEANER'S ROOM 1	4.000 x 7.715	30.86
4	U13	REFUSE STORE 1	3.960 x 3.960	15.68
5	U18.3	DB ROOM	5.955 x 2.450	14.59
6	U18.4	DB ROOM	5.655 x 2.450	13.85
7	U25.1	AUXILLIARY SUB STATION(ASS)1	35.200 x 10.000	348.40*
8	U25.2	AUXILLIARY SUB STATION(ASS)2	35.200 x 10.000	356.60*
9	U27.1	ELECTRICAL UPS ROOM 1	11.000 x 10.300	112.83*
10	U27.2	ELECTRICAL UPS ROOM 2	11.000 x 9.750	107.25
11	U28	GSM ROOM	4.700 x 7.715	36.26
12	U29	CDMA ROOM	4.000 x 7.715	30.86
13	U31.1	SEEPAGE ROOM 1	5.900 x 4.470	22.77*
14	U31.2	SEEPAGE ROOM 2	5.900 x 4.470	22.77*
15	U32	SEEWAGE ROOM	3.550 x 7.715	26.34*
16	U57.1	TUNNEL VENTILATION ROOM(TVS)1	14.800 x 9.140	133.67*
17	U57.2	TUNNEL VENTILATION ROOM(TVS)2	14.800 x 9.140	133.67*
18	PSB	PLATFORM SUPERVISOR BOOTH	2.550 x 2.650	6.76
19	U62	SPARE ROOM	4.000 x 7.100	28.06*
20	U63	E & M STAFF ROOM	4.000 x 7.715	30.86
21	U64	E & M STORE ROOM	4.000 x 7.715	30.86
22	U65	L & E STAFF	4.000 x 7.100	28.40
23	U66	L & E STORE	4.000 x 7.100	28.40
24	U67	TRACTION STAFF	4.000 x 7.100	28.40
25	U68	TRACTION STORE	4.150 x 7.100	29.47

* AS PER POLY LINE

ECS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S10	UPE CUT OUT	1.40X1.00	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

APPROVAL BY DMRC

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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.
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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: **CHOTI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT PLATFORM LEVEL

DRAWN BY: ADIL	CHECKED BY: NITIN	VERIFIED BY: L.R.S	JP/EW/1B/DDC01
DATE: 31-03-2015	REV: R0	GRAPHICAL SCALE: 1:150	STATUS: FOR TENDER	ECS/TVS

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER Nº
JP-TD-ECS/TVS-10CC-1402	2 OF 3	UNE A1	P36-0017

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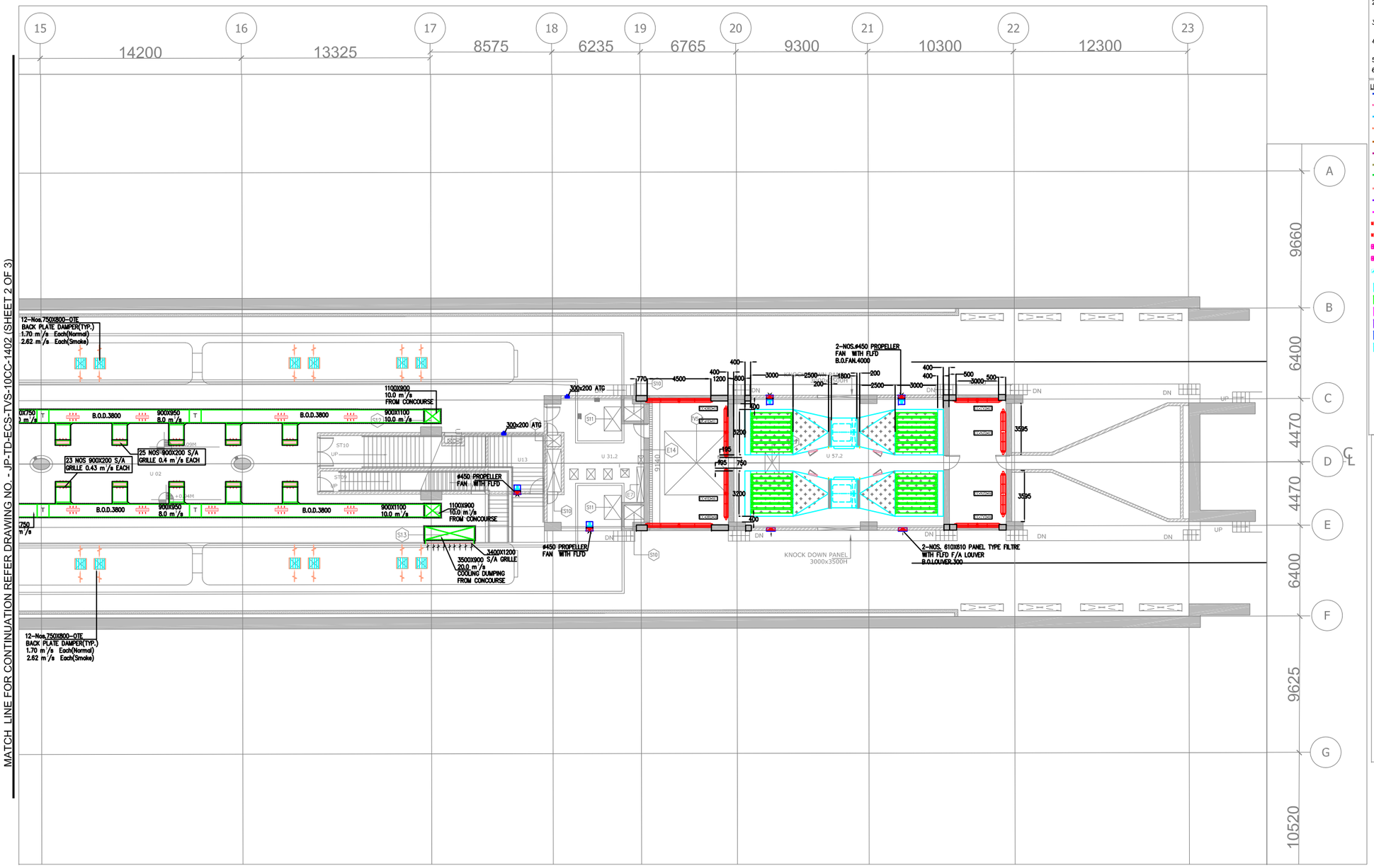

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5. ALL LEVELS OF DUCTS AND PIPES ARE FROM FINISHED FLOOR LEVELS.
6. FOR ECS RELATED ELECTRICAL PLEASE REFER ECS ELECTRICAL LAYOUT.

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)
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- CDW RETURNE PIPE
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- MAKEUP HEADER
- DRAIN&OVERFLOW HEADER
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LEGEND

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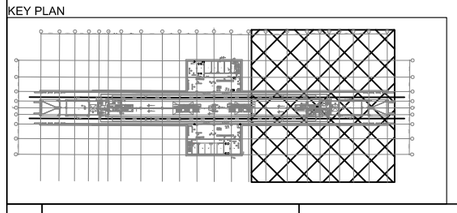
* AS PER POLY LINE

ECS SCHEDULE

CUT OUT NUMBER	PURPOSE	SIZE (M)	AREA(Sq.M)	CUTOUT POSITION
S10	UPE CUT OUT	1.40X1.00	1.40	FLOOR

KEY PLAN



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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

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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: **CHOTI 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 N°
JP-TD-ECS/TVS-10CC-1403	3 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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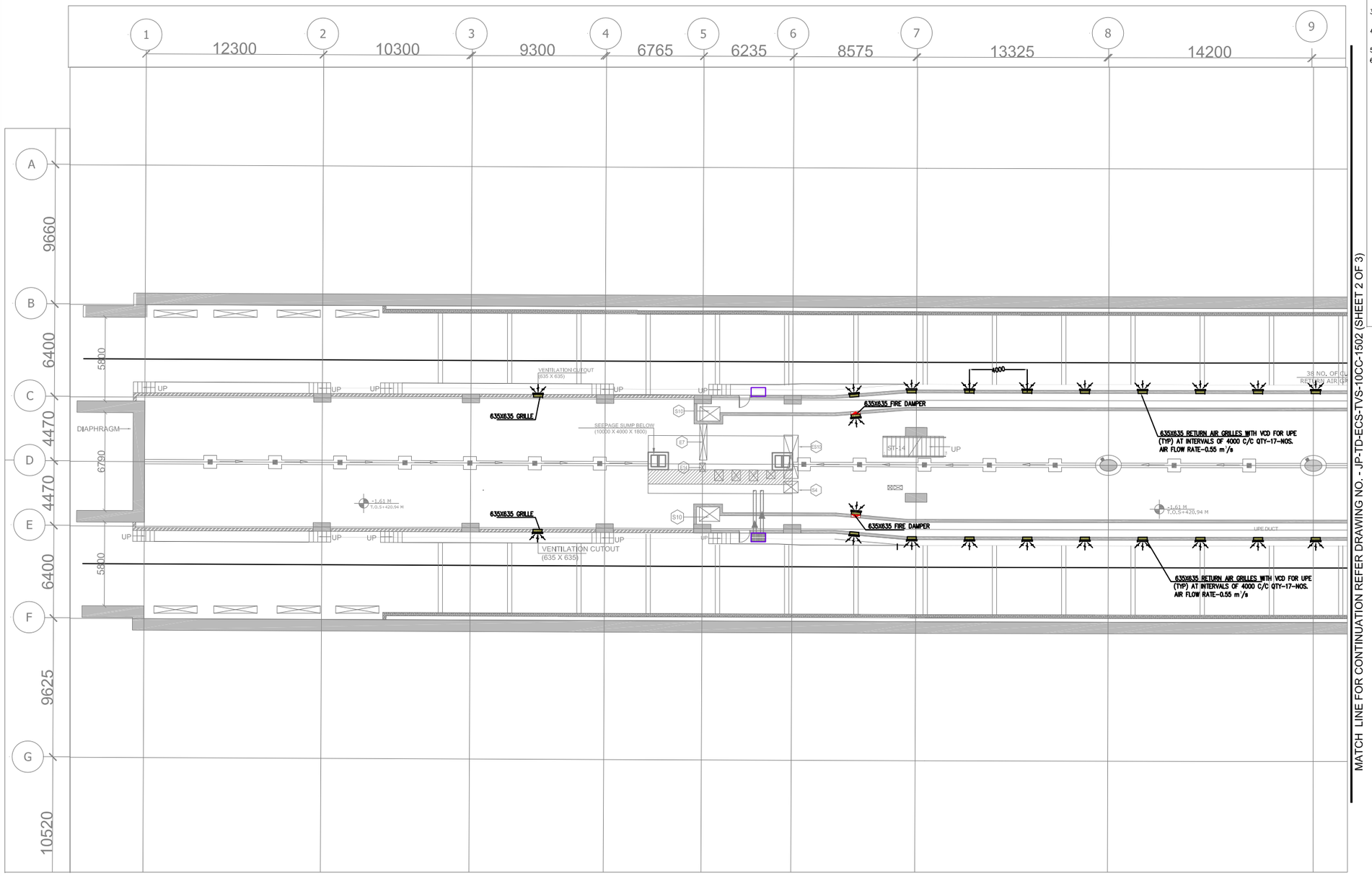

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ABBREVIATIONS

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
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
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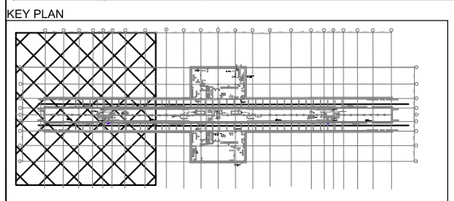
KEY PLAN



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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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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: **CHOTI 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

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS/TVS-10CC-1501	1 OF 3	UNE A1	P36-0017

JP/EW/1B/DDC01 ECS/TVS

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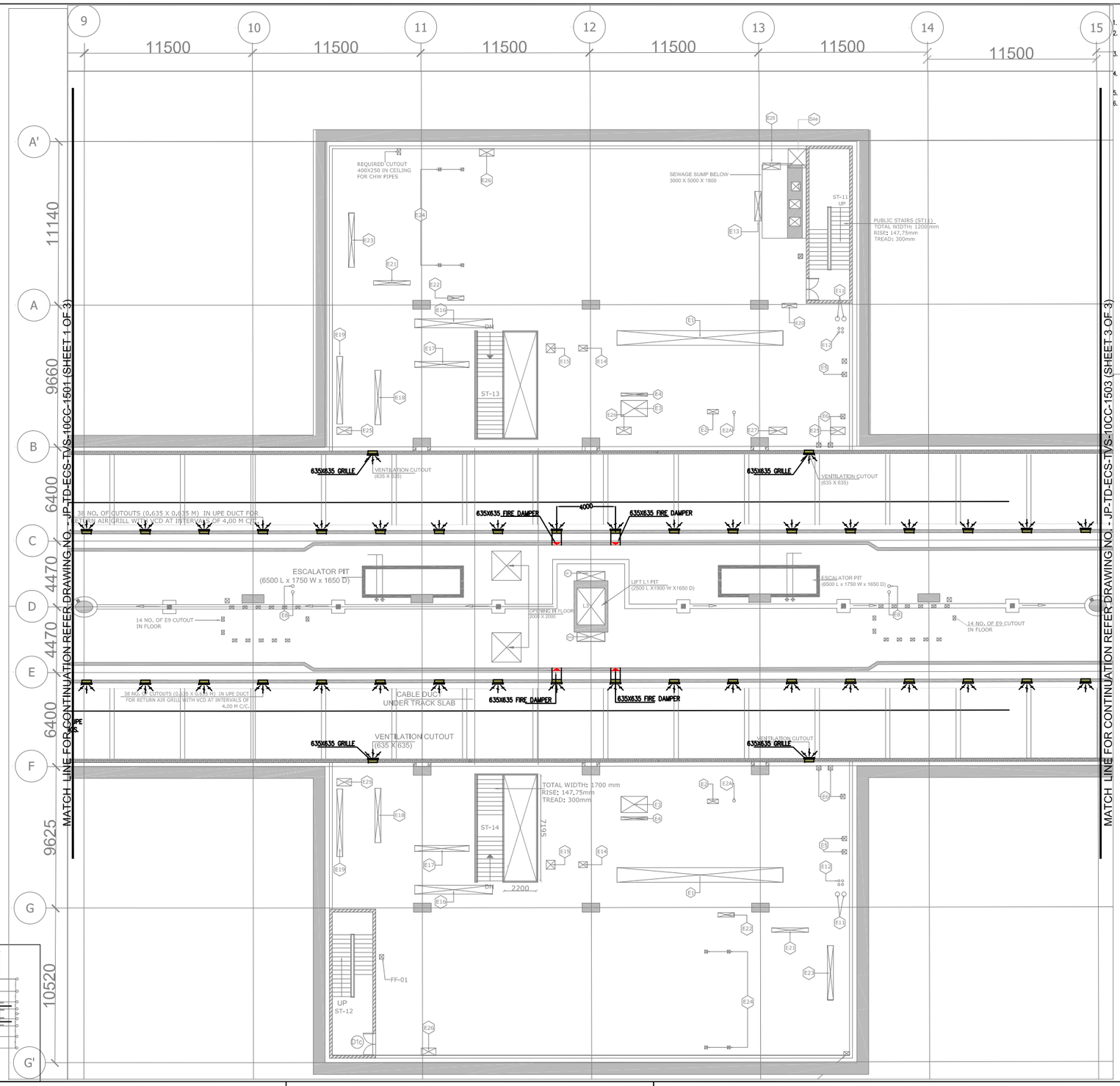

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ABBREVIATIONS

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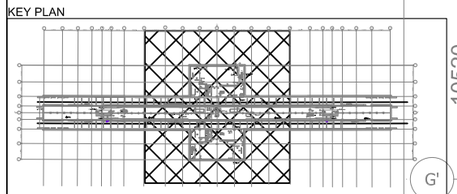
KEY PLAN



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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: **CHOTI CHOUPAR**

DRAWING TITLE: ECS/TVS LAYOUT UNDER CROFT LEVEL

DRAWN BY: ADIL	CHECKED BY: NITIN	VERIFIED BY: L.R.S	JP/EW/1B/DDC01
DATE: 31-03-2015	REV: R0	GRAPHICAL SCALE: 1:150	STATUS: FOR TENDER	ECS/TVS

DRAWING NUMBER:	SHEET NO.	SHEET SIZE	ORDER N°
JP-TD-ECS/TVS-10CC-1502	2 OF 3	UNE A1	P36-0017

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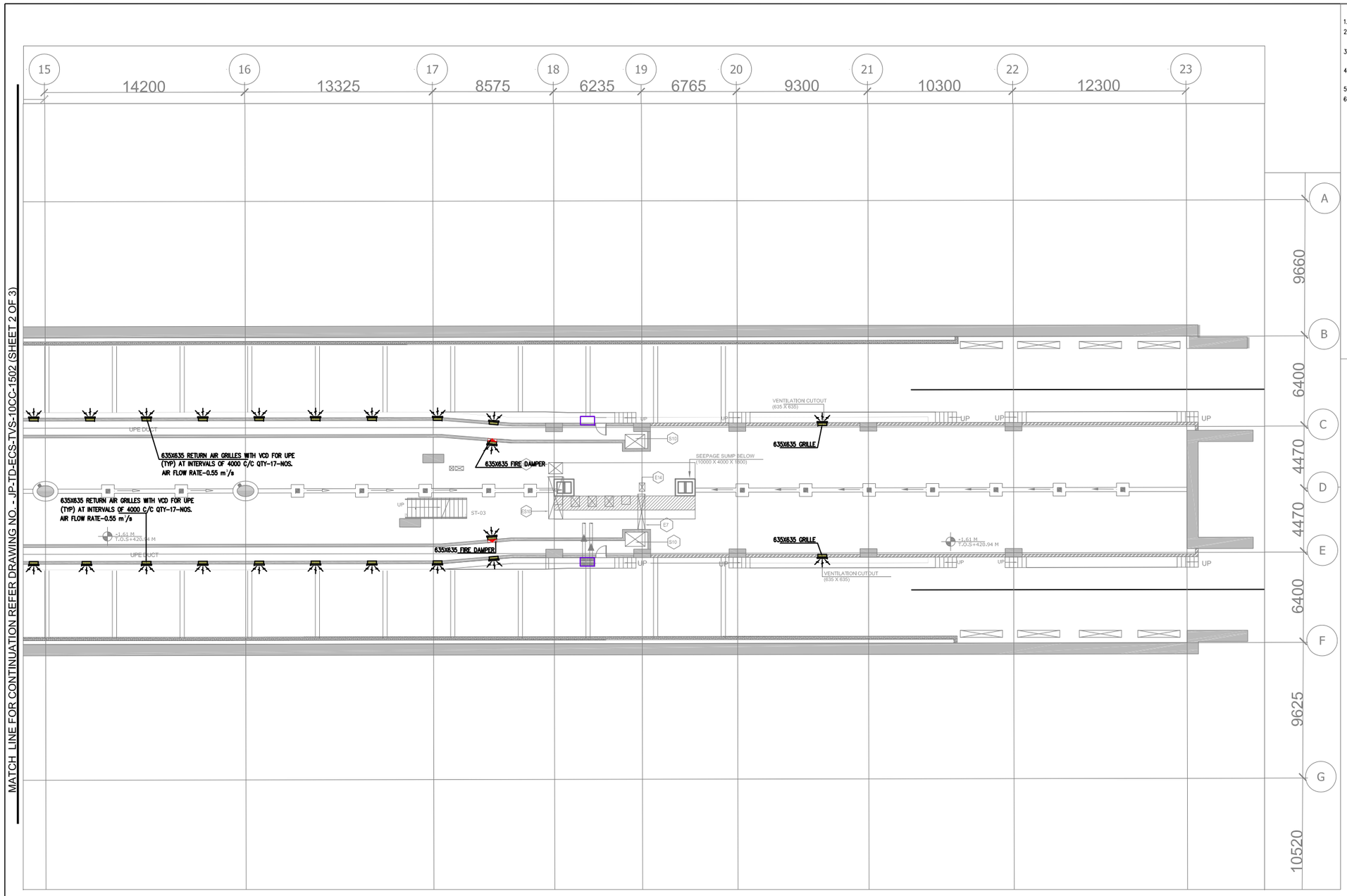


NOTES:-

1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.
2. ALL SUPPLY AND RETURN AIR DUCTING INSULATED WITH 25mm. THK. FIBREGLASS INSULATION IN A/C AREA.
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.

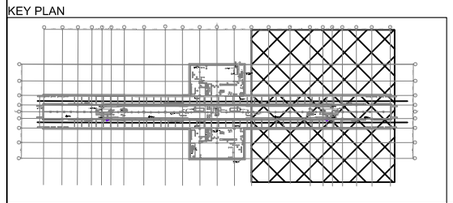
ABBREVIATIONS

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
- 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

KEY PLAN



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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

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

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STATION: **CHOTI CHOUPAR**

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