

**THE DETAILED DESIGN STUDY OF
THE RAILWAY ELECTRIFICATION AND
DOUBLE-DOUBLE TRACKING OF JAVA MAIN LINE PROJECT
IN INDONESIA**



FINAL REPORT - DRAWINGS VOLUME X

**■ BUILDING WORKS (6/6)
(MECHANICAL DRAWINGS)**

MARCH 2005



**Pacific Consultants International
Japan Railway Technical Service**



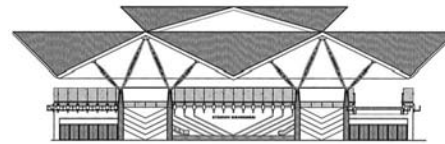
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Japan International Cooperation Agency (JICA)
Directorate General of Land Communications (DGLC)
Ministry of Communications
Government of the Republic of Indonesia

**THE DETAILED DESIGN STUDY OF
THE RAILWAY ELECTRIFICATION AND
DOUBLE-DOUBLE TRACKING OF JAVA MAIN LINE PROJECT
IN INDONESIA**

**FINAL REPORT
DRAWINGS VOLUME X
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MARCH 2005



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Japan Railway Technical Service**

**THE RAILWAY ELECTRIFICATION AND
DOUBLE - DOUBLE TRACKING OF JAVA MAIN LINE PROJECT IN INDONESIA
MECHANICAL DRAWING LIST**

NO	DRAWING NO.	DRAWING TITLE	SCALE
STATIONS BUILDING			
GENERAL STANDARD			
01	AM - 00 - 001	LEGEND & SYMBOL (1)	NTS
02	AM - 00 - 002	LEGEND & SYMBOL (2)	NTS
03	AM - 00 - 003	ABBREVIATION	NTS
04	AM - 00 - 004	EQUIPMENT SCHEDULE (1)	NTS
05	AM - 00 - 005	EQUIPMENT SCHEDULE (2)	NTS
06	AM - 00 - 006	EQUIPMENT SCHEDULE (3)	NTS
07	AM - 00 - 007	EQUIPMENT SCHEDULE (4)	NTS
08	AM - 00 - 008	EQUIPMENT SCHEDULE (5)	NTS
09	AM - 00 - 009	EQUIPMENT SCHEDULE (6)	NTS
10	AM - 00 - 010	EQUIPMENT SCHEDULE (7)	NTS
11	AM - 00 - 011	EQUIPMENT SCHEDULE (8)	NTS
12	AM - 00 - 012	EQUIPMENT SCHEDULE (9)	NTS
13	AM - 00 - 013	EQUIPMENT SCHEDULE (10)	NTS
14	AM - 00 - 014	EQUIPMENT SCHEDULE (11)	NTS
15	AM - 00 - 015	EQUIPMENT SCHEDULE (12)	NTS
16	AM - 00 - 016	STANDARD DETAIL (1)	NTS
17	AM - 00 - 017	STANDARD DETAIL (2)	NTS
18	AM - 00 - 018	STANDARD DETAIL (3)	NTS
19	AM - 00 - 019	STANDARD DETAIL (4)	NTS
20	AM - 00 - 020	STANDARD DETAIL (5)	NTS
21	AM - 00 - 021	STANDARD DETAIL (6)	NTS
MANGGARAI STATION			
22	AM - 01 - 001	SCHEMATIC DIAGRAM AC / VENTILATING AND PIPING SYSTEM	NTS
23	AM - 01 - 002	PIPING GROUND FLOOR PLAN	1 : 600
24	AM - 01 - 003	PIPING 1st FLOOR PLAN	1 : 400
25	AM - 01 - 004	PIPING 2nd FLOOR PLAN	1 : 400
26	AM - 01 - 005	AC AND VENTILATING 1st FLOOR PLAN	1 : 400
27	AM - 01 - 006	TOILET DETAIL PLAN	1 : 100
28	AM - 01 - 007	CHILLER AND PUMP ROOM LAYOUT	1 : 75 / 100
MATRAMAN STATION			
29	AM - 02 - 001	SCHEMATIC DIAGRAM AC / VENTILATING AND PIPING SYSTEM	NTS
30	AM - 02 - 002	AC AND VENTILATING GROUND FLOOR PLAN	1 : 200
31	AM - 02 - 003	PIPING GROUND FLOOR PLAN	1 : 200
JATINEGARA STATION			
32	AM - 03 - 001	SCHEMATIC DIAGRAM AC / VENTILATING AND PIPING SYSTEM	NTS
33	AM - 03 - 002	AC / VENTILATING GROUND AND 1st FLOOR PLAN	1 : 800
34	AM - 03 - 003	PIPING GROUND AND 1st FLOOR PLAN	1 : 800
35	AM - 03 - 004	TOILET DETAIL PLAN	1 : 100
36	AM - 03 - 005	CHILLER AND PUMP ROOM LAYOUT	1 : 75
KLENDER STATION			
37	AM - 04 - 001	SCHEMATIC DIAGRAM AC / VENTILATING AND PIPING SYSTEM (FOR KLENDER, BUARAN, KLENDER BARU, CAKUNG, KRANJI STA.)	NTS
38	AM - 04 - 002	AC / VENTILATING GROUND AND 1st FLOOR PLAN (FOR KLENDER, BUARAN, KLENDER BARU, CAKUNG, KRANJI STA.)	1 : 400
39	AM - 04 - 003	PIPING GROUND AND 1st FLOOR PLAN (FOR KLENDER, BUARAN, KLENDER BARU, CAKUNG, KRANJI STA.)	1 : 400
40	AM - 04 - 004	TOILET DETAIL PLAN (FOR KLENDER, BUARAN, KLENDER BARU, CAKUNG, KRANJI STA.)	1 : 100
41	AM - 04 - 005	PUMP ROOM LAYOUT (FOR KLENDER, BUARAN, KLENDER BARU, CAKUNG, KRANJI STA.)	1 : 30

NO	DRAWING NO.	DRAWING TITLE	SCALE
BUARAN STATION			
42	AM - 05 - 001	AC / VENTILATING GROUND AND 1st FLOOR PLAN	1 : 400
43	AM - 05 - 002	PIPING GROUND AND 1st FLOOR PLAN	1 : 400
KLENDER BARU STATION			
44	AM - 06 - 001	AC / VENTILATING GROUND AND 1st FLOOR PLAN	1 : 400
45	AM - 06 - 002	PIPING GROUND AND 1st FLOOR PLAN	1 : 400
CAKUNG STATION			
46	AM - 07 - 001	AC / VENTILATING GROUND AND 1st FLOOR PLAN	1 : 500
47	AM - 07 - 002	PIPING GROUND AND 1st FLOOR PLAN	1 : 500
KRANJI STATION			
48	AM - 08 - 001	AC / VENTILATING GROUND AND 1st FLOOR PLAN	1 : 400
49	AM - 08 - 002	PIPING GROUND AND 1st FLOOR PLAN	1 : 400
BEKASI STATION			
50	AM - 09 - 001	SCHEMATIC DIAGRAM AC / VENTILATING AND PIPING SYSTEM	NTS
51	AM - 09 - 002	AC / VENTILATING GROUND AND 1st FLOOR PLAN	1 : 600
52	AM - 09 - 003	PIPING GROUND AND 1st FLOOR PLAN	1 : 600
53	AM - 09 - 004	TOILET DETAIL PLAN	1 : 100
54	AM - 09 - 005	CHILLER AND PUMP ROOM LAYOUT	1 : 50 / 75

The Railway Electrification and
Double - double Tracking of
Java Main Line Project



Note:
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JICA Study Team:
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MECHANICAL

GENERAL

DATE 14/Jan/2005

Drawing Title :

LIST OF DRAWING

Scale: A3/NTS Drawing No.: AM - 00 - 000

**THE RAILWAY ELECTRIFICATION AND
DOUBLE - DOUBLE TRACKING OF JAVA MAIN LINE PROJECT IN INDONESIA
MECHANICAL DRAWING LIST**

NO	DRAWING NO.	DRAWING TITLE	SCALE
		TRAIN OPERATION RELATED FACILITIES	
		JATINEGARA OPERATION CENTER	
01	AM - 22 - 000	PIPING SITE PLAN	1 : 1000
02	AM - 22 - 001	SCHEMATIC DIAGRAM PIPING SYSTEM	N T S
03	AM - 22 - 002	SCHEMATIC DIAGRAM AC AND VENTILATING SYSTEM	N T S
04	AM - 22 - 003	PIPING GROUND FLOOR PLAN	1 : 200
05	AM - 22 - 004	PIPING 1st FLOOR PLAN	1 : 200
06	AM - 22 - 005	PIPING 2nd FLOOR PLAN	1 : 200
07	AM - 22 - 006	PIPING 3rd FLOOR PLAN	1 : 200
08	AM - 22 - 007	AC AND VENTILATING GROUND FLOOR PLAN	1 : 200
09	AM - 22 - 008	AC AND VENTILATING 1st FLOOR PLAN	1 : 200
10	AM - 22 - 009	AC AND VENTILATING 2nd FLOOR PLAN	1 : 200
11	AM - 22 - 010	AC AND VENTILATING 3rd FLOOR PLAN	1 : 200
12	AM - 22 - 011	TOILET DETAIL PLAN	1 : 50
13	AM - 22 - 012	CHILLER AND PUMP ROOM LAYOUT	1 : 50
		SUBSTATION (BUARAN) & SIGNAL HUT (CAKUNG)	
14	AM - 23 - 01	AC/VENTILATING AND PIPING GROUND FLOOR PLAN	1 : 200 / 400
		SIGNAL CABIN	
15	AM - 24 - 01	AC/VENTILATING AND PIPING GROUND AND 1st FLOOR PLAN	1 : 250
		TELECOM EQUIPMENT ROOM	
16	AM - 26 - 01	AC AND VENTILATING GROUND FLOOR PLAN	1 : 200
		LEVEL CROSSING WATCHMAN SHED	
17	AM - 27 - 01	AC/VENTILATING AND PIPING GROUND FLOOR PLAN	1 : 100
		PLATFORM OPERATION OFFICE	
18	AM - 28 - 01	AC/VENTILATING AND PIPING GROUND FLOOR PLAN	1 : 100
		CIPINANG DEPOT	
19	AM - 29 - 001	PARTIAL PIPING PLAN 1	1 : 1000
20	AM - 29 - 002	PARTIAL PIPING PLAN 2	1 : 1000
21	AM - 29 - 003	PARTIAL PIPING PLAN 3	1 : 1000
22	AM - 29 - 004	PARTIAL PIPING PLAN 4	1 : 1000
23	AM - 29 - 005	SCHEMATIC WATER SUPPLY, FIRE HYDRANT AND DRAINAGE SYTEM	N T S
24	AM - 29 - 006	PUMP ROOM LAY-OUT	1 : 100
		CIPINANG ADMINISTRATION BUILDING	
25	AM - 30 - 001	SCHEMATIC DIAGRAM PIPING	N T S
26	AM - 30 - 002	SCHEMATIC DIAGRAM AIR CONDITIONING AND VENTILATING	N T S
27	AM - 30 - 003	PIPING GROUND FLOOR PLAN	1 : 200
28	AM - 30 - 004	PIPING 1st FLOOR PLAN	1 : 200
29	AM - 30 - 005	PIPING 2nd FLOOR PLAN	1 : 200
30	AM - 30 - 006	AIR CONDITIONING GROUND FLOOR PLAN	1 : 200
31	AM - 30 - 007	AIR CONDITIONING 1st FLOOR PLAN	1 : 200
32	AM - 30 - 008	AIR CONDITIONING 2nd FLOOR PLAN	1 : 200
33	AM - 30 - 009	TOILET DETAIL	1 : 75
34	AM - 30 - 010	CHILLER AND PUMP ROOM LAYOUT	1 : 50

NO	DRAWING NO.	DRAWING TITLE	SCALE
		CIPINANG LOCO DAILY INSPECTION SHED AND YARDMEN SUB ROOM	
35	AM - 31 - 001	AC & VENTILATING AND PIPING PLAN	1 : 300 - 1 : 200
		CIPINANG MONTHLY INSPECTION SHED	
36	AM - 32 - 001	AC & VENTILATING GROUND FLOOR AND 1st FLOOR PLAN	1 : 250
37	AM - 32 - 002	PIPING GROUND FLOOR & 1st FLOOR PLAN	1 : 250
		CIPINANG STATION AND SUBSTATION	
38	AM - 35 - 001	AC & VENTILATING AND PIPING PLAN	1 : 200
		CIPINANG SIGNAL HUT AND MAIN SUBSTATION	
39	AM - 36 - 001	AC & VENTILATING AND PIPING PLAN	1 : 200
		CIPINANG COACH CLEANING CONTRACTOR OFFICE & CIPINANG COACH YARDMEN MAIN ROOM	
40	AM - 39 - 001	AC & VENTILATING AND PIPING PLAN	1 : 250
		CIPINANG BRIDGE MAINT. OFFICE AND BRIDGE MAINT SHED	
41	AM - 41 - 001	AC & VENTILATING AND PIPING PLAN	1 : 100
		CIPINANG SIGNAL CABIN	
42	AM - 43 - 001	AC & VENTILATING AND PIPING PLAN	1 : 200
		GATE HOUSE 1 AND 2	
43	AM - 44 - 001	AC & VENTILATING AND PIPING PLAN	1 : 100

The Railway Electrification and
Double - double Tracking of
Java Main Line Project



DEPARTEMEN PERKOMUNIKASIAN
KEMENTERIAN KOMUNIKASIAN
DIREKTORAT JENDERAL PERKOMUNIKASIAN DARAT
DIREKTORAT JENDERAL LINTAS KOMUNIKASIAN
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MECHANICAL

GENERAL

DATE /MARCH/2005

Drawing Title :
LIST OF DRAWING

Scale: NTS Drawing No.: AM - 00 - 000

LEGEND

SYMBOL	N A M E	FROM CODE	SPECIFICATION	REMARKS
	Water Supply	JIS G 3452	Galvanized Steel Pipe (Seamless)	Embedded in the wall
	Pressure rized Water	ISO 4065	Polyethylene Pipe (PE100, S5-10Bar)	
	Water Pipe from Deep Well	ISO 4065	Polyethylene Pipe (PE100, S5-10Bar)	
	Water Meter	ISO 4064B	Dry-Dial type Min. Reading 0,0001m ³	
	Ball Float Valve		F.R.P. Ball	
	Water Level Control Valve		w/Ball Float Valve	
	Water Level Control		SST Bar or Mercury Float	
	Gate Valve		Out body steam (10 Bar, 16 Bar)	
	Glove Valve		Out body steam (10 Bar, 16 Bar)	
	Glove Valve			
	Stop Valve		(10 Bar, 16 Bar)	
	Y - Type Strainer		(10 Bar, 16 Bar)	
	Ball Float Check Valve		For discharged pipe for SMP.	
	Flexible Joint		Stainless Steel Type	
	Expansion Joint (Single)		Flanged connection	
	Expansion Joint (Double)		Flanged connection	
	Flexible Joint		2 Rubber Mountains Flanged Type	
	Swing Check Valve			
	Flanged Joint		(10 Bar, 16 Bar)	
	Isolation Flanged Connection			
	Constant Flow Valve		Rubber or Spring type	
	Wall Mounted Faucet			
	Wall Mounted Faucet			
	(Long Nozzle)			
	Counter Mounted Faucet			
	Water Faucet for External Spray			
	Hot Water Faucet			
	Single Lever Mixing Faucet			
	2 Handles Mixing Faucet			
	Flash Valve			
	Shower & Faucet			
	No Branched Down Pipe			
	90° LL Elbow Flow			
	Pump			
	Supply Domestic Hot Water	JIS G3452 GSP		
	Return Domestic Hot Water	JIS G3452 GSP		
	Electrical Water Heater			
	Stored Gas Water Heater			
	Hood Cover			

LEGEND

SYMBOL	N A M E	FROM CODE	SPECIFICATION	REMARKS
	50 mm dia of C.O.A			
	50 mm dia of C.O.B			
	100 mm dia of C.O.C			
	100 mm dia Dry Floor Drain			
	100 mm dia Wet Floor Drain			
	Sink Drain			
	Soil Drain Pipe	JIS K6741	(VP)	
	Kitchen Drain Pipe	JIS K6741	(VP)	
	Concrete Pipe			
	Y type Fitting			
	45° fitting			
	90° LL Fitting			
	Clean Out on the Floor for			
	Every Floor			
	Rain Control Pit Made Concrete			
	With Concrete Cover			
	Rain Control Pit Made Concrete			
	With Iron Cover			
	(W/Frame, Chain and Key Lock)			
	Inverted Control Pit Made			
	Concrete With Concrete Cover			
	Inverted Control Pit Made			
	Concrete With Iron Cover			
	(W/Frame, Chain and Key Lock)			
	Rain Control Pit Made Concrete			
	With Ductile Iron Cover			
	(W/Frame, Chain and Key Lock)			
	Inverted Control Pit Made			
	Concrete With Ductile Iron Cover			
	(W/Frame, Chain and Key Lock)			
	Grease Trap Made Concrete			
	Grease Trap Made Manufacture			
	Gasoline / grease Trap			
	Vent Pipe	JIS K6741	(VP)	
	Vent Cap		Alminum with powder baked colour w/SST mesh	

The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL

GENERAL

DATE 14/Jan/2004

Drawing Title :
LEGEND & SYMBOL
(1)

Scale: A3/NTS Drawing No.: AM-00-001

LEGEND

SYMBOL	N A M E	FROME CODE	SPECIFICATION	REMARKS
	Pump - Up Pipe	JIS G3452	Galvanized Steel seamless pipe in the sump pit VP for out tank.	
	Fire Hydrant Pipe		SCH 40 (Seamless)	
	Fire Hydrant Pipe		SCH 40 (Seamless)	
	Hydrant Box inside Building		SST Hairline finishing	
	Hydrant Box at External		SST Hairline finishing	
	Siamese Connection		100x(65x2) with flame sst panel	
	Natural Gas Line		Seamless Galvanized Steel pipe	
	Liquid Gas Line		Seamless Galvanized Steel pipe	
	Out Door Air Duct		Galvanized Sheet	
	Supply Air Duct		Galvanized Sheet	
	Return Air Duct		Galvanized Sheet	
	Exhaust Air Duct		Galvanized Sheet	
	Kitchen Exhaust Air Duct		Galvanized Sheet	
	Refrigerant Pipes		Cooper Pipes	
	Supply Chilled Water		Seamless Galvanized Steel pipe	
	Return Chilled Water		Seamless Galvanized Steel pipe	
	Fan Coil Unit (Floor Mounted)			
	Fan Coil Unit (Ceiling Mounted)			
	FCU's Remote Controller Switch			
	Chiller's Remote Controller Switch			
	Square Type Air Outlet Deffuser		Alminum with power boaked colour with chamber box	
	Round Type Air Outlet Deffuser		Alminum with power boaked colour with chamber box	
	Breeze Line Type Deffuser		Alminum with power boaked colour with chamber box	
	Slot Type Deffuser		Alminum with power boaked colour with chamber box	
	Nuzzle Type Deffuser		Alminum with power boaked colour with chamber box	
	Vertical, Horizontal Slit type Deffuser		Alminum with power boaked colour with chamber box	
	Horizontal Slit Type Air In take Deffuser		Alminum with power boaked colour with chamber box	
	Louver on External Wall		w/SST Mesh	
	Louver on External Wall		w/SST Mesh	

LEGEND

SYMBOL	N A M E	FROME CODE	SPECIFICATION	REMARKS
	Pressure Gauge w/cock			
	Coumpound Gauge w/cock			
	Thermo Gauge			
	2 Way Valve Unit		From CV valve	
	3 Way Valve Unit		From CV valve	

The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL

GENERAL

DATE 14/Jan/2004

Drawing Title :
LEGEND & SYMBOL
(2)

Scale: A3/ N I S Drawing No.: AM - 00 - 002

ABBREVIATION

OUT LINE	OFFICIAL	OUT LINE	OFFICIAL	OUT LINE	OFFICIAL	OUT LINE	OFFICIAL	OUT LINE	OFFICIAL
GENERAL				MECHANICAL WORKS					
A	Ampere	Max	Maximum	Ø	Mili Meter Dia or Phase of	E.P	Engine Pump	RH	Relative Humidity
AG	Aluminium Grille	MECH	Mechanical		Electrical	Ex. T	Expansion Tank	RPM(rpm)	Revolutions per minute
APX	Approximately	MFR	Manufacture	ACWC	Air Cooled Water Chiller Unit	F.C.C	Ceiling Mounted Fan Coil Unit	RV	Reducing Valve
B.M	Bench Mark	MH	Man Hole	ACC	Coilingmounted Separated	F.C.F	Floor Mounted Fan Coil Unit	S.A	Supply Air
B.O.P	Bottom of Pipe	Min	Minimum		Air Conditioner	F.D	Floor Dry	S.A.D	Supply Air Duct
B.P.	Booster Pump Unit	MIR	Mirror	ACCE	Ceiling Exposed Suspended	F.D.M	Fire Damper	SC	Siamese Connection
C.H	Ceiling Hight	MM (mm)	Mili Meter		Air Conditioner	F.E.P	Fire Extingushed Pump	SD	Soil Drain Pipe
C.F	Ceiling Fan / Blade Type	MT	Male Toilet	ACO -	Outdoor Unit For ACC / ACCE Unit	F.J	Flexible Joint	SF	Supply Air Fan
C.O.P	Center of Pipe	N	North	ACW	Wallmounted Separate Air	F.P	Fire Pillar	SMP	Submarsible Pump
D	Depth	No	Number		Conditioner	F.V.D	Fire Volume Controled Damper	SP	Static Pressure
DM	Dimension	O.D	Out Side Diameter	ACO	Outdoor Unit For ACW Unit	G.T	Grease Trap	ST	Septic Tank
DS	Duct shaft	P.S	Pipe Shaft	ARV	Air Released Valve	G.V	Gate Valve	STS	Y - Type Strainer
DWG	Drawing	PUB	Public	B.T	Ball Float Valve	GLV	Glove Valve	STV	Stop Valve
E	East	R	Room	BCV	Ball Float Check Valve	O.H.B.	Outdoor Hydrant Box	SV	Solenoid Valve
EL	Elevation	R.A.G.	Return Air Grill	C.C	Concrete Cover for Pit	I.H.B.	Indoor Hydrant Box	SWP	Spring Well Pump
EMER	Emergency	R.D	Roof Drain	C.H.W.P	Chilled Water Circulation Pump	H.C	Hood Cover	T.G	Thermo Gauge
EPS	Electrical Pipe Shaft	REFF	Reffrigerant Pipe	C.D	Check Damper	H.C.P	Hot Water Circulation Pump	V	Vent Pipe For Soil/Waste Pipe
EQ (eq)	Equal	REQ	Required	CFV	Constant Flow Valve	H.D	Hood	V.D	Volume Control Damper
ESC	Escalator	RF	Roof	C.I.D	Ductile Iron Cover for Pit	H.W.R	Domestic Hot Water Return	W	Water Supply
F.D	Floor Drain	RND	Round	C.G	Compound Gauge	H.W.S	Domestic Hot Water Supply	WS	Washing Water
F.E	Fire Extinguisher	S	South	C.H	Heavy Duty Ductile Iron Cover for Pit	H.E.X.F	Heat Exchanged Exhaust Fan	W.B	Wet Bulb
F.E.C	Fire Extinguisher Cab	S . C	Siamese Connection			I.P	Incinerator Plant	W.L	Water Level
F.F.L	Standard Floor Level	S/STA	Sub. Station	C.I	Iron Cover for Pit	I.W	Incoming Water Pipe from	W.L.C	Water Level Control Sensor
F.L	Floor Line	SG	Steel Grille	CP (I)	Control Pit of Soil and Waste		Outside Border Line	W.L.V	Water Level Controll Valve
F.O.C	Face of Concrete	SHT	Sheet	CP (R)	Control Pit of Rain	J.P	Jockey Pump		For Water Receiver Tank
F.O.F	Face of Finishing	SK	Sink	CPH	(m3/hr) (Cubic Meter per Hour)	K	Kitchen Drain Pipe	W.M	Water Meter
F.T	Female Toilet	SPEC	Specification	CTP	Combination Treatment Plant	K.Ex	Kitchen Exhaust Air	W.R.	Water Reservoir
GALV	Galvanized	SST	Stainless Steel	CV	Check Valve	K.P.H	Kilocalorie per hours (Kcal/hr)	W.T	Water Receiver Tank
GASK	Gasket	STD	Standard	CD	Condencing Drain	L	Louver	W.T.U.	Waste Treatment Unit
GEN	General	STL	Steel	COA	Clean - Out on Dry Floor	LG	Liquid Gas Line	X.I	Fire Hydrant Pipe In Home
GL	Glass	SW	Switch	COB	Clean - Out on Wet Floor	LL	Large 90 degree Angle Type	X.O	Fire Hydrant Pipe At External
GLL	Ground Level Line	T	Ton	COC	Clean - Out In The Ceiling		Fitting	°C	Celcius
GRL	Grille	TEL	Telephone	CHWR	Return Chilled Water Pipe	LPM	Litter per Minutes (l/min)		
HOR	Horizontal	Tk	Thickness	CHWS	Supply Chilled Water Pipe	NC	Normally Closed		
HR (hr)	Hour	TRD	Thread	DB	Dry Bulb	NG	Natural Gas Line		
HT (h)	Height	TV	Television	DP	Distribution Pump For	NO	Normally Open		
I.D	Inside Diameter	TYP	Typical		Potable Water	O.A	Outdoor Air		
IND	Industrial	UG	Under Ground	DWP	Deep Well Pump	O.A.D	Outdoor Air Duct		
INFO	Information	UR	Urinal	E.A	Exhaust Air	O.A.F	Outdoor Intake Fan		
INSP	Inspection	V	Voit	E.D	Exhaust Duct	O.T	Oil Gasoline Trap		
INSU	Insulation	W	West	E.F	Exhaust Air Fan	P.D	Pump - Up Drain Pipe		
Kg	Kilo gram	W x L x H	Widht(mm) x Heigh(mm)	E.H	Electrical Heater	P.G	Pressure Gauge		
KW	Kilo Watt		x Length (mm)	E.H.S	Stored Electrical Heater	P.R.V	Pressure Released Valve		
M	Meter	W.C	Water Closet			P.T	Pit		
		WT	Weight			R	Rain Drain Pipe		

The Railway Electrification and Double - double Tracking of Java Main Line Project



DEPARTMENT PERBUKUMHUKAN
 MINISTRY OF COMMUNICATION
 DIREKTORAT JENDERAL PERBUKUMHUKAN
 DIREKTORAT JENDERAL OF LAND COMMUNICATION
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 J A K A R T A

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MECHANICAL

GENERAL

DATE | 14/Jan/2004

Drawing Title :

ABBREVIATION

Scale: A3/NTS | Drawing No.: AM - 00 - 003

EQUIPMENT SCHEDULE LIST (1)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
ACWC - 1	AIR - COOLED WATER CHILLER UNIT For Cipinang Administrasi Building Station Office Zone (A)	1	Cooling Capacity : 219.000 w Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 571 Liter/ min Circulation Pump : 80 dia x 285 Liter / min x 20 m H x 2.2 kw x 3 sets (1 stanby) paralel/ alternate opert. Compressor : 2 sets Condenser Fan : 2 sets x 1.0 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchore bolts. Reinforced Concrete Base : 300 H	
ACWC - 2	AIR - COOLED WATER CHILLER UNIT For Jatinegara Operation Center Station Office Zone (A)	1	Cooling Capacity : 180.000 w Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 516 Liter/ min Circulation Pump : 80 dia x 258 Liter / min x 20 m H x 2.1 kw x 3 sets (1 stanby) paralel/ alternate opert. Compressor : 1 sets Condenser Fan : 2 sets x 1.0 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchore bolts. Reinforced Concrete Base : 300 H	
ACWC - 3	AIR - COOLED WATER CHILLER UNIT For Jatinegara Operation Center - Station Office Zone (D)	1	Cooling Capacity : 118.000 w Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 516 Liter/ min Circulation Pump : 80 dia x 258 Liter / min x 20 m H x 2.1 kw x 3 sets (1 stanby) paralel/ alternate opert. Compressor : 1 sets Condenser Fan : 2 sets x 1.0 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchore bolts. Reinforced Concrete Base : 300 H	
ACWC - 4	AIR - COOLED WATER CHILLER UNIT For Manggarai Station - Station Office Zone (A)	1	Cooling Capacity : 106.000 W Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 215 Liter/ min Circulation Pump : 65 dia x 110 liter/ m x 20 m H x 1.5 kw x 3 sets paralel/ alternate opert. Compressor : 1 sets	

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
			Condenser Fan : 2 sets x 1.0 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchore bolts. Reinforced Concrete Base : 300 H	
ACWC - 5	AIR - COOLED WATER CHILLER UNIT For Jatinegara Operation Center Station Office Zone (C)	1	Cooling Capacity : 67.000 W Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 192-215 Liter/ min Circulation Pump : 65 dia x 192 Liter / min x 20 m H x 1.5 kw x 2 sets (1 stanby) Compressor : 2 sets Condenser Fan : 2 sets x 0.215 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchore bolts. Reinforced Concrete Base : 300 H	
ACWC - 6	AIR - COOLED WATER CHILLER UNIT For Jatinegara Operation Center Station Office Zone (B) For Manggarai Station Station Office Zone (B) For Bekasi Station Station Office Zone (A)	1	Cooling Capacity : 56.000 W Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 161 Liter/ min Circulation Pump : 65 dia x 161 Liter / min x 20 m H x 1.5 kw x 2 sets (1 stanby) Compressor : 2 sets Condenser Fan : 2 sets x 0.215 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchore bolts. Reinforced Concrete Base : 300 H	
ACWC - 7	AIR - COOLED WATER CHILLER UNIT For Jatinegara Station - Station Office Zone (A)		Cooling Capacity : 45.380 W Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 129 Liter/ min Circulation Pump : 50 dia x 129 Liter / min x 20 m H x 1.25 kw x 2 sets (1 stanby) Compressor : 3 sets Condenser Fan : 2 sets x 0.215 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchore bolts. Reinforced Concrete Base : 300 H	

The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL

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Drawing Title :
EQUIPMENT SCHEDULE
(1)

Scale: A3 / NTS Drawing No.: AM - 00 - 004

EQUIPMENT SCHEDULE LIST (2)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
ACWC - 8	AIR - COOLED WATER CHILLER UNIT For Bekasi Station Office Zone (A) For Manggarai Station Office Zone (C)	1 1	Cooling Capacity : 17.000 W Chilled Water Temperatur : 12 ^o C (inlet), 7 ^o C (outlet) Chilled Water Flow Rate : 49 Liter/ min Circulation Pump : 40 dia x 49 Liter / min x 20 m H x 0.75 kw x 2 sets (1 standby) Compressor : 1 sets Condenser Fan : 2 sets x 0.215 kw Accessories : Packaged Type Air Cooled Water Chiller Unit Controller Interlocked Wiring Remote Controller and Inverter units, Include : 3 way valves, fans and others, anti vibration rubbers, anchors bolts. Reinforced Concrete Base : 300 H	
ACP - 1	AIR - COOLED WATER CHILLER UNIT For Jatinegara Operation Center Special Dispatcher Equipment	1	Cooling Capacity : 10.800 w Power Consumption : 3.48 w Air Flow Rate : 1060 Cfm Static Pressure : 69 Pa Completed with indoor and ducting and insulated Supply Air Grill : Slot Linier type	
FCU - 1	FAN COIL UNIT IN CEILING MOUNTED For Manggarai Station	4	Cooling Capacity : 7.940 kcal/h (9.234 w) Power Consumption : 63 x 2 watt Chilled Water Flow Rate : 23.7 Liter/ min Air Flow Rate : 1200 cfm Fan Speed Controller w/ embeded Switch Box	
FCU - 2	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER	16	Cooling Capacity : 6.060 kcal/h (7.047 w) Power Consumption : 105 watt Chilled Water Flow Rate : 18.1 Liter/ min Air Flow Rate : 800 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	
FCU - 3	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER For MANGGARAI STATION	16 16	Cooling Capacity : 5.530 kcal/h (6.431 w) Power Consumption : 105 watt Chilled Water Flow Rate : 21.1 Liter/ min Air Flow Rate : 800 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	
FCU - 4	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER For CIP. ADM. BUILDING For MANGGARAI STATION For BEKASI STATION	4 14 4 1	Cooling Capacity : 4.530 kcal/h (5.268 w) Power Consumption : 63 watt Chilled Water Flow Rate : 13.5 Liter/ min Air Flow Rate : 600 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
FCU - 5	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER For CIP. ADM. BUILDING For MANGGARAI STATION For BEKASI STATION	4 6 7 7	Cooling Capacity : 3.900 kcal/h (4.535 w) Power Consumption : 63 watt Chilled Water Flow Rate : 13.5 Liter/ min Air Flow Rate : 580 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	
FCU - 6	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER For CIP. ADM. BUILDING For JATINEGARA STATION For BEKASI STATION	33 27 14 4	Cooling Capacity : 3.110 kcal/h (3.616 w) Power Consumption : 45 watt Chilled Water Flow Rate : 9.3 Liter/ min Air Flow Rate : 400 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	
FCU - 7	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER For CIP. ADM. BUILDING	42 9	Cooling Capacity : 2.510 kcal/h (2.919 w) Power Consumption : 27 watt Chilled Water Flow Rate : 6.4 Liter/ min Air Flow Rate : 300 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	
FCU - 8	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER For CIP. ADM. BUILDING For BEKASI STATION	42 9 1	Cooling Capacity : 2.510 kcal/h (2.500 w) Power Consumption : 27 watt Chilled Water Flow Rate : 6.4 Liter/ min Air Flow Rate : 300 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	
FCU - 9	FAN COIL UNIT IN CEILING MOUNTED For JATINEGARA OPERATION CENTER	29	Cooling Capacity : 1.850 kcal/h (1.920 w) Power Consumption : 16 watt Chilled Water Flow Rate : 4.9 Liter/ min Air Flow Rate : 200 cfm Fan Speed Controller w/ embeded Switch Box Resin Nett Filter, Insulated Drain Pan	
ACCE - 1	AC CEILING EXPOSED For JATINEGARA OPERATION CENTER	16	Cooling Capacity : 10.500 w Power Consumption : 3 kw C/w remote controller	
ACCE - 2	AC CEILING EXPOSED For JATINEGARA OPERATION CENTER	16	Cooling Capacity : 9.360 w Power Consumption : 2 kw C/w remote controller	
ACCE - 3	AC CEILING EXPOSED For Substation Buaran	4	Cooling Capacity : 8.100 w Power Consumption : 2.5 kw C/w remote controller	

The Railway Electrification and
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(2)

Scale: A3 / NTS Drawing No.: AM - 00 - 005

EQUIPMENT SCHEDULE LIST (3)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
ACCE - 4	AC CEILING EXPOSED		Cooling Capacity : 7.200 w	
	For Signal Cabin (Device Room)		Power Consumption : 2.2 kw	
	Located : Manggarai, Jatinegara, Bekasi	6	C/w remote controller	
	For Telecom Equipment Room MNG	3		
ACCE - 5	AC CEILING EXPOSED INDOOR UNIT		Cooling Capacity : 6.240 w	
	For Bridge Maintenance Room (Office)	4	Power Consumption : 2 kw	Cipinang Yard
			C/w remote controller	
ACCE - 6	AC CEILING EXPOSED INDOOR UNIT		Cooling Capacity : 5.120 w	
	For Telecom Equipment Room Jatinegara	2	Power Consumption : 1.6 kw	
			C/w remote controller	
ACCE - 7	AC CEILING EXPOSED		Cooling Capacity : 4.320 w	
	For Signal Hut / Device Room Cakung	2	Power Consumption : 1.3 kw	
			C/w remote controller	
ACCE - 8	AC CEILING EXPOSED		Cooling Capacity : 2.988 w	
	For Signal Cabin (Control Room)		Power Consumption : 2 kw	
	Located : Manggarai, Jatinegara, Bekasi	6	C/w remote controller	
ACW - 1	AC WALL MOUNTED INDOOR UNIT			
	For Jatinegara Station		Cooling Capacity : 5.600 w	
	Small Office 1	1	Power Consumption : 2.2 kw	
	For Yardmen Main Room	1	C/w Outdoor Unit and remote controller	Cipinang Yard
	For Coach Cleaning Cont. Office	2		Cipinang Yard
ACW - 2	AC WALL MOUNTED INDOOR UNIT			
	For Bekasi Station		Cooling Capacity : 5.300 w	
	Ticket Selling	1	Power Consumption : 2.0 kw	
	For Yardmen Sub Room	1	C/w Outdoor Unit and remote controller	Cipinang Yard
ACW - 3	AC WALL MOUNTED INDOOR UNIT			
	For Manggarai Station			
	Police Room	1		
	For Bekasi Station		Cooling Capacity : 4.940 w	
	Ticket Reservation	2	Power Consumption : 1.68 kw	
	For Coach Clean. Cont. Office (Bed Room)	1	C/w Outdoor Unit and remote controller	Cipinang Yard
	For Signal Cabin at Location Cipinang Yard			
Device Room & Control Room	4		Cipinang Yard	
	For Signal Hut at Location Cipinang Yard	2		Cipinang Yard
ACW - 4	AC WALL MOUNTED INDOOR UNIT			
	For Cipinang Depot		Cooling Capacity : 3.600 w	
	Master Room	1	Power Consumption : 1.1 kw	
	For Maintenance room at Located		C/w Outdoor Unit and remote controller	
	Telcom Equipment Manggarai	1		
	For Cipinang Station (Master Room)	1		Cipinang Yard
	For Bridge Maint. Room (Meeting Room)	2		Cipinang Yard

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
ACW - 5	AC WALL MOUNTED INDOOR UNIT		Cooling Capacity : 3.300 w	
	For Cipinang Depot		Power Consumption : 1.1 kw	
	Meeting Room	1	C/w Outdoor Unit and remote controller	
	For Bridge Maint. Room (Master Room)	1		
ACW - 6	AC WALL MOUNTED INDOOR UNIT			
	For Manggarai Station			
	Ticket Booth 1 & 2	2	Cooling Capacity : 3.120 w	
	For Jatinegara Station		Power Consumption : 1.1 kw	
	Small Office 1	1	C/w Outdoor Unit and remote controller	
	Ticket Booth 1 & 2	2		
	For Signal Cabin MNG. JTN, BKS	6		
	For Maintenance Room at Located			
	Telcom Equipment Manggarai	2		
ACW - 7	AC WALL MOUNTED INDOOR UNIT			
	For Matraman Station			
	Ticket Booth	1	Cooling Capacity : 2.600 w	
	For Jatinegara Station		Power Consumption : 0.74 kw	
	Ticket Booth 2	1	C/w Outdoor Unit and remote controller	
ACW - 8	AC WALL MOUNTED INDOOR UNIT			
	For Jatinegara Station			
	Reservation	1	Cooling Capacity : 2.160 w	
	For Bekasi Station		Power Consumption : 0.6 kw	
	Telcom Equipment room	1	C/w Outdoor Unit and remote controller	
ACW - 9	AC WALL MOUNTED INDOOR UNIT			
	For Klender, Buaran, Klender Baru,			
	Cakung, Kranji	5	Cooling Capacity : 1.950 w	
	Ticket Booth		Power Consumption : 0.5 kw	
	For Platform Operation room		C/w Outdoor Unit and remote controller	
	Manggarai, Jatinegara, Bekasi, Klender,			
Klender Baru, Buaran, Cakung, Kranji	20			
	For Cipinang Admin. Building	1		Cipinang Yard
	For Sub Station Buaran	1		
	For Bekasi Station (Maintenance Room)	1		
ACW - 10	AC WALL MOUNTED INDOOR UNIT			
	For Bekasi Station			
	Cash Handling	1	Cooling Capacity : 1.300 w	
	For Jatinegara Station		Power Consumption : 2 kw	
	Cash Handling		C/w Outdoor Unit and remote controller	
ACC - 1	AC CEILING CASSETTE		Cooling Capacity : 9.680 w	
	For Cakung Station		Power Consumption : 2 kw	
	Station Office	2	C/w remote controller	

The Railway Electrification and
Double - double Tracking of
Java Main Line Project



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EQUIPMENT SCHEDULE
(3)

Scale:
A3 / NTS

Drawing No.:
AM - 00 - 006

EQUIPMENT SCHEDULE LIST (4)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
ACC - 2	AC CEILING CASSETTE		Cooling Capacity : 7.865 w	
	For Kranji Station		Power Consumption : 2 kw	
	Station Office	2	C/w remote controller	
ACC - 3	AC CEILING CASSETTE		Cooling Capacity : 7.200 w	
	For Matraman Station		Power Consumption : 2 kw	
	Station Office	2	C/w remote controller	
	For Manggarai Station			
	Ticket Reservation	2		
	Waiting Room/ Shop	2		
	For Matraman Station			
	Station Office	2		
	For Loco Monthly Insp. (Inspection Room)	2		Cipinang Yard
	For Loco Daily Insp. (Meeting Room)	2		Cipinang Yard
ACC - 4	AC CEILING CASSETTE		Cooling Capacity : 6.000 w	
	INDOOR UNIT		Power Consumption : 2 kw	
	For Loco Daily Insp. (Inspection Room)	2	C/w remote controller	Cipinang Yard
ACC - 5	AC CEILING CASSETTE		Cooling Capacity : 5.000 w	
	For Buaran Station Office	2	Power Consumption : 2 kw	
	For Loco Monthly Insp. (Meeting Room)	2	C/w remote controller	Cipinang Yard
ACC - 6	AC CEILING CASSETTE		Cooling Capacity : 4.500 w	
	INDOOR UNIT	2	Power Consumption : 2 kw	
	For Klender Baru Station Office	2	C/w remote controller	Cipinang Yard
	For Cipinang Station (Staff Room)			
	For Jatinegara Station			
	VIP Lounge	2		
	For Bekasi Station			
	VIP Lounge	2		
ACC - 7	AC CEILING CASSETTE		Cooling Capacity : 4.000 w	
		2	Power Consumption : 2 kw	Cipinang Yard
			C/w remote controller	
ACC - 8	AC CEILING CASSETTE		Cooling Capacity : 3.680 w	
	For Klender Station		Power Consumption : 2 kw	
	Station Office	2	C/w remote controller	
ACO - 1	AIR COOLED HEAT PUMP MULTI	1	Cooling Capacity : 15.730 w	
	TYPE/ OUTDOOR UNIT			
	For Kranji Station Office	1		
	For Manggarai Ticket Reservation	1		
	For Manggarai Waiting/ Shop Room	1		
ACO - 2	AIR COOLED HEAT PUMP MULTI		Cooling Capacity : 14.400 w	
	TYPE/ OUTDOOR UNIT			
	For Matraman Station Office	1		

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
ACO - 3	AIR COOLED HEAT PUMP MULTI	1	Cooling Capacity : 12.960 w	
	TYPE/ OUTDOOR UNIT			
ACO - 4	AIR COOLED HEAT PUMP MULTI		Cooling Capacity : 10.650 w	
	TYPE/ OUTDOOR UNIT			
	For Jatinegara Station			
	Facilities Zone (B)	1		
ACO - 5	AIR COOLED HEAT PUMP MULTI		Cooling Capacity : 9.000 w	
	TYPE/ OUTDOOR UNIT			
	For Buaran Station Office	1		
	For Bekasi Station			
	Facilities Zone (C)			
	For Jatinegara Station			
	Lounge Zone (C)			
ACO - 6	AIR COOLED HEAT PUMP MULTI		Cooling Capacity : 8.000 w	
	TYPE/ OUTDOOR UNIT			
	For Bekasi Station			
	VIP Zone (B)	1		
	For Klender Station Office	1		

The Railway Electrification and Double - double Tracking of Java Main Line Project



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 (4)

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EQUIPMENT SCHEDULE LIST (5)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
EXWI - 1	EXHAUST FAN AXIAL			
	WALL MOUNTED INDUSTRIAL		Air Volume : 3.780 CMH	
	For Jatinegara Operation Center		Static Pressure (min) : 140 Pa	
	LVMDP Room	1	Power Supply : 161 w	
	Generator Room	1	Axial Propeller Fan, Fan Blade : 400 dia	
	Pump Room	1	Fan & Motor, Steel Frame	
	Transformer room	1	Related Shulter, Speed Controller	
	Electrical room	1		
EXWI - 2	EXHAUST FAN AXIAL			
	WALL MOUNTED INDUSTRIAL		Air Volume : 2.670 CMH	
	For Jatinegara Operation Center		Static Pressure (min) : 120 Pa	
	Battery Room	1	Power Supply : 88 w	
	Electrical room	2	Axial Propeller Fan, Fan Blade : 350 dia	
	For Bekasi Station		Fan & Motor, Steel Frame	
	MDB room	1	Related Shutter, Speed Controller	
EXWI - 3	EXHAUST FAN AXIAL			
	WALL MOUNTED INDUSTRIAL		Air Volume : 1.800 CMH	
	For Jatinegara Operation Center	1	Static Pressure (min) : 120 Pa	
	SDP Panel Room	1	Power Supply : 59 w	
	Electrical Room 1 st FL	1	Axial Propeller Fan, Fan Blade : 300 dia	
	Electrical Room 2 nd FL	1	Fan & Motor, Steel Frame	
	PLN / MV Room	1	Related Shutter, Speed Controller	
	KAI / MV Room	1		
	For Manggarai Station			
	Electrical room	1		
	Pump Room	1		
	For Bekasi Station			
	Genset room	2		
	Trafo room	1		
	Pump room	2		
	For Cipinang Adm. Building			
	Kitchen G fl	1		
	For Signal Cabin Facilities			
	Genset room	3		
	Signal Device	3		
	For Telcom. Equip. Room KLD,			
	CKN.			
	Telcom room	2		
	For Telcom. Equip. Room JTN,			
	KLD.			
	Power supply room	2		
	For Telcom. Equip. Room			
	Manggarai			
	Equipment room	2		

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
	For Telcom. Equip. Room			
	Jatinegara			
	Equipment room	2		
	For Jatinegara Station			
	Dist. Board Room	2		
	Genset room	2		
	For Loco Monthly Inspection			
	Mechanical room	2		
	High Voltage	2		
	Genset Room	2		
EXWI - 4	EXHAUST FAN AXIAL			
	WALL MOUNTED INDUSTRIAL		Air Volume : 1.100 CMH	
	For Cipinang Adm. Building		Static Pressure (min) : 120 Pa	
	Switchboard Room	1	Power Supply : 59 w	Cipinang Yard
	EPS & Elect. Room G fl & 1 st fl		Axial Propeller Fan, Fan Blade : 250 dia	
	Loco. Maintenance	2	Fan & Motor, Steel Frame	
	Line Laundry	1	Related Shutter, Speed Controller	
	For Manggarai Station			
	Genset Room	2		
	Travo Room	2		
	Distribution Board.	2		
	For Klender, Buaran, Klender Br,			
	Cakung and Kranji Station			
	Pump Room	5		
	Electrical Room	5		
	For Jatinegara Station			
	Pump Room	2		
	Water Tank Room	1		
	Kitchen	1		
	For Telecom Equip. Room			
	Manggarai Station			
	Battery Room	1		
	For Signal Hut Cakung			
	Genset Room	1		
	Battery room	1		
	Power Room	1		
	For Substation Buaran			
	Genset Room	1		
	Main Switchboard Room	1		
	High Voltage	1		
	For Loco Monthly Inspection			Cipinang Yard
	Main Switchboard Room	1		
	For Cipinang Main Sub-Station			Cipinang Yard
	Genset Room	1		
	Main Switchboard Room	1		
	High Voltage	1		

The Railway Electrification and Double - double Tracking of Java Main Line Project



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Drawing Title :
 EQUIPMENT SCHEDULE
 (5)

Scale: A3 / NTS Drawing No.: AM - 00 - 008

EQUIPMENT SCHEDULE LIST (6)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
	For Cipinang SubStation			Cipinang Yard
	Genset Room	1		
	Main Switchboard Room	1		
	High Voltage	1		
EXW - 1	EXHAUST FAN AXIAL			
	WALL MOUNTED		Air Volume : 840 CMH	
	For Jatinegara Operation Center		Static Pressure (min) : 60 Pa	
	Toilet Ground FL	2	Power Supply : 31 w	
	Toilet 1 st FL	2	Metal Fan Blade : 250 dia	
	Toilet 2 nd FL	2	Wall Mount Ventilating Fan	
	Toilet 3 rd FL	1		
	For Loco Monthly Inspection			Cipinang Yard
	Prayer room/ Mushola	1		
	Tool Room	1		
EXW - 2	EXHAUST FAN AXIAL			
	WALL MOUNTED		Air Volume : 570 CMH	
	For Signal Cabin Cipinang Yard		Static Pressure (min) : 40 Pa	
	Power Room	1	Power Supply : 23 w	
	For Signal Hut Cipinang Yard		Metal Fan Blade : 250 dia	
	Power Room	1	Wall Mount Ventilating Fan	Cipinang Yard
	For JTN. Opert. Center			
	Toilet G fl	1		
	For Signal Cabin Facilities			
	Power Room	3		
	For Telcom Equip. room JTN, BKS			
	Maintenance room	2		
EXW - 3	EXHAUST FAN AXIAL			
	WALL MOUNTED			
	For Coach Yard Men Room		Air Volume : 552 CMH	
	Toilet	1	Static Pressure (min) : 60 Pa	
	For Coach Cleaning Contr. Office		Power Supply : 31 w	
	Bed Room		Metal Fan Blade : 250 dia	
	Pray Room	1	Wall Mount Ventilating Fan	
	Toilet	1		
	For Signal Cabin Cipinang Yard			
	Battery Room	1		
	For Signal Hut Cipinang Yard			
	Battery Room	1		
	For Jatinegara Operation Center			
	Mushola	3		
	For Signal Cabin Facilities			
	Battery Room	1		
	For Jatinegara Station			
	Toilet (Old Building)	1		

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
EXW - 4	EXHAUST FAN AXIAL			
	WALL MOUNTED			
	For Coach Yard Men Room		Air Volume : 288 CMH	Cipinang Yard
	Beed Room	1	Static Pressure (min) : 40 Pa	
	Pray Room	1	Power Supply : 23 w	Cipinang Yard
	For Signal Cabin Cipinang Yard		Metal Fan Blade : 250 dia	
	Pray Room	1	Wall Mount Ventilating Fan	
	Toilet	1		
	For Signal Hut Cipinang Yard			Cipinang Yard
	Switching Room	1		
	For Cipinang Station			
	Mushola	1		
	Storage	1		
	Bed Room	1		
	For Brid. Maint. Office			Cipinang Yard
	Electrical room	1		
	Storage 1	1		
	For Jatinegara Opert. Center			
	Storage	1		
	Mushola	3		
	For Cipinang Adm. Building			Cipinang Yard
	Stroge	3		
	For Matraman Station			
	Maintenance room	1		
	Electrical room	1		
	For Signal Cabin Facilities			
	Pray room	1		
	Toilet	1		
	For Telcom. Equip.Room			
	Manggarai Station			
	Kitchen & Toilet	2		
	For Platfrom Opert. Office MNG,			
	BKS, JTN			
	Pantry, and Toilet	28		
	for Sub-Station Buaran			
	Storage and Toilet	2		
	for Loco Monthly Inspection			Cipinang Yard
	Storage	1		
	for Loco Daily Inspection			
	Storage	1		

The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL

GENERAL

DATE 14/Jan/2005

Drawing Title :
 EQUIPMENT SCHEDULE
 (6)

Scale: A3 / NTS Drawing No.: AM - 00 - 009

EQUIPMENT SCHEDULE LIST (7)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
EXW - 5	EXHAUST FAN AXIAL			
	WALL MOUNTED		Air Volume : 226 CMH	
	For Coach Cleaning Contr. Office		Static Pressure (min) : 60 Pa	
	Stroge	1	Power Supply : 28 w	
	For JIN Oper. Center		Metal Fan Blade : 200 dia	
	Toilet	2	Wall Mount Ventilating Fan	
	Mushola	1		
	For Level Cros.Watchman Shed			
	Bks, Cpn, Kldb, Jtn, and Ckn			
	Toilet	5		
EXC - 1	EXHAUST FAN AXIAL			
	WALL MOUNTED		Air Volume : 438 CMH	
	For Manggarai Station		Static Pressure (min) : 40 Pa	
	Staff Toilet 1 st FL	4	Power Supply : 23 w	
	Public Toilet	8	Plastic Fan Blade : 223 dia	
	Ticket Booth 3	1	Ceiling Mount Propeller Exhaust Fan	
	Waiting Room & Female	1		
	For Matraman Station			
	Toilet Male & Female	4		
	EXC - 2	EXHAUST FAN AXIAL		
CEILING MOUNTED			Air Volume : 420 CMH	
For Bekasi Station			Static Pressure (min) : 40 Pa	
Toilet Male & Female G FI		2	Power Supply : 44 w	
For Matraman Station		1	Plastic Fan Blade : 223 dia	
Toilet Male & Female G FI		2	Ceiling Mount Siroco Ventilating Fan Related Shutter, Speed Controller	
EXC - 3	EXHAUST FAN AXIAL			
	CEILING MOUNTED		Air Volume : 330 CMH	
	For Manggarai Station		Static Pressure (min) : 40 Pa	
	Public Toilet G fl	1	Power Supply : 23 w	
	Toilet VIP Lounge Ground FL	1	Plastic Fan Blade : 223 dia	
	Ticket booth 1 & 2	2	Ceiling Mount Siroco Ventilating Fan	
	For Jatinegara Station		Related Shutter, Speed Controller	
	Male Toilet (Public)	6		
	Female Toilet (Public)	6		
	Staff Toilet	3		
	For Bekasi Station			
	Toilet Female 1 st fl	6		
	For Matraman Station			
Ticket Booth	1			
For Klender, Buaran, Kld Baru, Cakung and Kranji Station				
Toilet Female	10			
For Jatinegara Station				
Public Toilet (old building)				

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
EXC - 4	EXHAUST FAN AXIAL			
	CEILING MOUNTED		Air Volume : 265 CMH	
	For Manggarai Station		Static Pressure (min) : 40 Pa	
	Pantry	1	Power Supply : 23 w	
	For Bekasi Station		Plastic Fan Blade : 121 dia	
	Toilet Male 1 st fl	6	Ceiling Mount Siroco Ventilating Fan	
	For Kld. Buaran, Kld.br, Cakung Kranji Station		Related Shutter, Speed Controller	
	Toilet Male	10		
	For Jatinegara Station			
	Staff toilet & Public Toilet	15		
EXC - 5	EXHAUST FAN AXIAL			
	CEILING MOUNTED		Air Volume : 207 CMH	
	For KLD, BRN, KLDB, KRJ, CKN		Static Pressure (min) : 40 Pa	
	Ticket Booth	4	Power Supply : 26 w	
	For Bekasi Station		Plastic Fan Blade : 121 dia	
	Staff toilet (male & female)	6	Ceiling Mount Siroco Ventilating Fan	
	For Manggarai Station		Related Shutter, Speed Controller	
	Storage	2		
	Pantry	1		Cipinang Yard
	For CPN Adm. Building			
EXC - 6	EXHAUST FAN AXIAL			
	WALL CEILING MOUNTED		Air Volume : 173 CMH	
	For Bekasi Station		Static Pressure (min) : 40 Pa	
	Storage	1	Power Supply : 25 w	
	Handycap Toilet	2	Plastic Fan Blade : 121 dia	
			Ceiling Mount Siroco Ventilating Fan Related Shutter, Speed Controller	
EXC - 7	EXHAUST FAN AXIAL			
	WALL CEILING MOUNTED		Air Volume : 140 CMH	
	For Bekasi Station		Static Pressure (min) : 40 Pa	
	Storage	1	Power Supply : 11 w	
	Handycap Toilet	2	Plastic Fan Blade : 121 dia	
	For Jatinegara Operation Center		Ceiling Mount Siroco Ventilating Fan	
	Toilet Female Ground FL	1	Related Shutter, Speed Controller	
	Toilet Female 1 st FL	1		
	For Bridge Main. Office			
	Storage 2	1		
For Cipinang Adm. Building				
Toilet Bed room	38			
For Loco Monthly Inspection				
Toilet	5			

The Railway Electrification and
Double - double Tracking of
Java Main Line Project



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MECHANICAL

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Drawing Title :
EQUIPMENT SCHEDULE
(7)

Scale: A3 / NTS Drawing No.: AM - 00 - 010

EQUIPMENT SCHEDULE LIST (8)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
	For Loco Daily Inspection Toilet	2		
CF - 1	CEILING FAN PROPELLER			
	For Manggarai Station		Air Volume : 225 CMH	
	Mushola	1	Power Supply : 80 Pa	
	For Jatinegara Station		Metal Blade : 140 dia	
	Mushola	2	Thermal Fuse, Speed Regulator	
	For MTM, KLD, BRN, KLDB, KRJ, & CKN Station		Speed Controller	
	Mushola	6		
	For Bekasi Station			
	Mushola	2		
	For Cipinang Adm. Building			Cipinang Yard
	Mushola	10		
	For Jatinegara Station			
	Mushola	2		
HEXF - 1	HEAT EXCHANGED EXHAUST FAN UNIT		Total Heat (temperatur and humidity) Ventilation	
	For Jatinegara Oprt. Cent. Train Dispatcher 3 rd fl	4	Air Delivery : 1.500 CMH Static Pressure : 20 mm H2O Power : 705 dia	
			Outside Air Intake/ Exhaust: 300. dia x 2 duct	
	For Cipinang Adm. Building		OA Grille/ Exhaust grill c/w insect screen	Cipinang Yard
	Dining Room	1		
	General Management	1		
	For Bekasi Station			
	Station Office	2		
	For Matraman Station			
	Station Office	1		
	For Kranji Station			
	Office	1		
	For Cakung Station			
	Office	1		
HEXF - 2	HEAT EXCHANGED EXHAUST FAN UNIT			
	For Jatinegara Operation Center			
	Rest room 2 fl	2		
	Entrance hall G fl	2		
	Bed room G fl	2		
	Telecom Office 1 st fl	2		
	Signal Room 1 st FL	2	Total Heat (temperatur and humidity) Ventilation	
	Signal Office 1 st FL	2	Air Delivery : 1.000 CMH	
	Elect. Power Opert. Room 2 fl	1	Static Pressure : 15 mm H2O	
	Meeting Room	1	Power : 680 w	
	Cts Room	1	Outside Air Intake/ Exhaust: 250. dia x 2 duct	
	For Manggarai Station		OA Grille/ Exhaust grill c/w insect screen	
	- VIP Lounge	1		

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
	- Frist Class Lounge	1		
	For Bekasi Station			
	- Meeting room	1		
	For Bekasi Station			
	- Meeting room	1		
	For Bridge Main. Office			
	- Office	2		
	For Cipinang Adm. Building			
	Training Room	1		
	Entrance Hall	1		
	Security Room	1		
	Clinic	1		
	Conference room	1		
	Loco. Management	1		
	For Buaran Station			
	Office	1		
	For Jatinegara Station			
	Meeting room	1		
	Station Office	2		
	VIP Lounge	1		
	For Loco Monthly Inspection			
	Meeting room & Inspector. Room	2		
	For Loco Daily Inspection			
	Inspector Room	1		
HEXF - 3	HEAT EXCHANGED EXHAUST FAN UNIT		Total Heat (temperatur and humidity) Ventilation	
	For Jatinegara Operation Center		Air Delivery : 800 CMH	
	Corridor G FL	2	Static Pressure : 12 mm H2O	
	Maintenance room G FL	2	Power : 450 w	
	Radio room 1 st FL	2	Outside Air Intake/ Exhaust: 200. dia x 2 duct	
	Corridor 1 st FL	2	OA Grille/ Exhaust grill c/w insect screen	
	Telecom room 1 st FL	2		
	Telecom workshop 2 nd FL	1		
	Voice recorder room 2 nd FL	1		
	Telecom office 2 nd FL	2		
	Corridor 2 nd FL	2		
	Rest room 2 fl	1		
	Signal Telcom Room 2 fl	1		
	Meeting Room	1		
	Cts Room 3 fl	1		
	For Cipinang Station			
	Staff Room	1		
	For Cipinang Adm. Building			
	Corridor	6		
	Driver Waiting Room	1		
	For Bekasi Station			
	Resting Room	1		
	VIP Lounge	1		

The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL

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Drawing Title :
EQUIPMENT SCHEDULE
(8)

Scale: A3 / NT
Drawing No.: AM - 00 - 011

EQUIPMENT SCHEDULE LIST (9)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
	For Klender Station			
	Office	1		
	For Klender Baru Station			
	Office	1		
	For Telkom Equip. Room			
	Manggarai			
	Maintenance Room	1		
	For Jatinegara Station			
	Master Room	1		
	For Signal Cabin (Cipinang Depot)	1		
HEXF - 4	HEAT EXCHANGED			
	EXHAUST FAN UNIT		Total Heat (temperatur and humidity) Ventilation	
	For Jatinegara Operation Center		Air Delivery : 500 CMH	
	Corridor 3 rd FL	1	Static Pressure : 4 mm H2O	
	Rest room 3 rd FL	1	Power : 195 w	
	For Manggarai Station		Outside Air Intake/ Exhaust: 200. dia x 2 duct	
	Frist Class Lounge	1	OA Grille/ Exhaust grill c/w insect screen	
	Station Master room	1		
	Station Office	1		
	Locker & Rest Room	1		
	Big Stroge	1		
	Office	1		
	Ticket Selling	1		
	For Bekasi Station			
	Station Master Room	1		
	For Coach Yard Men Room			Cipinang Yard
	Yardmen Room	1		
	For Coach Cleaning Cont.			Cipinang Yard
	Inspector Room	1		
	For Cipinang Adm. Building			Cipinang Yard
	Master Room	1		
	For Loco Daily Inspection			Cipinang Yard
	Meeting Room	1		
HEXF - 5	HEAT EXCHANGED			
	EXHAUST FAN UNIT			
	For Jatinegara Operation Center			
	Reception Room G FL	1		
	For Manggarai Station		Total Heat (temperatur and humidity) Ventilation	
	Reception Room G FL	1	Air Delivery : 270 CMH	
	For Cipinang Station		Static Pressure : 2 mm H2O	Cipinang Yard
	Master Room	1	Power : 83 w	
	For Bridge Maintenance Office		Outside Air Intake/ Exhaust: 150. dia x 2 duct	Cipinang Yard
	Master Room	1	OA Grille/ Exhaust grill c/w insect screen	

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
BP - 1	BOOSTER PUMP UNIT			
	For Manggarai Station	1	Type : variable speed	
			Cap : 153 Lt / min	
			Total head : 30 m	
			1.5 kw, 3 ph, 380 V	
			Automatical alternative run	
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with ancore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
BP - 2	BOOSTER PUMP UNIT		Type : variable speed	
	For Bekasi Station	1	Cap : 103 Lt / min	
			Total head : 30 m	
			1.2 kw, 3 ph, 380 V	
			Automatical alternative run	
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with ancore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
BP - 3	BOOSTER PUMP UNIT		Type : variable speed	
	For Jatinegara Operation Center	1	Cap : 60 Lt / min	
			Total head : 30 m	
			0.75 kw, 3 ph, 380 V	
			Automatical alternative run	
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with ancore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
BP - 4	BOOSTER PUMP UNIT		Type : variable speed	
	For Jatinegara Station	1	Cap : 52 Lt / min	
			Total head : 30 m	
			0.75 kw, 3 ph, 380 V	
			Automatical alternative run	
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with ancore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	

The Railway Electrification and Double-double Tracking of Java Main Line Project



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MECHANICAL

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Drawing Title :
EQUIPMENT SCHEDULE
(9)

Scale: A3 / NTS Drawing No.: AM - 00 - 012

EQUIPMENT SCHEDULE LIST (10)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
BP - 5	BOOSTER PUMP UNIT		Type : variable speed	
	For Klender Station	1	Cap : 25 Lt / min	
	For Buaran Station	1	Total head : 30 m	
	For Klender Baru Station	1	0.50 kw, 3 ph, 380 V	
	For Cakung Station	1	Automatical alternative run	
	For Kranji Station	1	2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
BP - 6	BOOSTER PUMP UNIT		Type : variable speed	
	General use 1 (Cipinang Yard)	1	Cap : 50 Lt / min	
	(Location : Loco Pump House 1)		Total head : 50 m	
			0.75 kw, 3 ph, 380 V	
			Automatical alternative run	
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
BP - 7	BOOSTER PUMP UNIT		Type : variable speed	
	Washing Use 1 (Cipinang Yard)	1	Cap : 100 Lt / min	
	(Location : Loco Pump House 1)		Total head : 60 m	
			1.3 kw, 3 ph, 380 V	
			Automatical alternative run	
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
BP - 8	BOOSTER PUMP UNIT		Type : variable speed	
	Washing Use 2 (Cipinang Yard)	1	Cap : 35 Lt / min	
	(Location : Loco Pump House 2)		Total head : 45 m	
			0.6 kw, 3 ph, 380 V	
			Automatical alternative run	
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
BP - 9	BOOSTER PUMP UNIT		Type : variable speed	
	Washing Use 2 (Cipinang Yard)		Cap : 110 Lt / min	
	(Location : Loco Pump House 2)	1	Total head : 70 m	
			2.2 kw, 3 ph, 380 V	
			Automatical alternative run	

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
			2 pump opert in paralel alternate, 1 sandby	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
			(by others)	
FP - 1	FIRE PUMP			
	For Loco pump House 1	2	Type : end suction	
	Location : Loco Pump House 1		Cap : 300 Lt / min (50 GPM)	
	For Manggarai Station	2	Total head : 60 m	
			7.5 kw, 3 ph, 380 V	
			2 pump run on emergency	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
FP - 2	FIRE PUMP			
	For Loco pump House 2	2	Type : end suction	
	Location : Loco Pump House 2		Cap : 700 Lt / min	
			Total head : 100 m	
			18.5 kw, 3 ph, 380 V	
			2 pump run on emergency	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
FP - 3	FIRE PUMP			
	For Manggarai Station	2	Type : end suction	
	For Jatinegara Oper. Center	2	Cap : 150 Lt / min	
			Total head : 60 m	
			2.3 kw, 3 ph, 380 V	
			2 pump run on emergency	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	
FP - 3	FIRE PUMP			
	For Jatinegara Station	2	Type : end suction	
			Cap : 200 Lt / min	
			Total head : 60 m	
			2.5 kw, 3 ph, 380 V	
			2 pump run on emergency	
			Accessories : Including control panel	
			Unit vibration basement with anchore volts	
			Concrete plinth : 100 x 900 x 100 H	

The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL

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Drawing Title :

EQUIPMENT SCHEDULE (10)

Scale:
A3 / NTS

Drawing No.:
AM - 00 - 013

EQUIPMENT SCHEDULE LIST (11)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
DSP - 1	DEEP WELL SUBMERSIBLE PUMP			
	For Bekasi Station	1	Deep well Submersible Pump	
	For Jatinegara Operation Center	1	Water flow rate: 72 m ³ /day (9 m ³ /hr) = 150 Lt / min	
	For Locomotive Depot Cipinang	2	Power : 9.0 kw, 3 ph, 380 V Head : 173 m in depth	
	For Coach Depot Cipinang	5	Complete Accessories with remote controls	
			8 hours operation, one day timer control	
SMP - 1	SUM PUMP			
	For Manggarai Station	2	Submersible Pump	
			water flow rate : 60 Lt / min , Head : 9 m	
			Power : 0.75 kw, 1 ph, 220 V	
			Complete Accessories with remote controls	
			8 hours operation, one day timer control	
SMP - 2	SUM PUMP			
	For Bekasi Station	2	Submersible Pump	
			water flow rate : 47 Lt / min , Head : 9 m	
			Power : 0.5 kw, 1 ph, 220 V	
			Complete Accessories with remote controls	
			8 hours operation, one day timer control	
WR - 1	WATER RESERVOIR			
	For Locomotive Depot	1	Water Reservoir Under Ground Construction by	
			Architectur work	
			Water Capacity : 125 m ³	
			14 m (L) x 7 m (w) devided 3 tank x 2.5 m (H)	
			total. inside ladder, man hole and sand separator	
WR - 2	WATER RESERVOIR			
	For Manggarai Station	1	Fiber Reinforced Prefabricated Panel Tank Assembly	
			Water Capacity : 63 m ³	
			steel common base w/ reinforced steel	
			500 H x 400 W x 4 Lines.	
WR - 3	WATER RESERVOIR			
	For Jatinegara Station	1	Fiber Reinforced Prefabricated Panel Tank Assembly	
			Water Net Capacity: 30 m ³	
			steel common base w/ reinforced steel	
			500 H x 400 W x 4 Lines.	
WR - 4	WATER RESERVOIR			
	For Standard Station		Fiber Reinforced Prefabricated Panel Tank Assembly	
	Klender Station	1	Water Net Capacity : 7.0 m ³	
	Cakung Station	1	steel common base w/ reinforced steel	
	Kranji Station	1	500 H x 400 W x 4 Lines.	
WR - 5	WATER RESERVOIR			
	For Standard Station		Fiber Reinforced Prefabricated Panel Tank Assembly	
	Klender Baru Station	1	Water Net Capacity : 4.5 m ³	
	Kranji Station	1	steel common base w/ reinforced steel	
			500 H x 400 W x 4 Lines.	
WR - 6	WATER RESERVOIR			
	For Standard Station		Fiber Reinforced Prefabricated Panel Tank Assembly	
	Buaran Station	1	Water Net Capacity : 3 m ³	
			steel common base w/reinforced steel	

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
			500 H x 400 W x 4 Lines.	
WR - 7	WATER RESERVOIR			
	For Standard Station	1	Fiber Reinforced Prefabricated Panel Tank Assembly	
	Bekasi Station		Water Net Capacity: 38.8 m ³	
			steel common base w/reinforced steel	
			500 H x 400 W x 4 Lines.	
WR - 8	WATER RESERVOIR			
	For Standard Station	1	Water Reservoir Under Ground Construction by	
	Jatinegara Operation Center		Architectur work	
			Water Capacity : 37 m ³	
			6 m (L) x 4 m (w) devided 3 tank x 2.3 m (H)	
			total. inside ladder, man hole and sand separator	
WR - 9	WATER RESERVOIR			
	For Standard Station	1	Water Reservoir Under Ground Construction by	
	Coach Depot Cipinang		Architectur work	
			Water Capacity : 355 m ³	
			20 m (L) x 9 m (w) devided 3 tank x 2.5 m (H)	
			total. inside ladder, man hole and sand separator	
WTU - 1	WASTE TREATMENT UNIT			
	For Manggarai Station	1	Waste Treatment Unit, under Ground Construction	
			Protected Reinforced Slab/ Coloumn/ Floor	
			Treated Water Capacity: 81 m ³ / day	
			Dischaged BOD : 10 PPM	
			Equalization, Aeration, Backwash Blowers,	
			Dischaged Pit and Submersible Sewage 2 Pumps	
			Automatic Control Panel and Completed Devices	
WTU - 2	WASTE TREATMENT UNIT			
	For Bekasi Station	1	Waste Treatment Unit, under Ground Construction	
			Protected Reinforced Slab/ Coloumn/ Floor	
			Treated Water Capacity: 55.5 m ³ / day	
			Dischaged BOD : 20 PPM	
			Equalization/ Aeration/ Backwash Blowers,	
			Dischaged Pit and Submersible Sewage 2 Pumps	
			Automatic Control Panel and Completed Devices	
WTU - 3	WASTE TREATMENT UNIT			
	For Jatinegara Operation Center	1	Waste Treatment Unit, under Ground Construction	
			Protected Reinforced Slab/ Coloumn/ Floor	
			Treated Water Capacity: 51.88 m ³ / day	
			Dischaged BOD : 10 PPM	
			Equalization/ Aeration/ Backwash Blowers,	
			Dischaged Pit and Submersible Sewage 2 Pumps	
			Automatic Control Panel and Completed Devices	
WTU - 4	WASTE TREATMENT UNIT			
	For Jatinegara Station	1	Waste Treatment Unit, under Ground Construction	
			Protected Reinforced Slab/ Coloumn/ Floor	
			Treated Water Capacity: 27.5 m ³ / day	
			Dischaged BOD : 10 PPM	
			Equalization/ Aeration/ Backwash Blowers,	
			Dischaged Pit and Submersible Sewage 2 Pumps	
			Automatic Control Panel and Completed Devices	

The Railway Electrification and Double - double Tracking of Java Main Line Project



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Drawing Title :
EQUIPMENT SCHEDULE (11)

Scale: A3 / NTS Drawing No.: AM - 00 - 014

EQUIPMENT SCHEDULE LIST (12)

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS
WTU - 5	WASTE TREATMENT UNIT		Waste Treatment Unit, under Ground Construction	
	For Locomotive Adm. Building	1	Protected Reinforced Slab/ Coloumn/ Floor	
			Treated Water Capacity: 21.87 m ³ / day	
			Dischaged BOD : 20 PPM	
			Equalization/ Aeration/ Backwash Blowers, Discharged Pit and Submersible Sewage 2 Pumps Automatic Control Panel and Completed Devices	
WTU - 6	WASTE TREATMENT UNIT		Waste Treatment Unit, under Ground Construction	
	For Coach Inspection	1	Protected Reinforced Slab/ Coloumn/ Floor	
			Treated Water Capacity: 15.39 m ³ / day	
			Dischaged BOD : 20 PPM	
			Equalization/ Aeration/ Backwash Blowers, Discharged Pit and Submersible Sewage 2 Pumps Automatic Control Panel and Completed Devices	
WTU - 7	WASTE TREATMENT UNIT		Waste Treatment Unit, under Ground Construction	
	For Standar Station	1	Protected Reinforced Slab/ Coloumn/ Floor	
	Cakung Station		Treated Water Capacity: 12.48 m ³ / day	
	Kranji Station		Dischaged BOD : 20 PPM	
			Equalization/ Aeration/ Backwash Blowers, Discharged Pit and Submersible Sewage 2 Pumps Automatic Control Panel and Completed Devices	
WTU - 8	WASTE TREATMENT UNIT		Waste Treatment Unit, under Ground Construction	
	For Standar Station	1	Protected Reinforced Slab/ Coloumn/ Floor	
	Klender Station		Treated Water Capacity: 11.2 m ³ / day	
			Dischaged BOD : 20 PPM	
			Equalization/ Aeration/ Backwash Blowers, Discharged Pit and Submersible Sewage 2 Pumps Automatic Control Panel and Completed Devices	
WTU - 9	WASTE TREATMENT UNIT		Waste Treatment Unit, under Ground Construction	
	For Standar Station		Protected Reinforced Slab/ Coloumn/ Floor	
	Buaran Station	1	Treated Water Capacity: 5.4 m ³ / day	
	Matraman Station	1	Dischaged BOD : 20 PPM	
			Equalization/ Aeration/ Backwash Blowers, Discharged Pit and Submersible Sewage 2 Pumps Automatic Control Panel and Completed Devices	
WTU - 10	WASTE TREATMENT UNIT		Waste Treatment Unit, under Ground Construction	
	For Standar Station		Protected Reinforced Slab/ Coloumn/ Floor	
	Jatinegara Station Old. Building	1	Treated Water Capacity: 4 m ³ / day	
	For Bridge Maint. Cipinang Yard	1	Dischaged BOD : 20 PPM	Cipinang Yard
			Equalization/ Aeration/ Backwash Blowers, Discharged Pit and Submersible Sewage 2 Pumps Automatic Control Panel and Completed Devices	

Equipment Legend	Description	QTY	SPECIFICATION	REMARKS	
WTU - 11	WASTE TREATMENT UNIT				
	For Standar Station				
	Bekasi Station				
	Watchman shed	1	Waste Treatment Unit, under Ground Construction		
	Telcom. Equipment Room	1	Protected Reinforced Slab/ Coloumn/ Floor		
	Signal Cabin	1	Treated Water Capacity: 1.6 m ³ / day		
	Buaran Station		Dischaged BOD : 35 PPM		
	Substation	1	Equalization/ Aeration/ Backwash Blowers, Discharged Pit and Submersible Sewage 2 Pumps		
	Jatinegara Station		Automatic Control Panel and Completed Devices		
	Watchman Shed	1			
	Signal Cabin	2			
MWT - 1	MAKE UP WATER TANK				
	For Manggarai Station	1	Pressure tank for Expansion Chiller Water		
	For Jatinegara Station	1	Cap. 100 Liter / min		
	For Bekasi Station	1	mid steel, c/w accessories and pressure switch		
	MWT - 2	MAKE UP WATER TANK			
		For Jatinegara Operation Center	1	Gravity tank for Expansion Chiller Water	
		For Cipinang Administration Building		Cap. 400 Liter / min FRD, c/w valve and accessories	Cipinang Yard
	IC - 01	INCINERATOR		Capacity : 70 kg / cm	
		For Coach Depot Cipinang	1	including fuel tank capacity 4000 Liter and fuel supply system	Cipinang Yard
	IC - 02	INCINERATOR		Capacity : 47 kg / cm	
		For Manggarai Station	1	including fuel tank capacity 4000 Liter and fuel supply system	
IC - 01	INCINERATOR		Capacity : 35 kg / cm		
	For Bekasi Station	1	including fuel tank capacity 4000 Liter and fuel supply system		
IC - 01	INCINERATOR		Capacity : 20 kg / cm		
	For Jatinegara Station	1	including fuel tank capacity 4000 Liter and fuel supply system		
ECH	ELECTRIC WATER HEATER		Tank Capacity : 200 Lt (60 ⁰ C Hot Water)		
	For Cipinang Admin. Building	1	Power : 1.2 kw/ 1 Ph/ 220 V	Cipinang Yard	

The Railway Electrification and Double - double Tracking of Java Main Line Project



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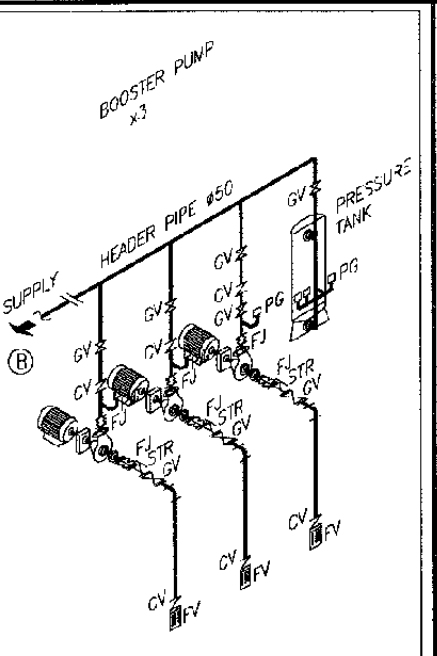
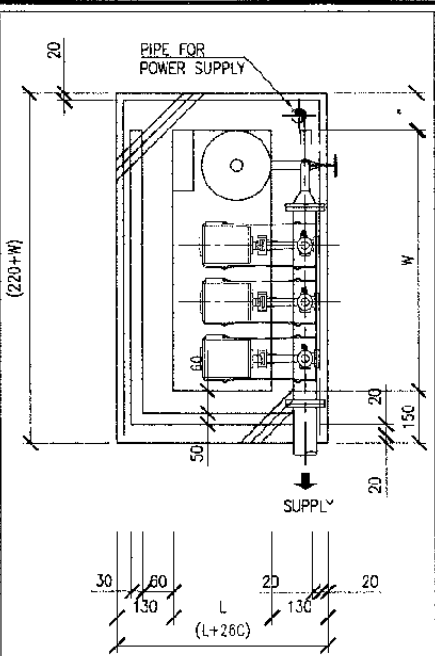
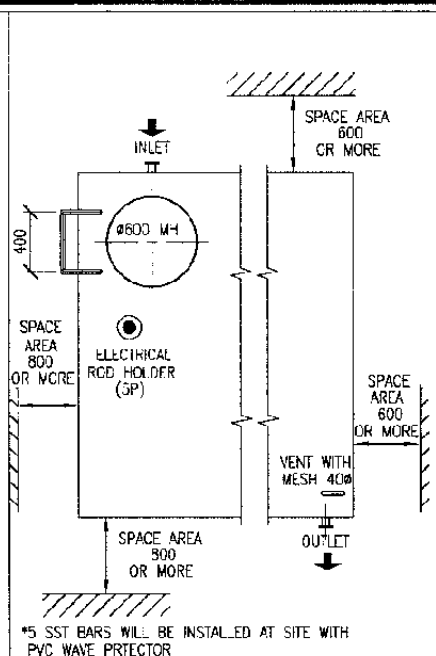
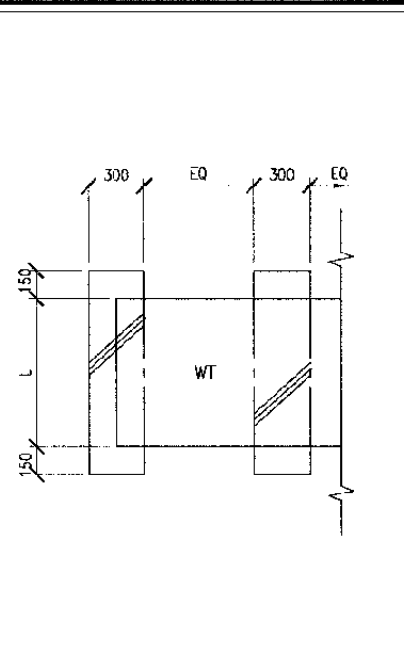
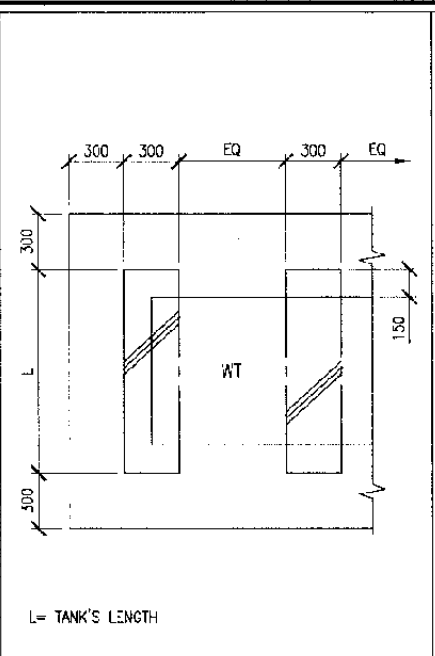
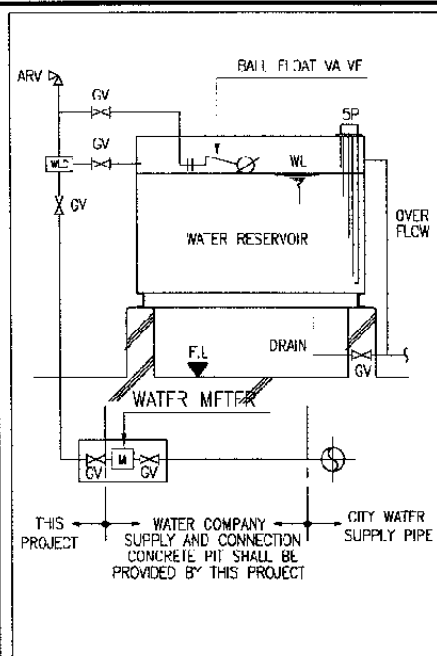
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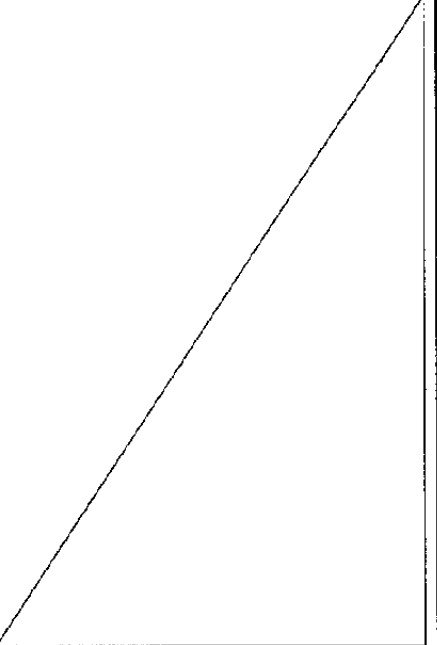
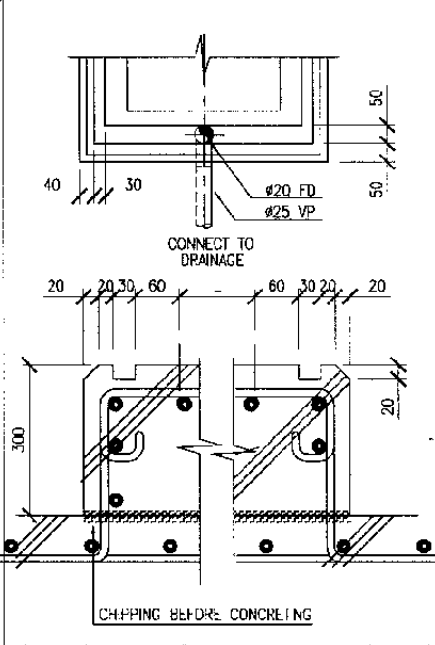
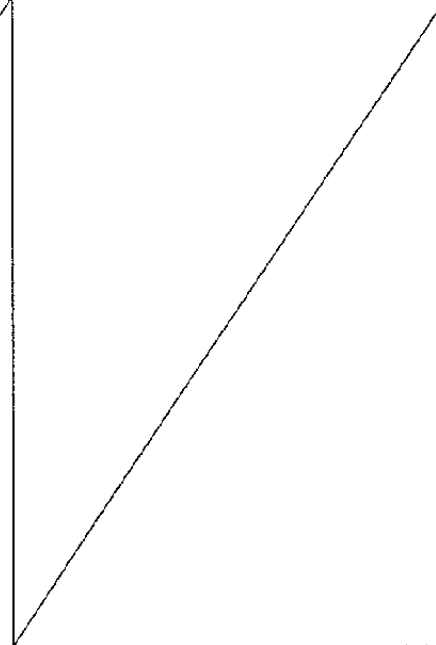
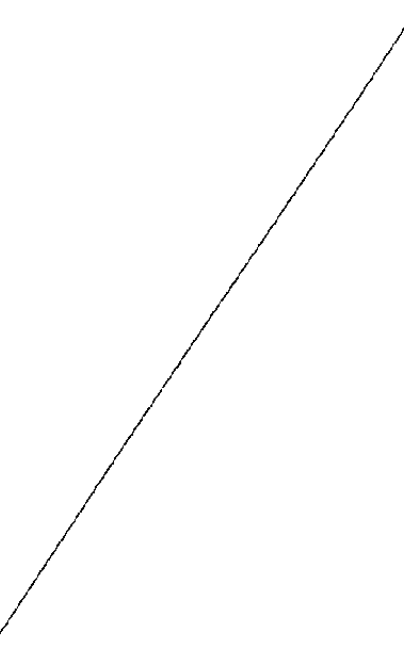
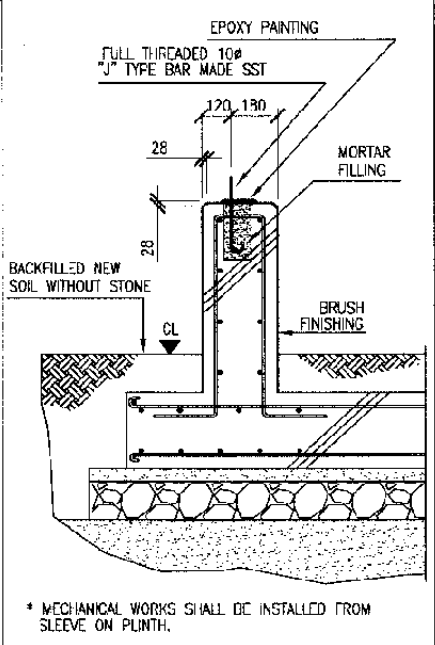
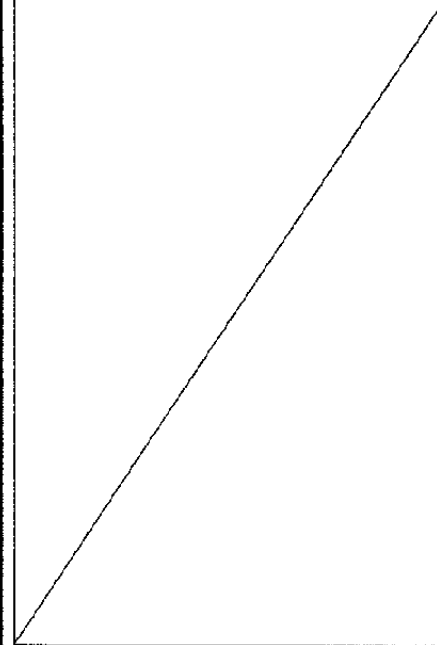
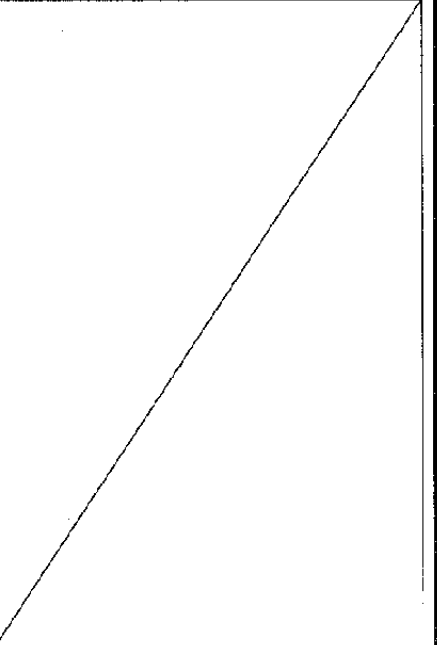
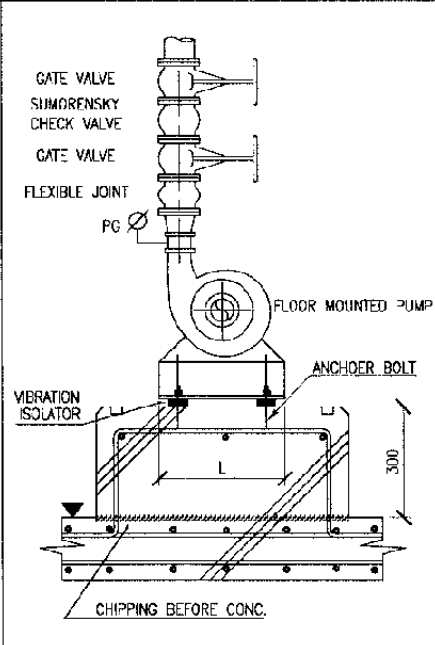
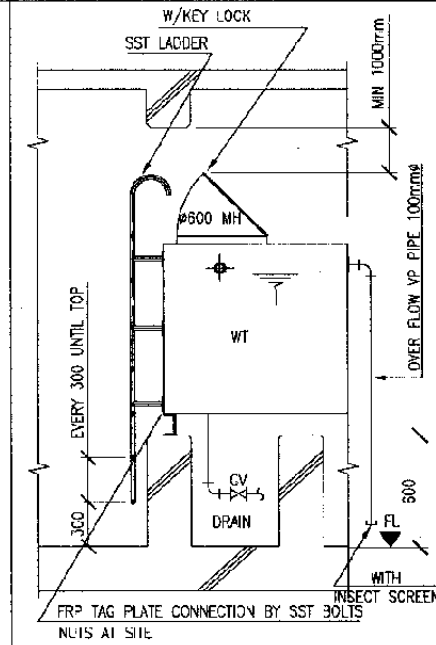
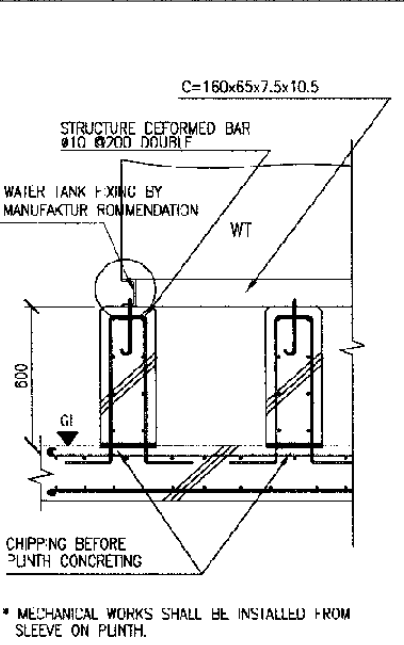
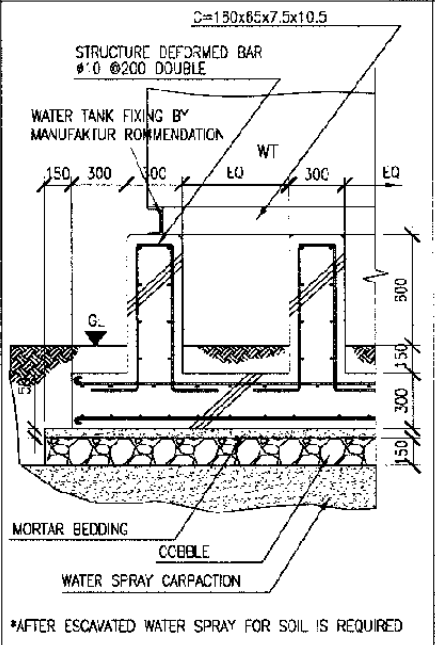
Drawing Title :
EQUIPMENT SCHEDULE
(12)

Scale: A3 / NTS Drawing No.: AM - 00 - 015



INCOMING WATER PIPE SIZE :

* MANGGARAI STATION	: 37mm ϕ
* JATINEGARA STATION	: 32mm ϕ
* MATRAMAN STATION	: 25mm ϕ
* KLENDER STATION	: 25mm ϕ
* KLENDER BARU STATION	: 25mm ϕ
* BUARAN STATION	: 25mm ϕ
* CAKUNG STATION	: 25mm ϕ
* KRANJI STATION	: 25mm ϕ
* BEKASI STATION	: 40mm ϕ



1 WATER SUPPLY SYSTEM
SCALE: DETAIL

2 WATER TANK INSTALLATION ON THE GROUND
SCALE: DETAIL

3 WATER TANK INSTALLATION ON THE CONCRETE FLOOR
SCALE: DETAIL

4 THE ACCESARY FOR THE WATER TANK
SCALE: DETAIL

5 PUMP INSTALLATION
SCALE: DETAIL

6 INSTALLATION AROUND IN-LINE PUMP
SCALE: DETAIL

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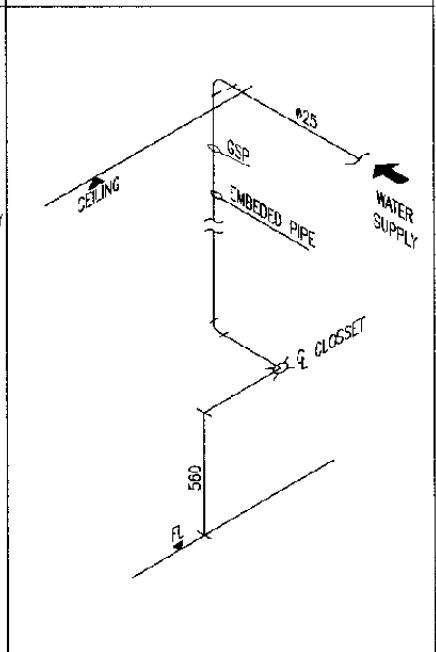
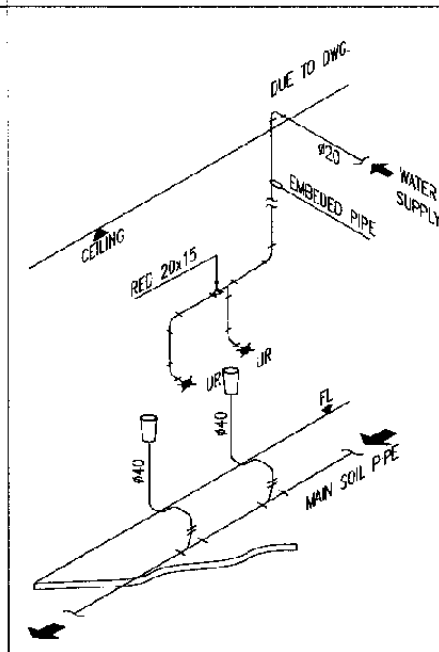
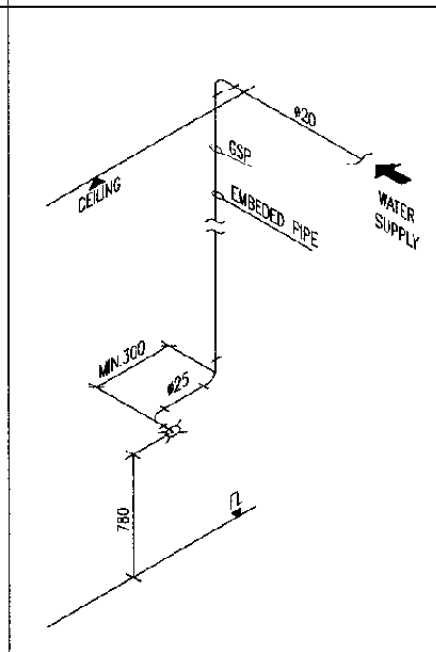
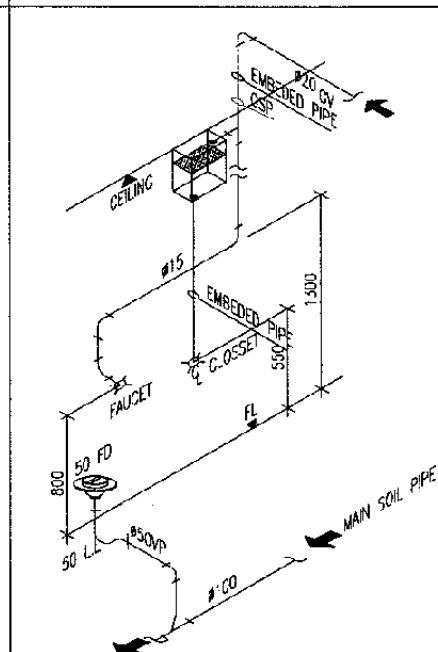
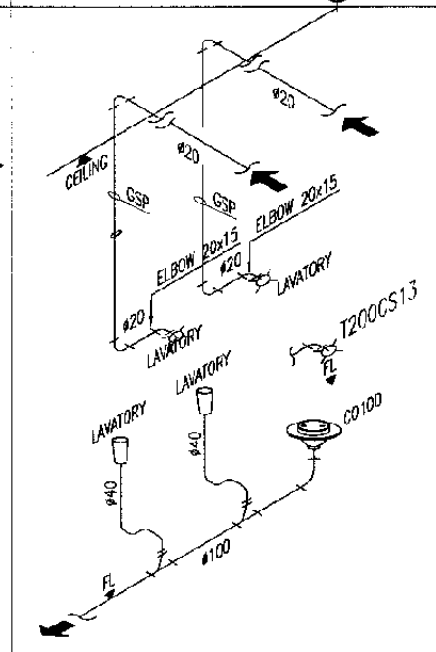
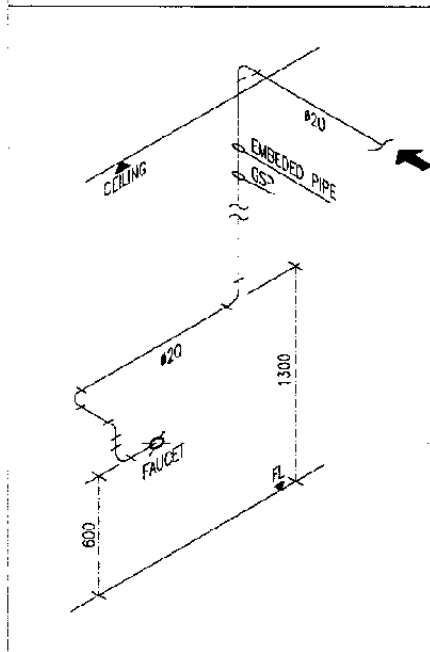
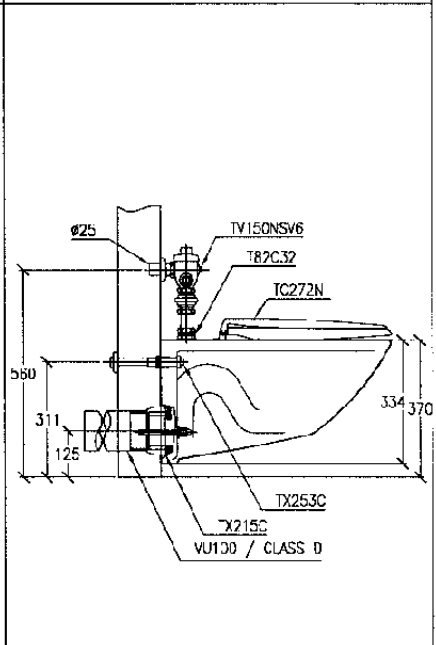
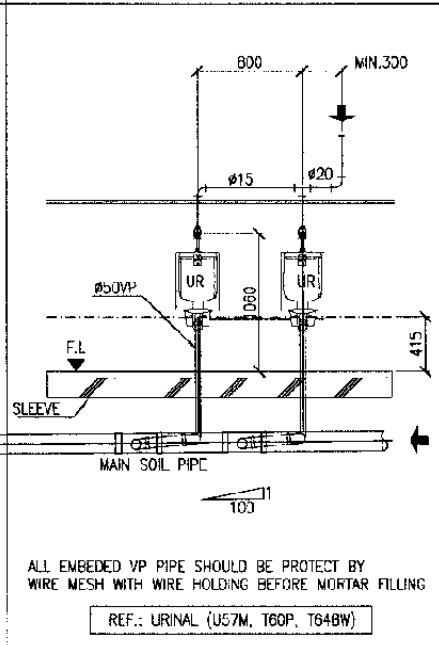
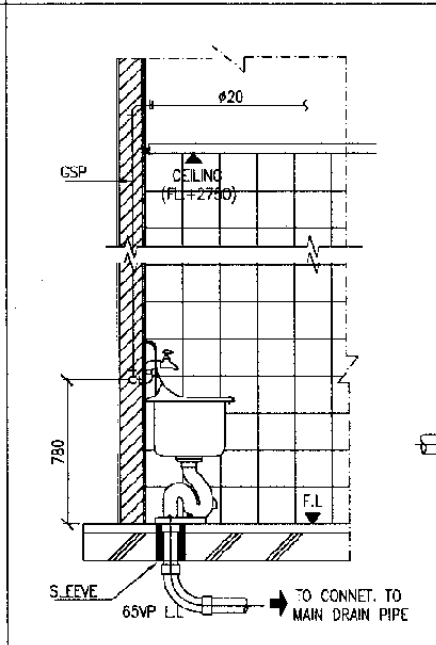
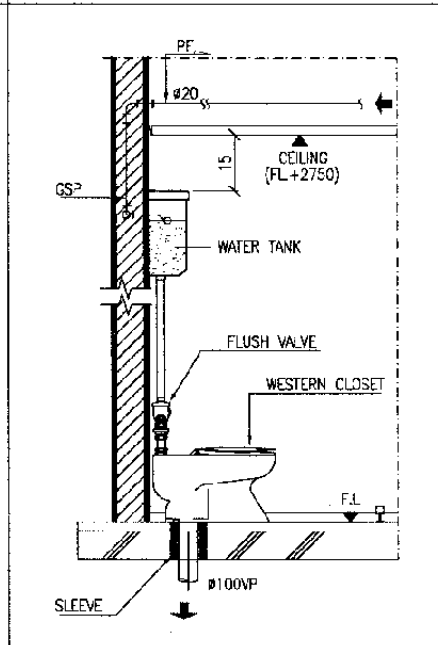
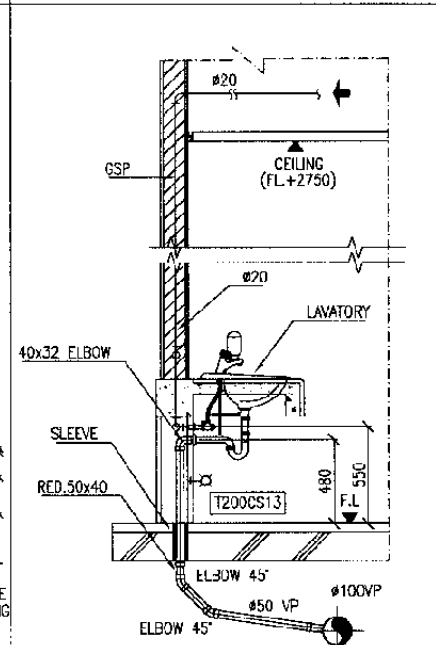
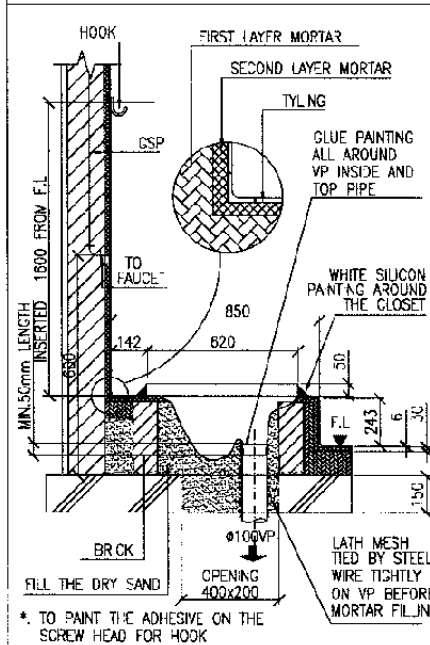
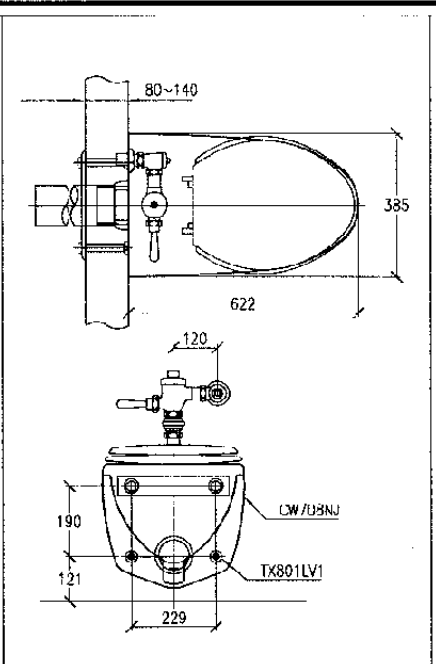
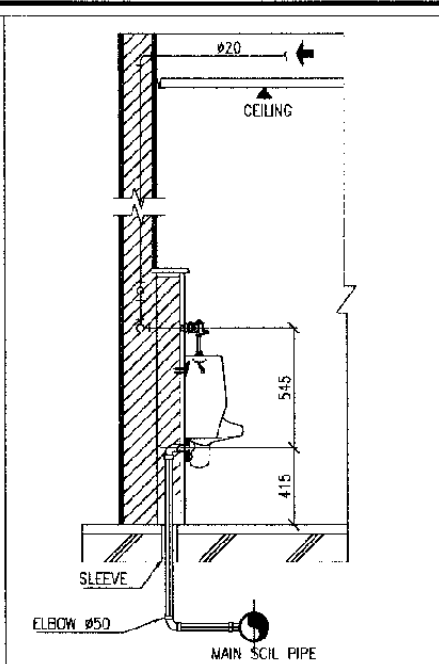
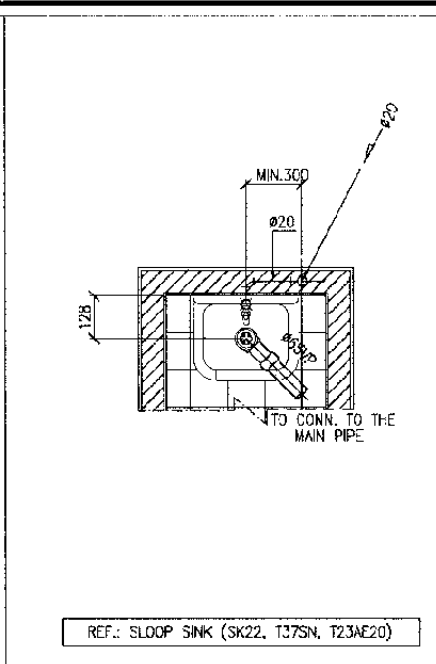
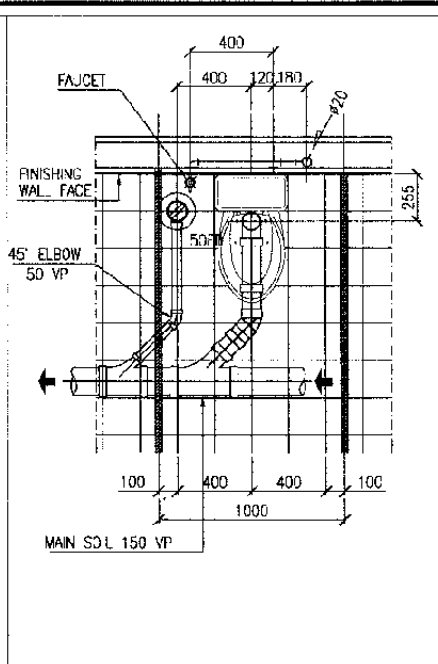
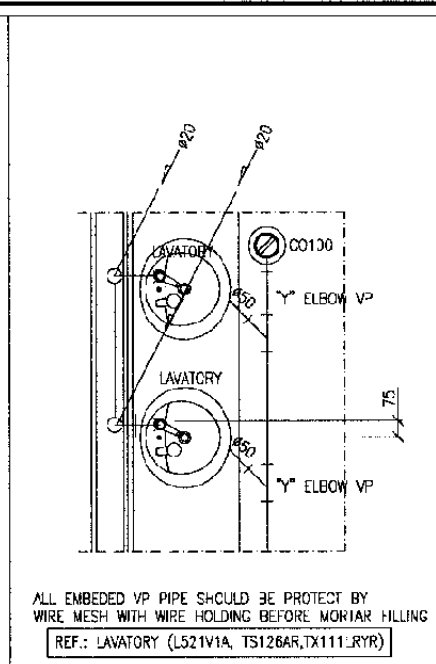
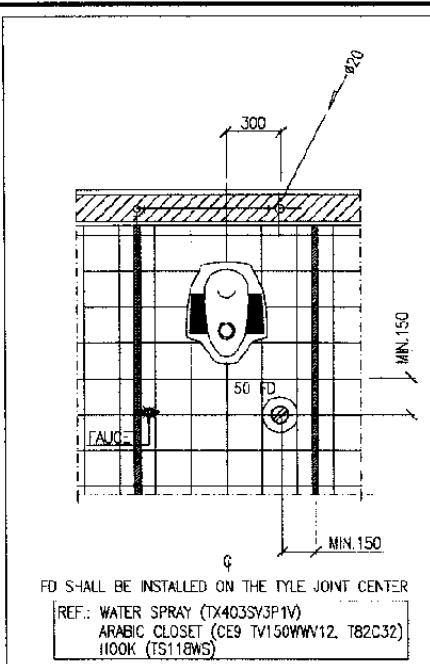
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The Railway Electrification and Double - double Tracking of Java Main Line Project

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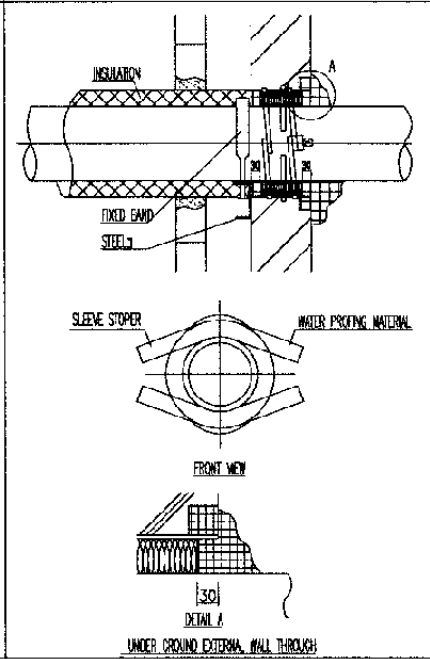
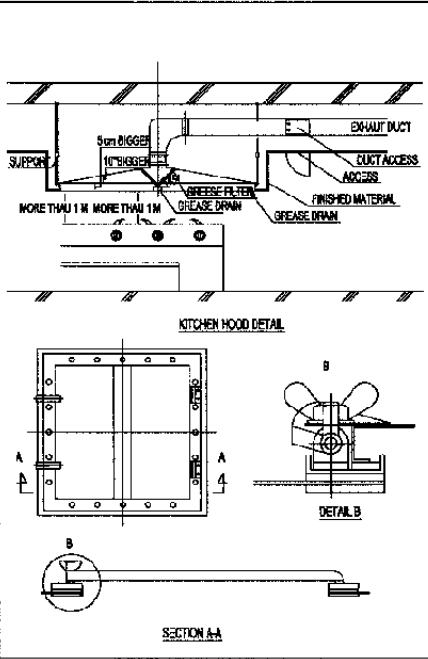
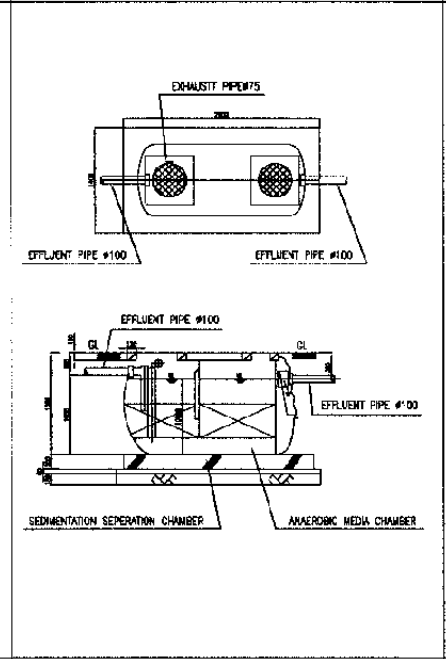
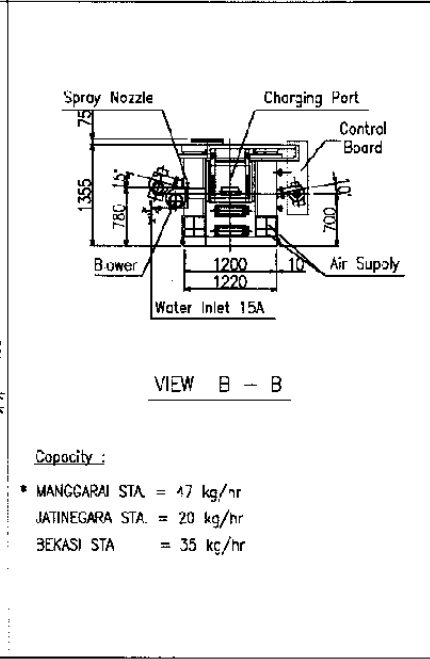
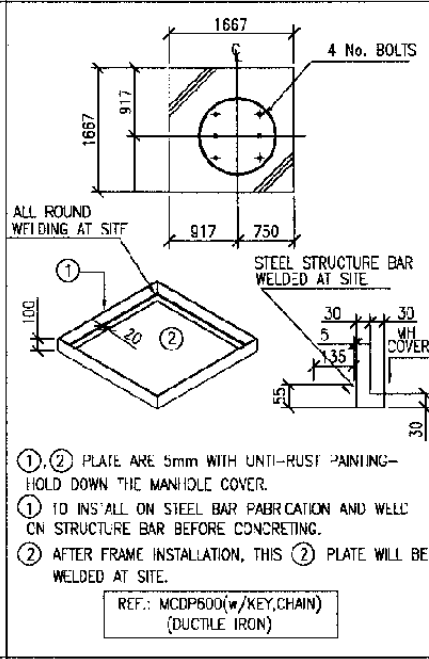
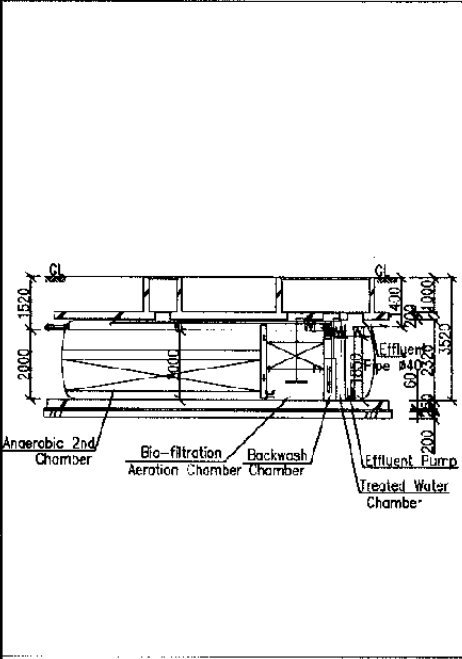
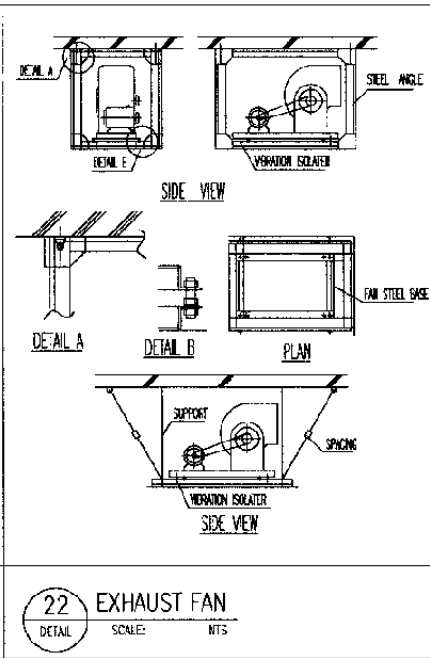
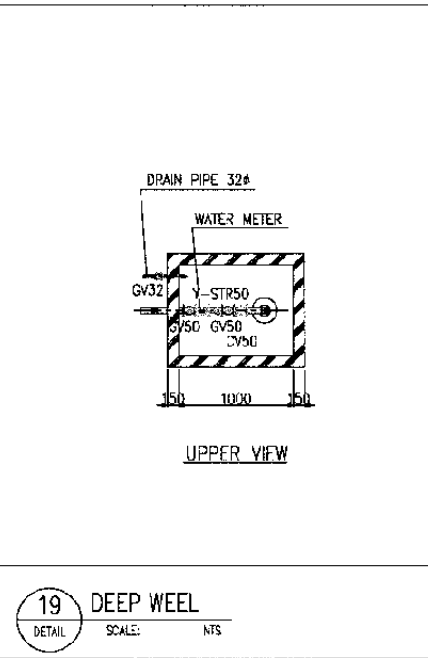
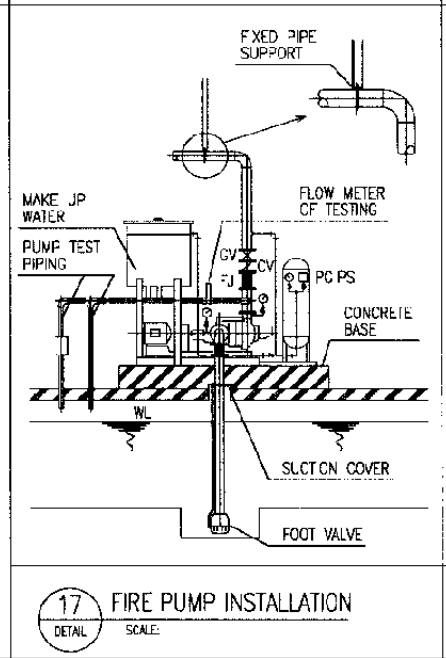
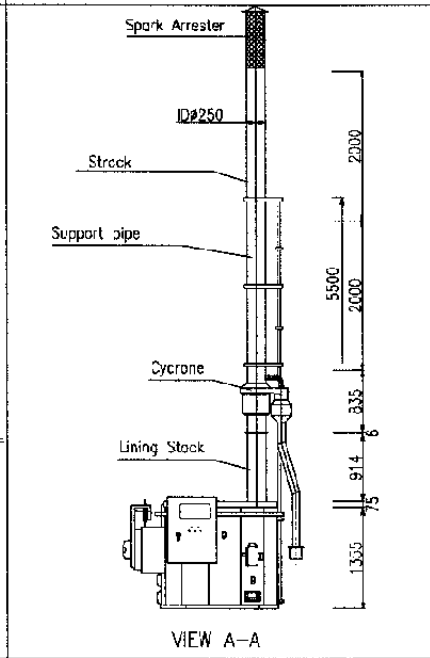
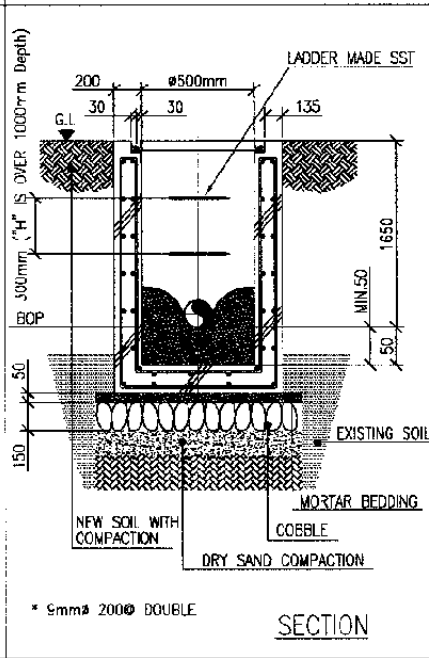
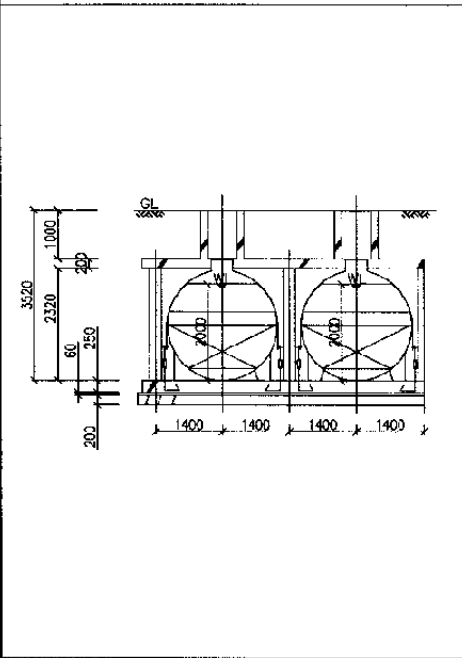
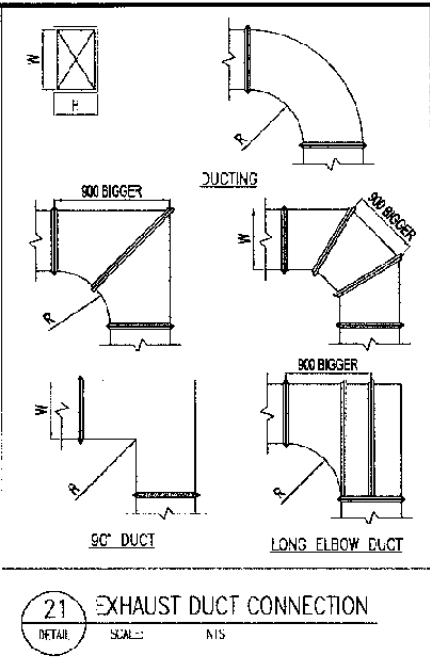
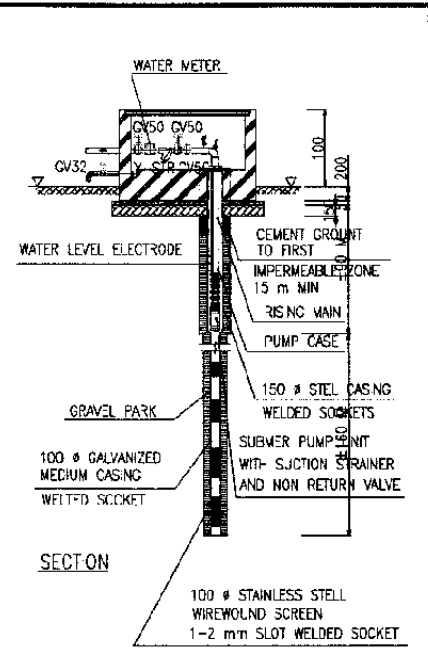
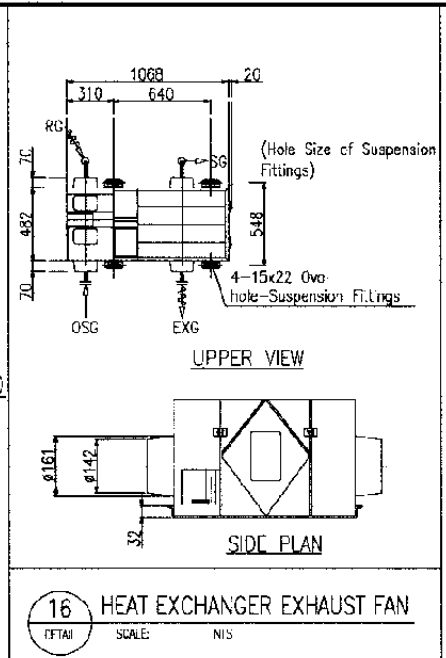
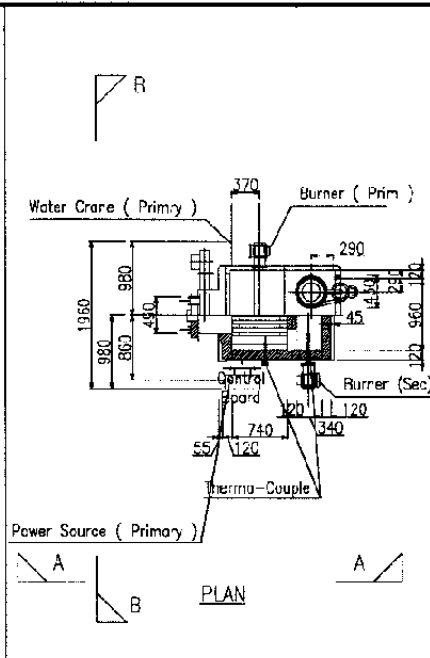
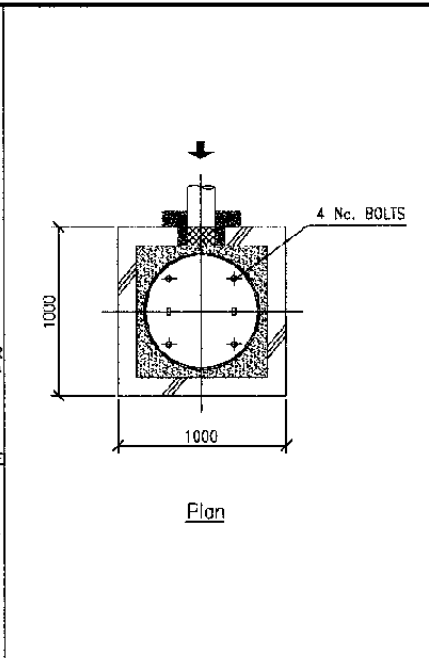
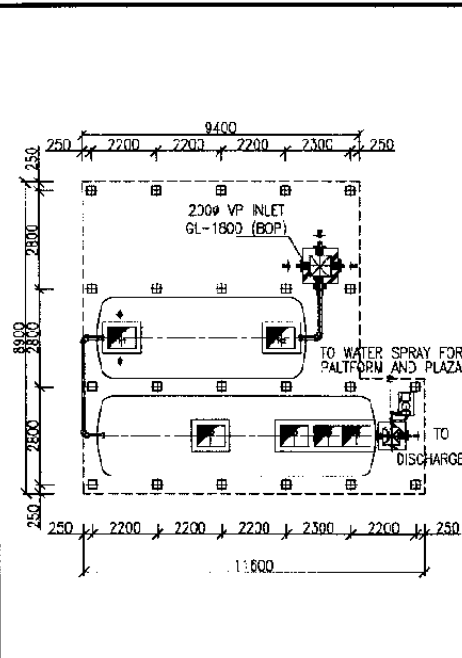
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Drawing Title :
 STANDARD DETAIL (2)

Scale: A3/NTS Drawing No.: AM-00-017



13 COMBINE TREATMENT PLANT
DETAIL SCALE: NTS

14 CONTROL PIT (1) FOR SOIL
DETAIL SCALE: NTS

15 INCINERATOR
DETAIL SCALE: NTS

16 HEAT EXCHANGER EXHAUST FAN
DETAIL SCALE: NTS

17 FIRE PUMP INSTALLATION
DETAIL SCALE: NTS

18 WTU (Cap. 1.6 m3)
DETAIL SCALE: NTS

19 DEEP WELL
DETAIL SCALE: NTS

20 KITCHEN HOOD
DETAIL SCALE: NTS

21 EXHAUST DUCT CONNECTION
DETAIL SCALE: NTS

22 EXHAUST FAN
DETAIL SCALE: NTS

23 PIPE SLEEVE
DETAIL SCALE: NTS

The Railway Electrification and Double-double Tracking of Java Main Line Project



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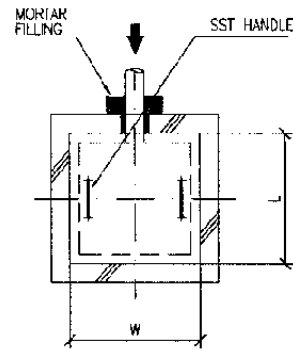
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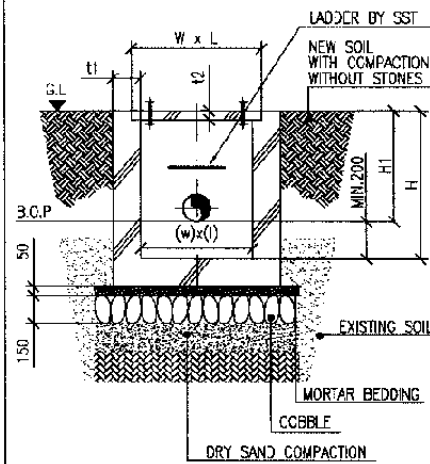
DATE 14/Jan/2005

Drawing Title :
STANDARD DETAIL (3)

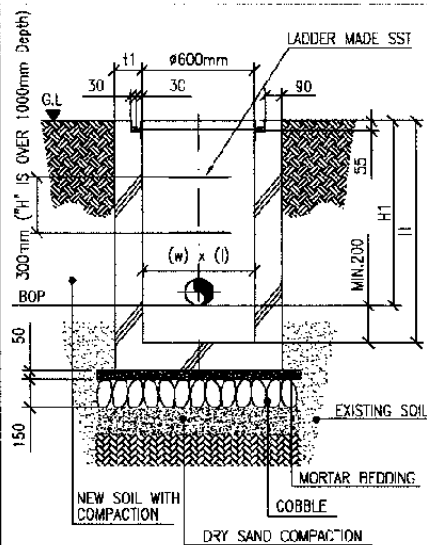
Scale: A3/NTS Drawing No.: AM-00-018



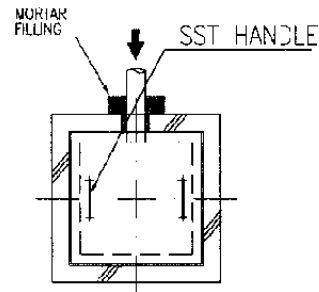
CONCRETE COVER : WxL



* EXISTING SOIL SHALL BE COMPRESSED BY WATER SPRAY BEFORE DRY SAND BACK FILLING

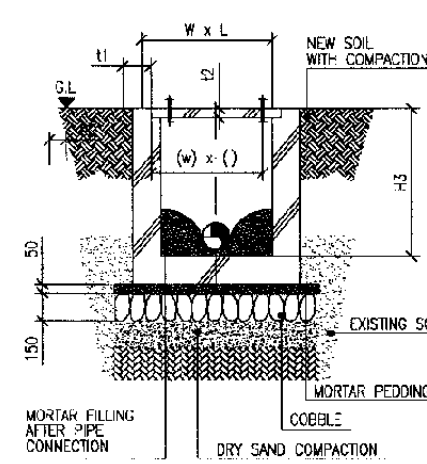


H2	(w) x (l)	t1	
R5	≤ 1200	600 x 600	150
R6	1201 ~	1000 x 1000	200

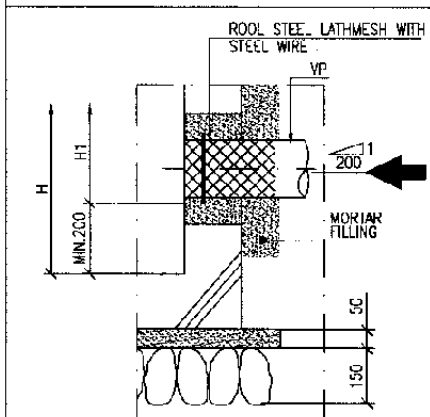
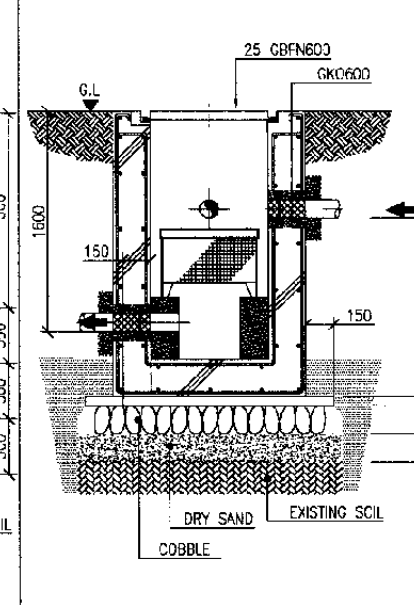
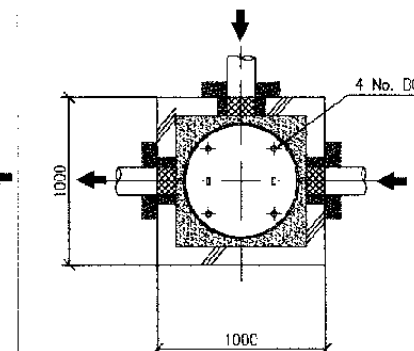
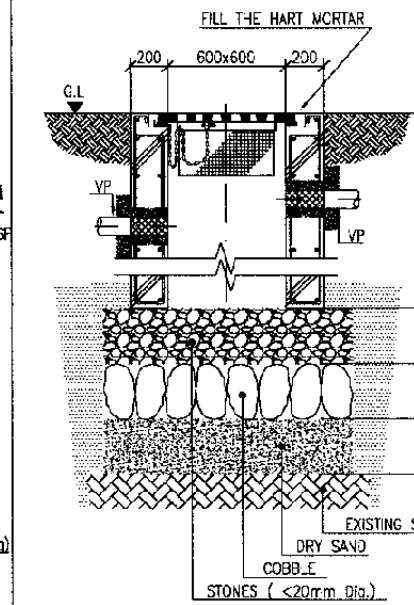
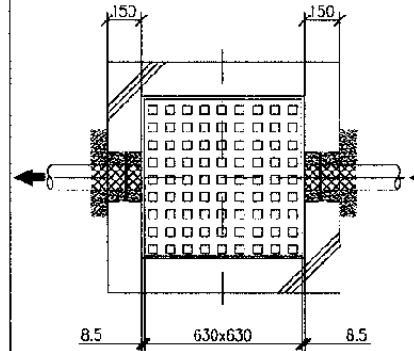
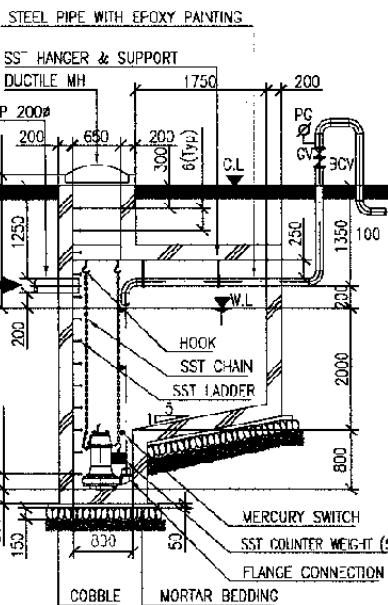
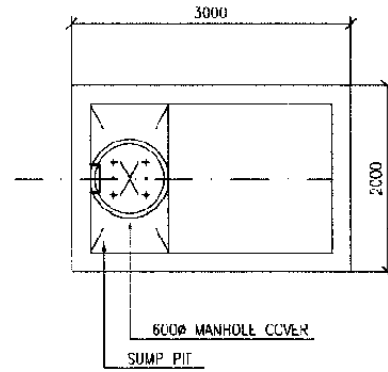


CONTROL PIT OF ③ IS CAST IRON MANHOLE COVER INSTEAD OF CONCRETE COVER

REF.: GK0600

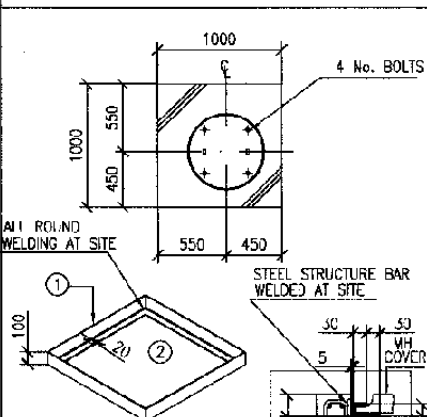


H3	W x L	(w) x (l)	t1	t2	
S1	500	550 x 550	450 x 450	150	50
S2	601~1200	700 x 700	1000 x 1000	200	80
S2	1201 ~	700 x 700	1200 x 1200	200	80



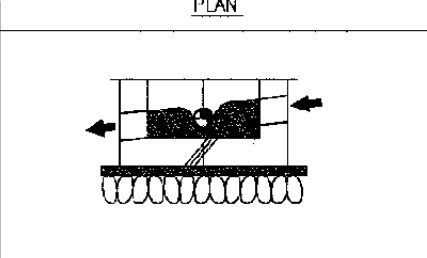
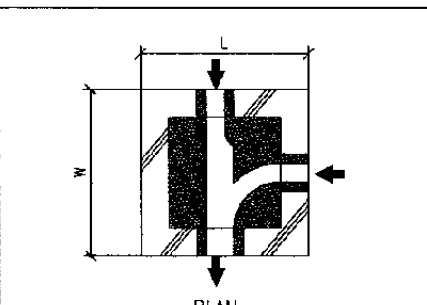
H1	W x L	(w) x (l)	t1	t2	
R1	~ 450	550 x 550	450 x 450	150	50
R2	451~800	700 x 700	600 x 600	150	50
R3	801~1200	700 x 700	1000 x 1000	200	80
R4	1201 ~	700 x 700	1200 x 1200	200	80

*1. THIS PIT FACE SEE 1 PIPE UNTIL 150#
 *2. THIS PIT FACE CAN CONNEX UNTIL PIPE BY 200# OR 2 PIPES BY 150#
 *3. THIS DETAIL DWG. FOR PVC PIPE CONNECTION SHOULD BE USED ALL CONNECTION TO PIT

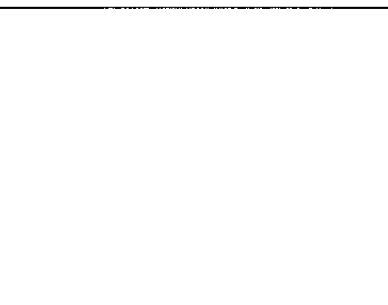


*①, ② PLATE ARE 5mm WITH UNT RUST PAINTING HOLD DOWN THE MANHOLE COVER.
 *① TO INSTALL ON STEEL BAR FABRICATION AND WELD ON STRUCTURE BAR BEFORE CONCRETING.
 *② AFTER FRAME INSTALLATION, THIS ② PLATE WILL BE WELDED AT SITE.

REF.: MCDP600 (w/KEY, CHAIN)

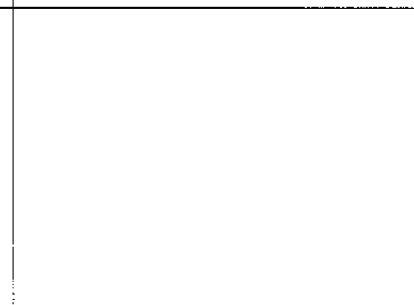


REF.: MCDP600 (w/KEY, CHAIN)



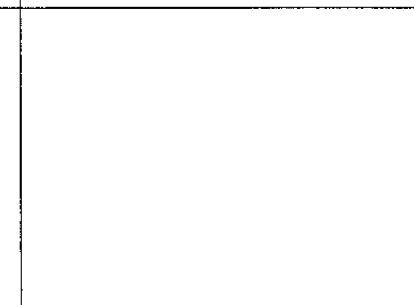
* MANGARAI STATION
 * STRUCTURE BAR IS 9mm# 200# DOUBLE.
 * DUCTILE MANHOLE COVER WITH SEAL GASKET, CHAIN.
 * PUMP IS BORTOX TYPE WITHOUT CUTTER AND BRAD.
 * SUMP PUMP HAS EACH ALTERNATIVE RUNNING.
 * MERCURY FLOAT SWITCH ARE :
 • 2 PUMP STOPPED SIGNAL.
 • FIRST PUMP RUN SIGNAL.
 • SECOND PUMP RUN SIGNAL.
 • ALARM SIGNAL OF FULL WATER.
 * PUMP SPECIFICATION :
 53# x 250 ltr/min. x 1.5 Kw x 2 Nos (50 SOLI-51.5)
 ATACHED CABLE VCT-4C x 20m

REF.: MCDP600 (w/KEY, CHAIN)



* DUST CATCHER SST MADE 530x530x150(H)
 REF.: 30CBFN0600
 * CONCRETE HAS 9mm Dia 200# DOUBLE OF STRUCTURE BAR
 REF.: CBFN500 | CBFN600x600 w/KEY, CHAIN

REF.: GK0600



* POST CATCHER SST MADE 580x580x(200+50)H
 REF.: GK0600

REF.: GK0600

The Railway Electrification and Double-double Tracking of Java Main Line Project



DEPARTEMEN PERIKOMUNIKASIAN
 KEMENTERIAN KOMUNIKASIAN
 DIREKTORAT JENDERAL PERIKOMUNIKASIAN DARAT
 DIREKTORAT JENDERAL PERIKOMUNIKASIAN DARAT
 Jalan Medan Merdeka Barat No.8, Gedung Karya 1, 10112-150052-350052
 JAKARTA

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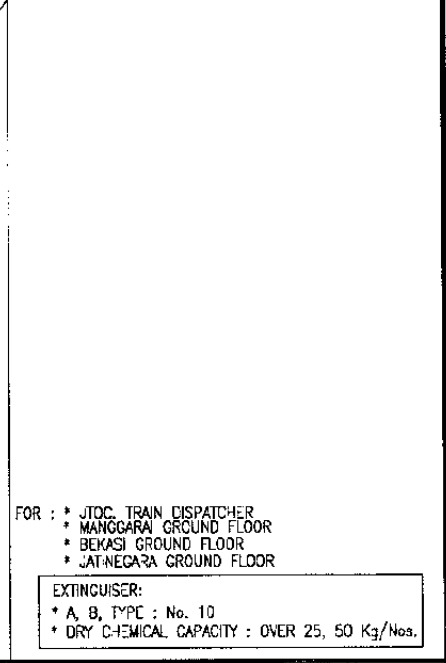
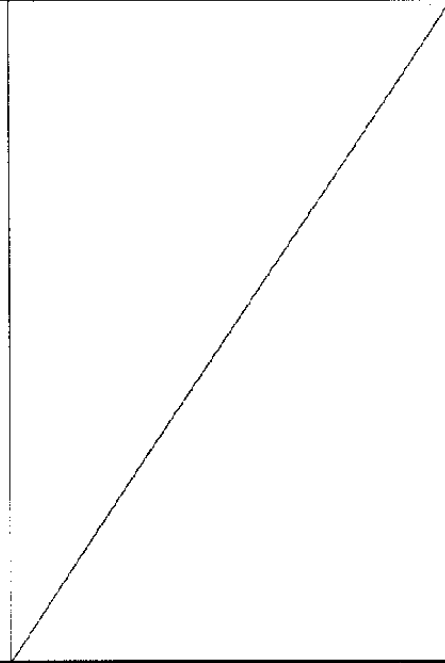
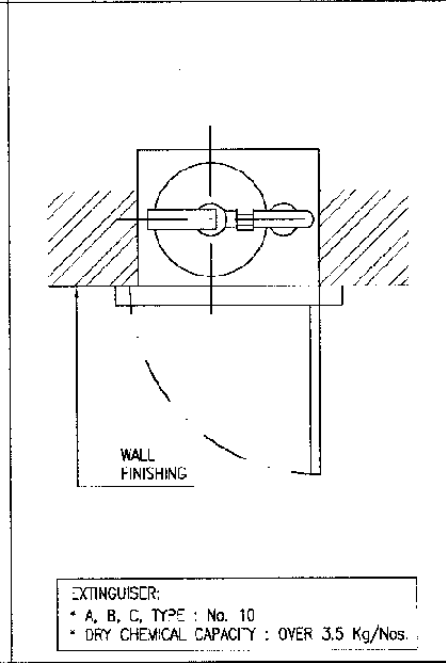
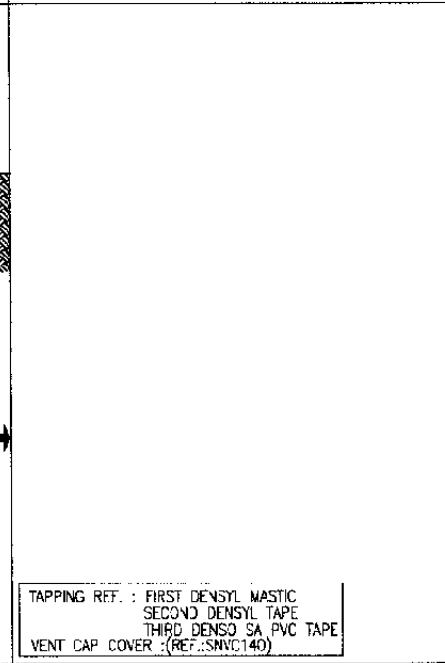
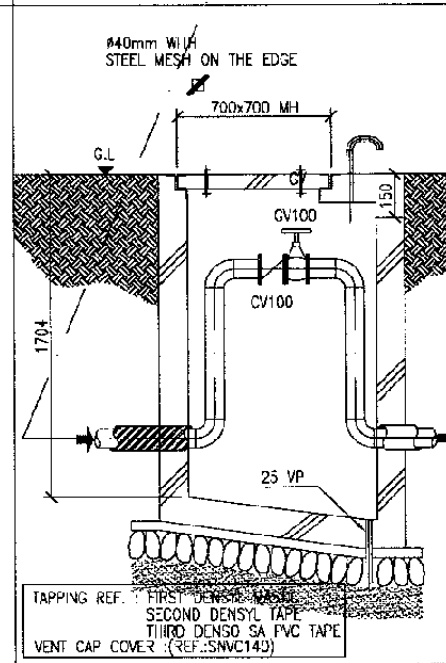
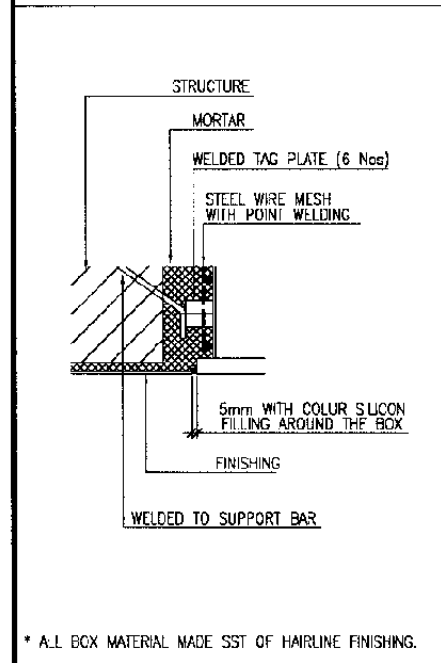
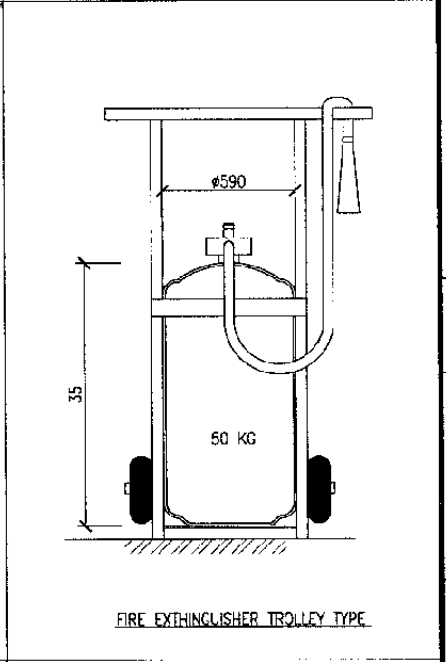
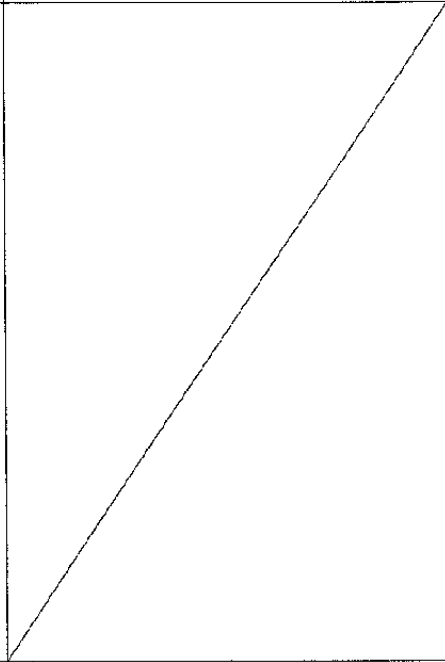
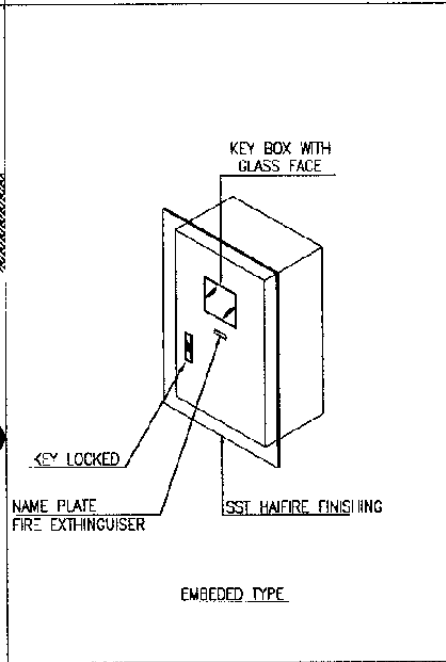
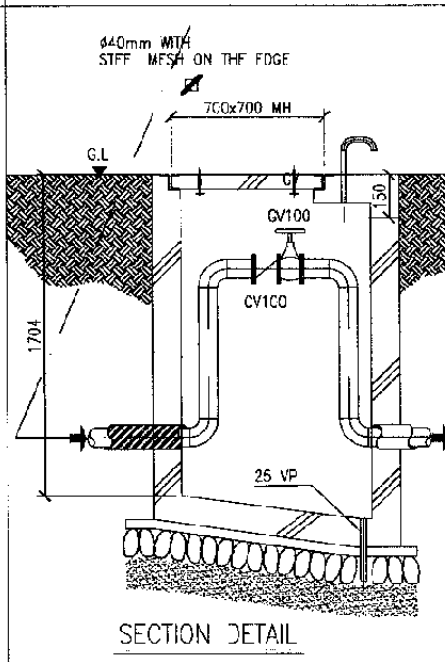
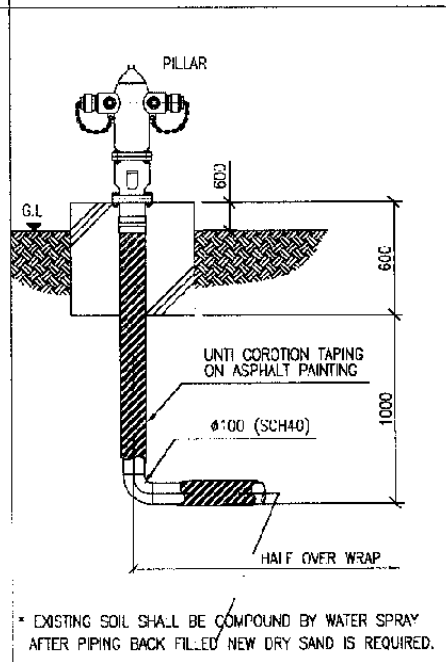
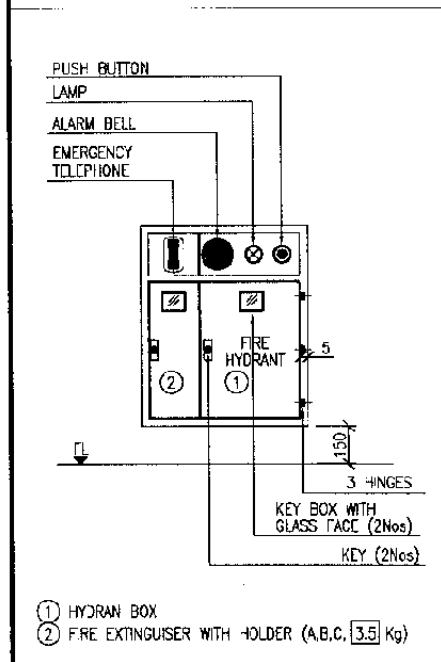
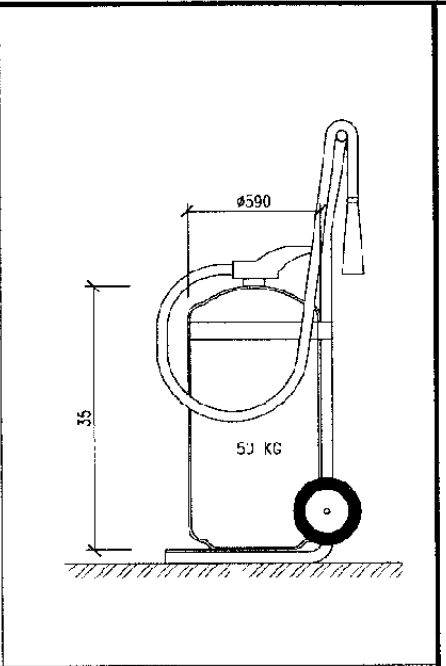
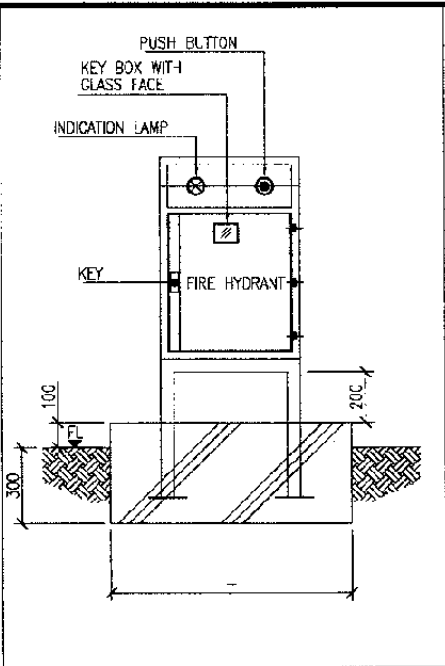
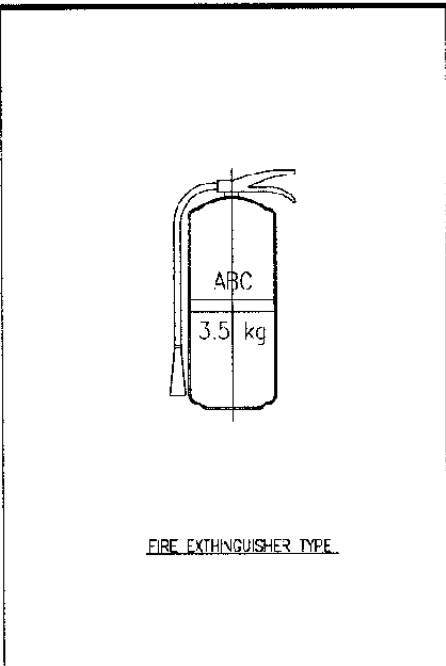
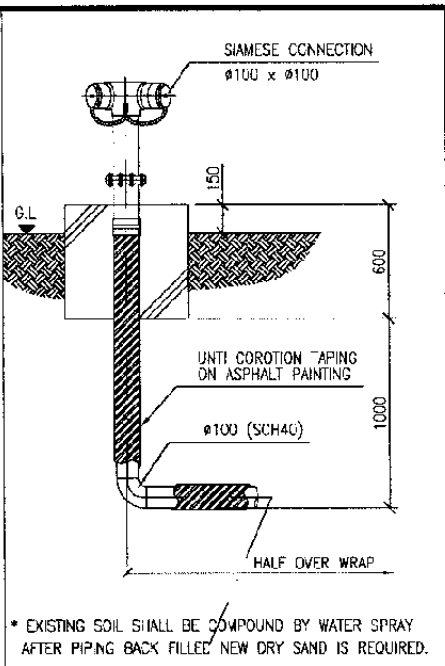
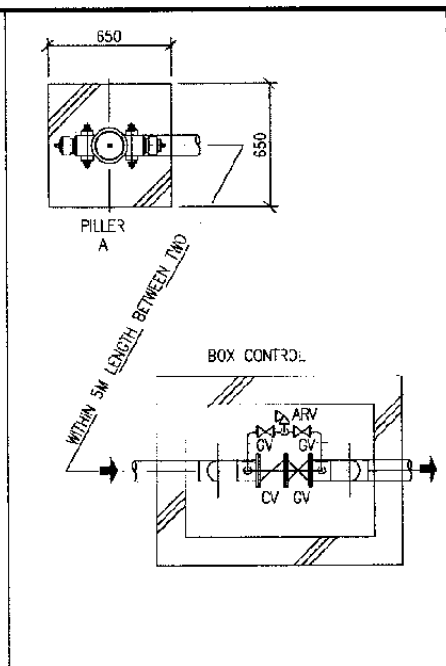
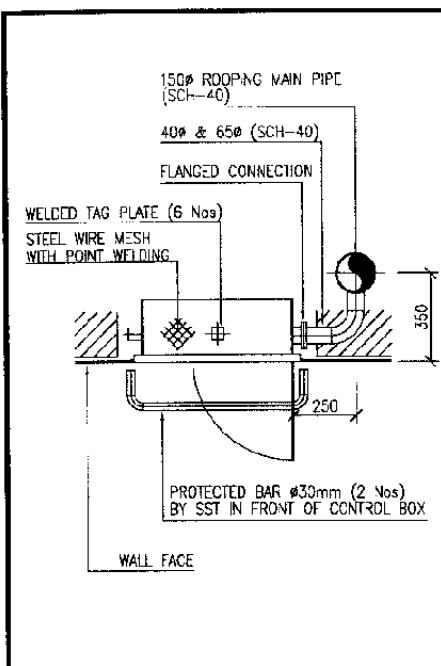
MECHANICAL

GENERAL

DATE 14/Jan/2005

Drawing Title :
 STANDARD DETAIL (4)

Scale: A3 / NIS Drawing No.: AM-00-019



30 HYDRANT BOX AND FIRE EXTINGUISHER
SCALE: DETAIL

31 PILLAR
SCALE: DETAIL

32 SIAMESE CONNECTION
SCALE: DETAIL

33 FIRE EXTINGUISHER & CABINET
SCALE: DETAIL

34 OUTDOOR HYDRANT BOX
SCALE: DETAIL

35 FIRE EXTINGUISHER TROLLEY
SCALE: DETAIL

The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL
GENERAL

DATE: 14/Jun/2005

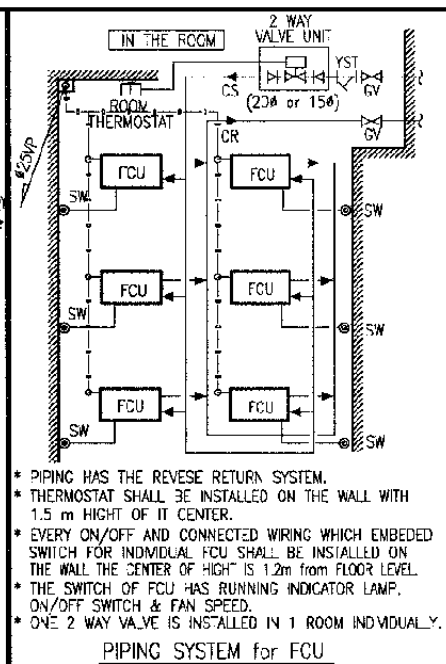
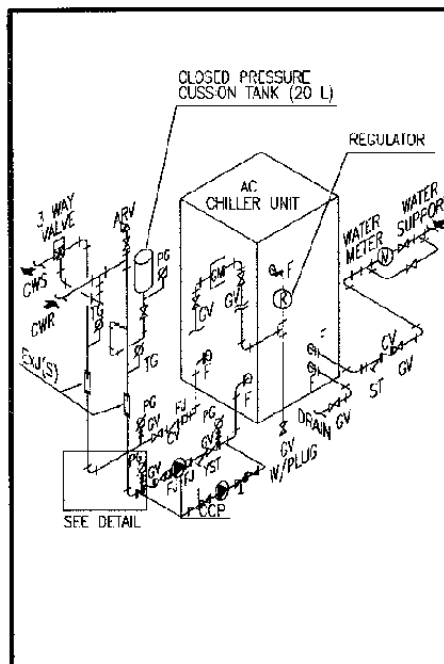
Drawing Title:
STANDARD DETAIL
(5)

Scale: A3 / NTS
Drawing No.: AM - 00 - 020

FOR : JTOC TRAIN DISPATCHER
MANGGARAI GROUND FLOOR
BEKASI GROUND FLOOR
JATINEGARA GROUND FLOOR
EXTINGUISHER:
A, B, C, TYPE : No. 10
DRY CHEMICAL CAPACITY : OVER 25, 50 Kg/Nos.

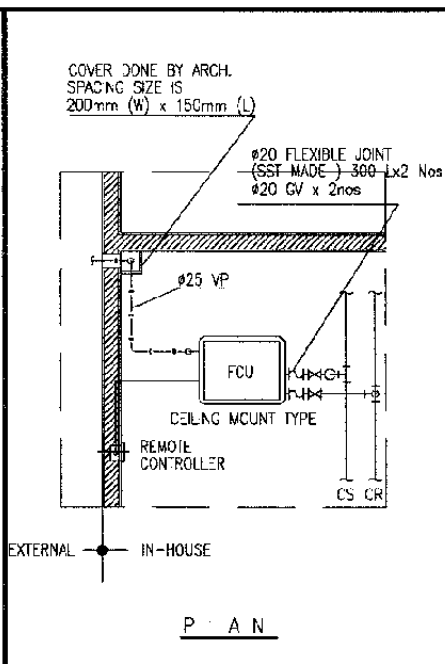
TAPPING REF. : FIRST DENSIL MASTIC
SECOND DENSIL TAPE
THIRD DENSIL SA PVC TAPE
VENT CAP COVER : (REF.:SNVC140)

EXTINGUISHER:
A, B, C, TYPE : No. 10
DRY CHEMICAL CAPACITY : OVER 3.5 Kg/Nos.

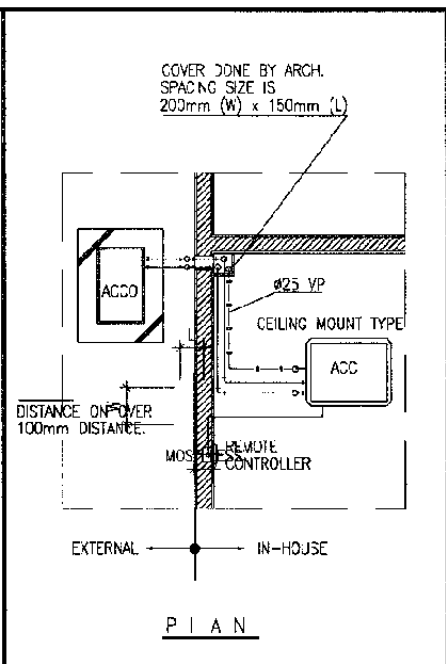


- * PIPING HAS THE REVERSE RETURN SYSTEM.
 * THERMOSTAT SHALL BE INSTALLED ON THE WALL WITH 1.5 m HEIGHT OF IT CENTER.
 * EVERY ON/OFF AND CONNECTED WIRING WHICH EMBEDDED SWITCH FOR INDIVIDUAL FCU SHALL BE INSTALLED ON THE WALL THE CENTER OF HIGH IS 1.2m FROM FLOOR LEVEL.
 * THE SWITCH OF FCU HAS RUNNING INDICATOR LAMP, ON/OFF SWITCH & FAN SPEED.
 * ONE 2 WAY VALVE IS INSTALLED IN 1 ROOM INDIVIDUALLY.

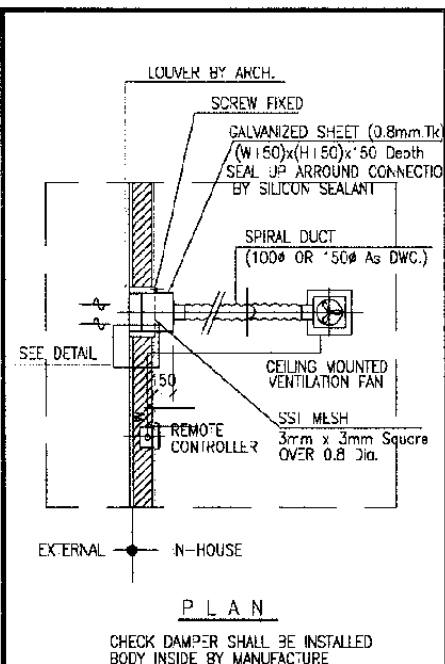
PIPING SYSTEM for FCU



P A N

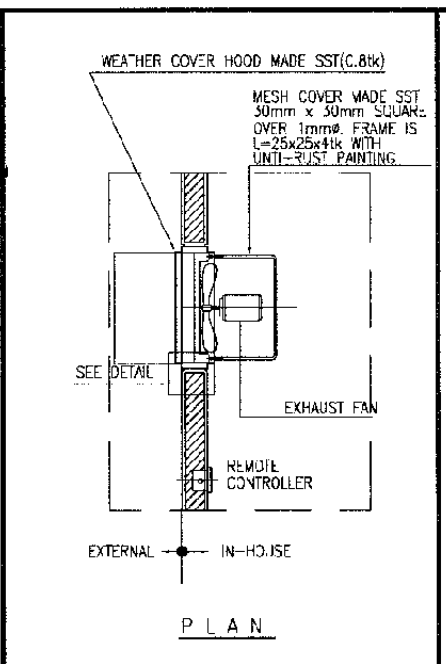


P I A N

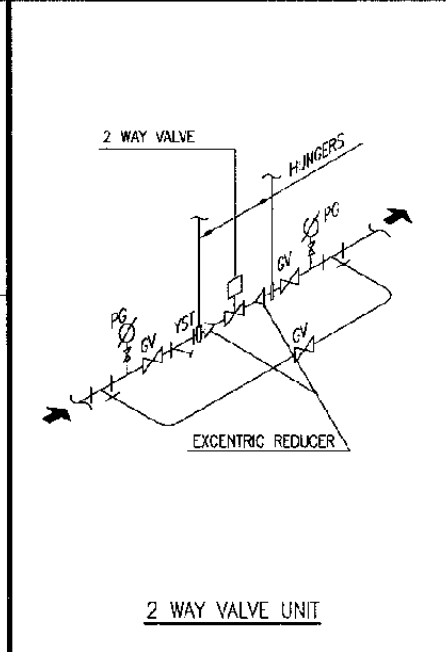
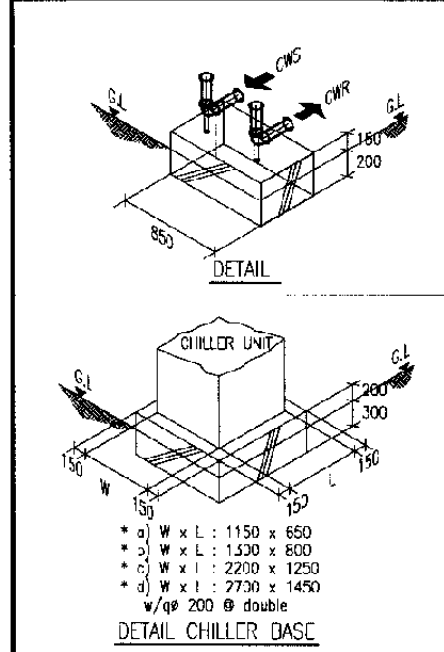


P L A N

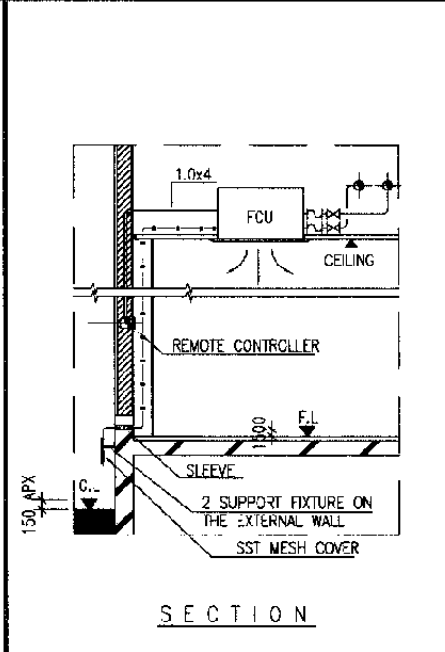
CHECK DAMPER SHALL BE INSTALLED BODY INSIDE BY MANUFACTURE



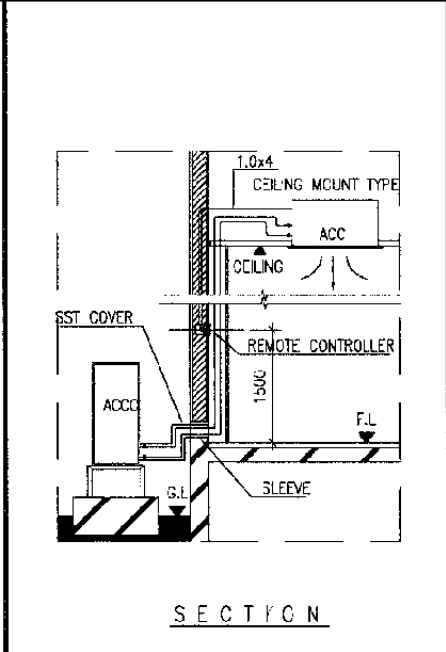
P L A N



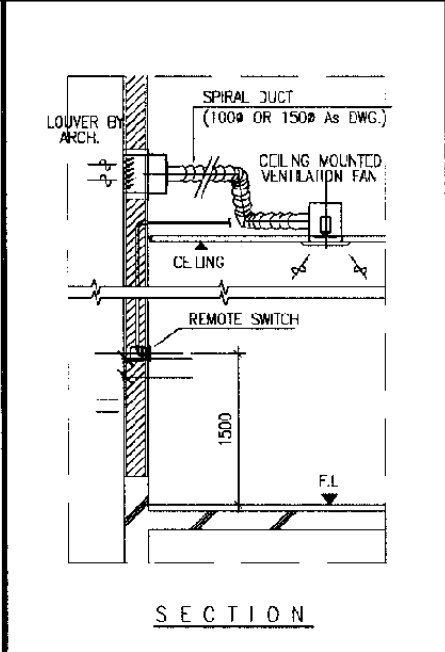
2 WAY VALVE UNIT



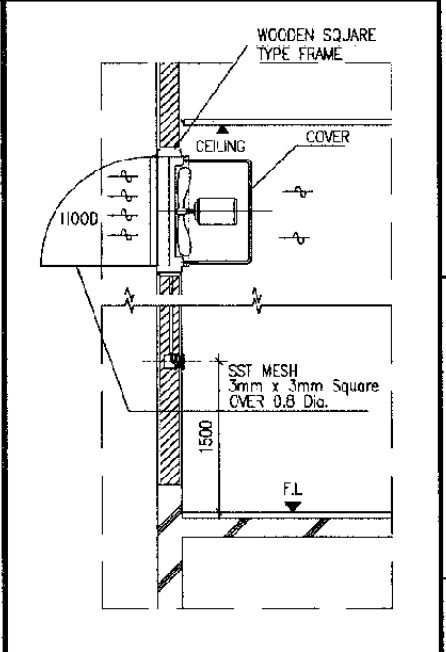
S E C T I O N



S E C T I O N



S E C T I O N

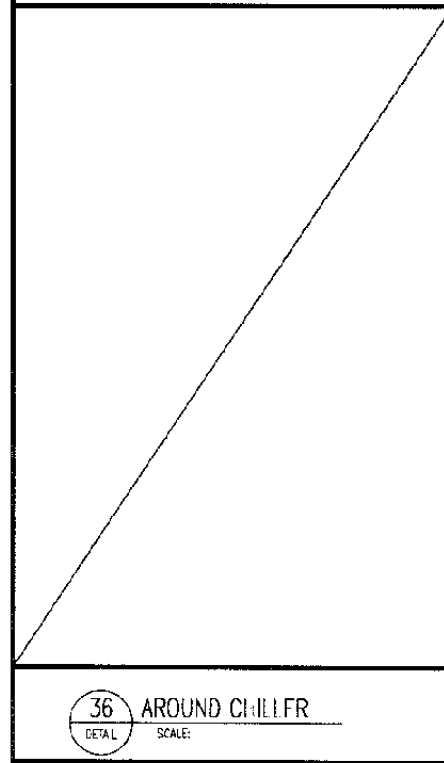


The Railway Electrification and Double - double Tracking of Java Main Line Project

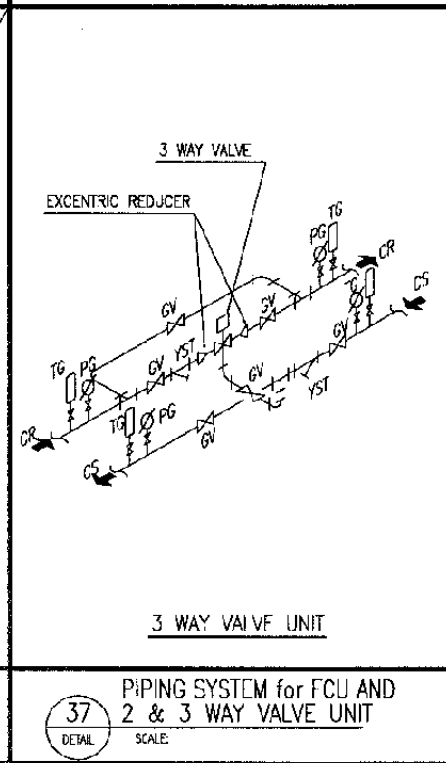
DEPARTEMEN PERHUBUNGAN
 KEMENTERIAN PERHUBUNGAN DARAT
 DIREKTORAT JENDERAL PERHUBUNGAN DARAT
 DIREKTORAT GENERAL OF LAND COMMUNICATION
 Jalan Medan Merdeka Barat No. 2, Gedung Raya 1, 11131, Jakarta 10130

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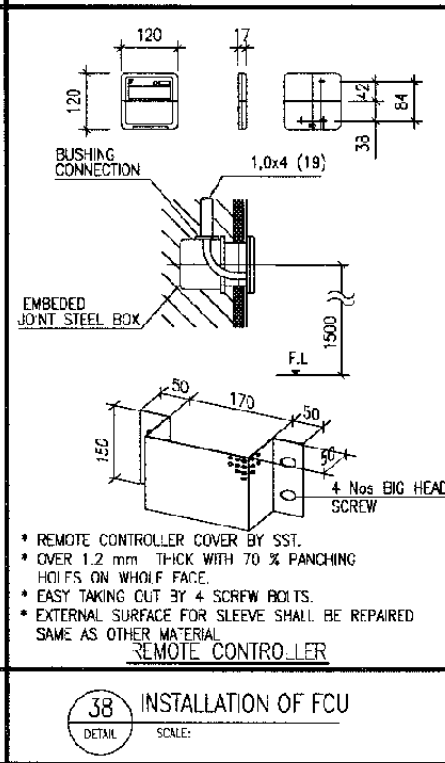
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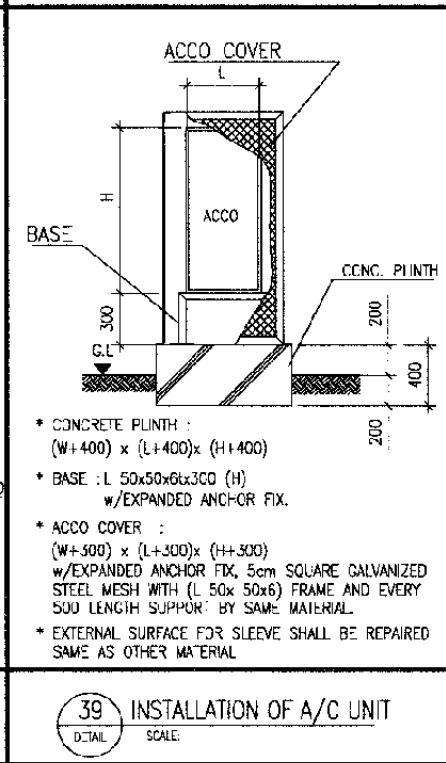
36 AROUND CHILLER
 DETAIL SCALE:



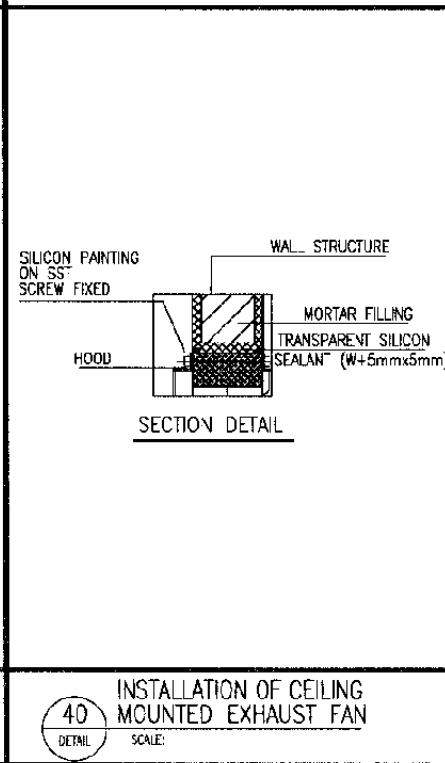
37 PIPING SYSTEM for FCU AND 2 & 3 WAY VALVE UNIT
 DETAIL SCALE:



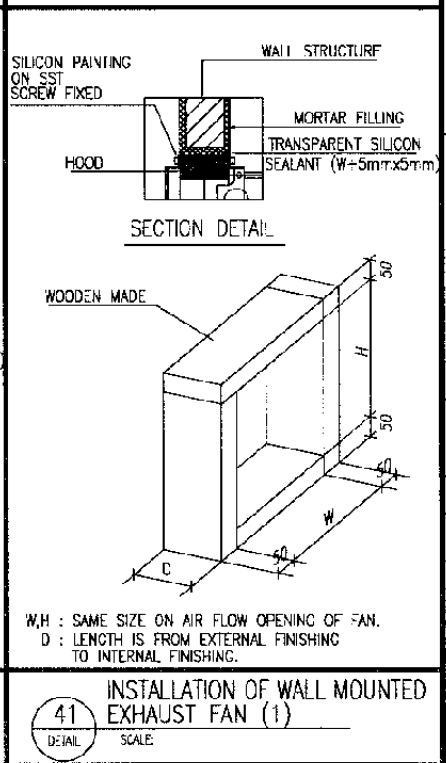
38 INSTALLATION OF FCU
 DETAIL SCALE:



39 INSTALLATION OF A/C UNIT
 DETAIL SCALE:



40 INSTALLATION OF CEILING MOUNTED EXHAUST FAN
 DETAIL SCALE:



41 INSTALLATION OF WALL MOUNTED EXHAUST FAN (1)
 DETAIL SCALE:

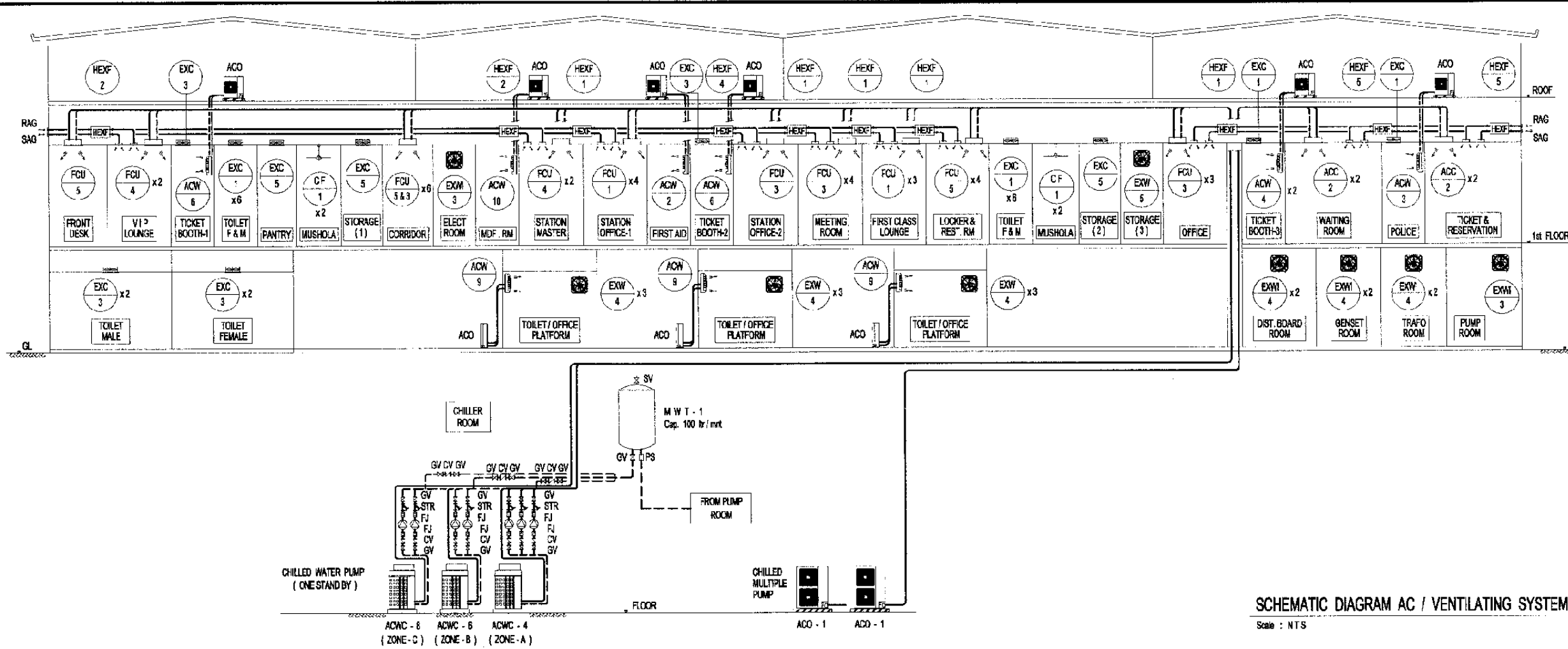
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MECHANICAL
 GENERAL

DATE 14/Jar/2005

Drawing Title :
 STANDARD DETAIL
 (6)

Scale: A3/NTS Drawing No.: AM-00-021



The Railway Electrification and Double - double Tracking of Java Main Line Project



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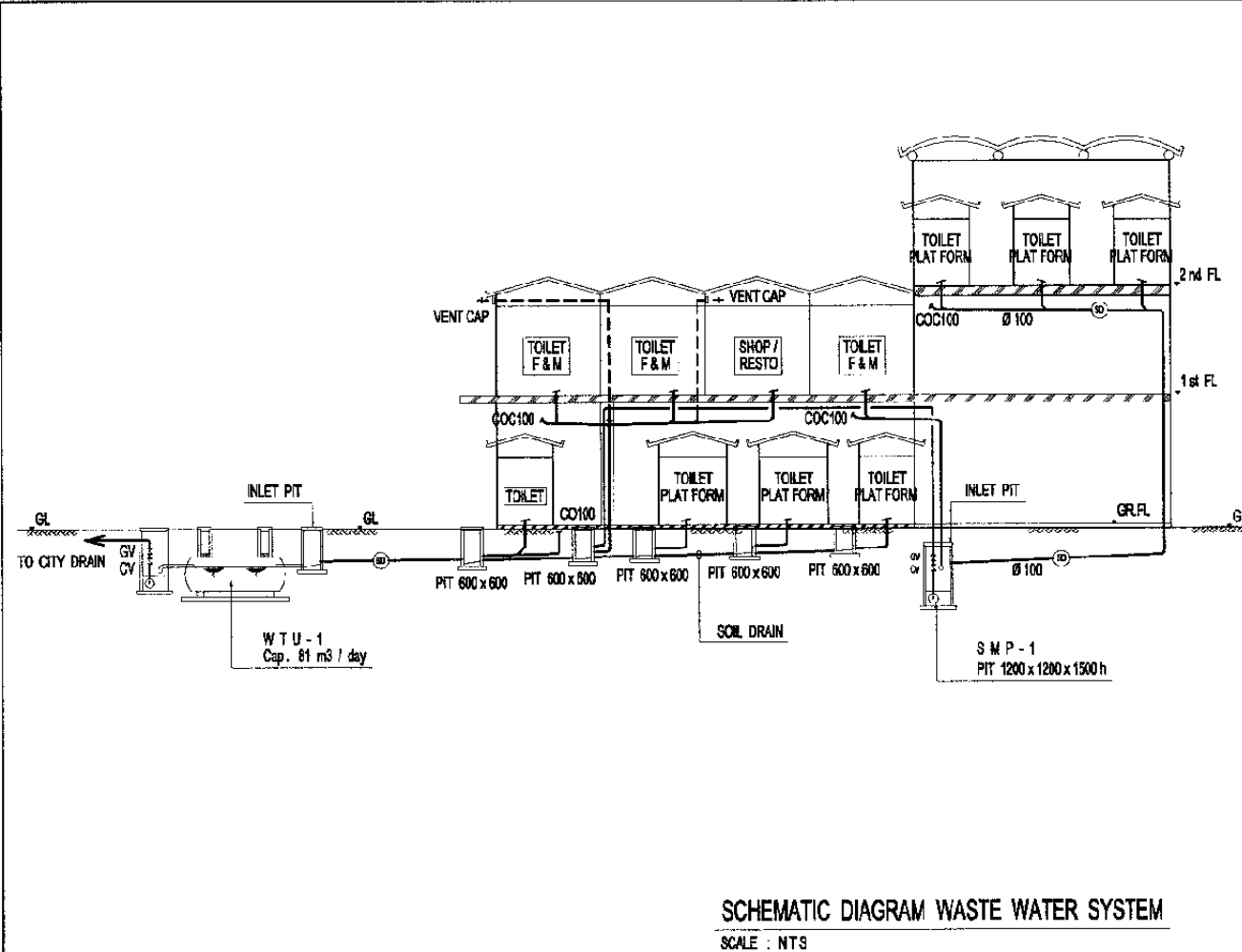
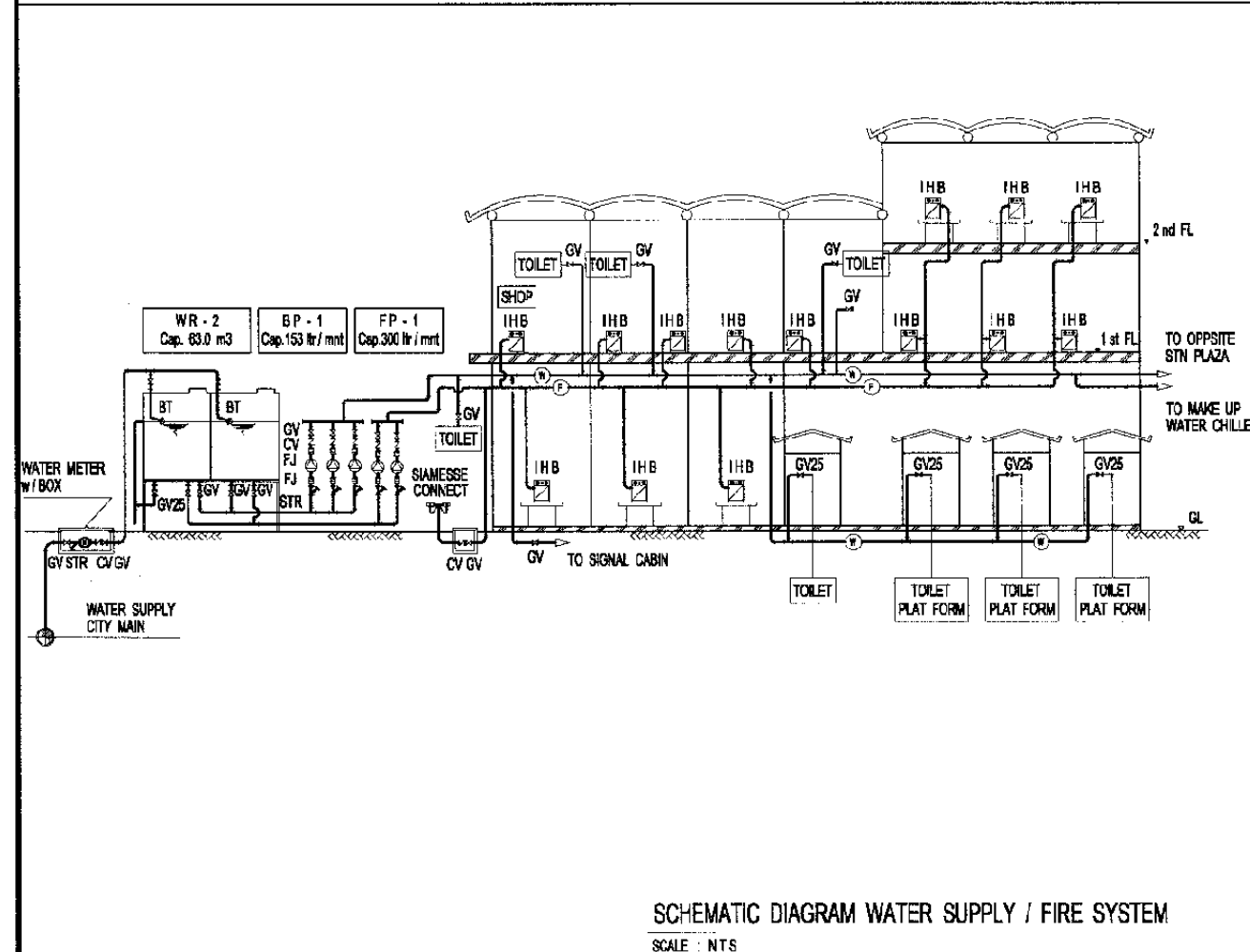
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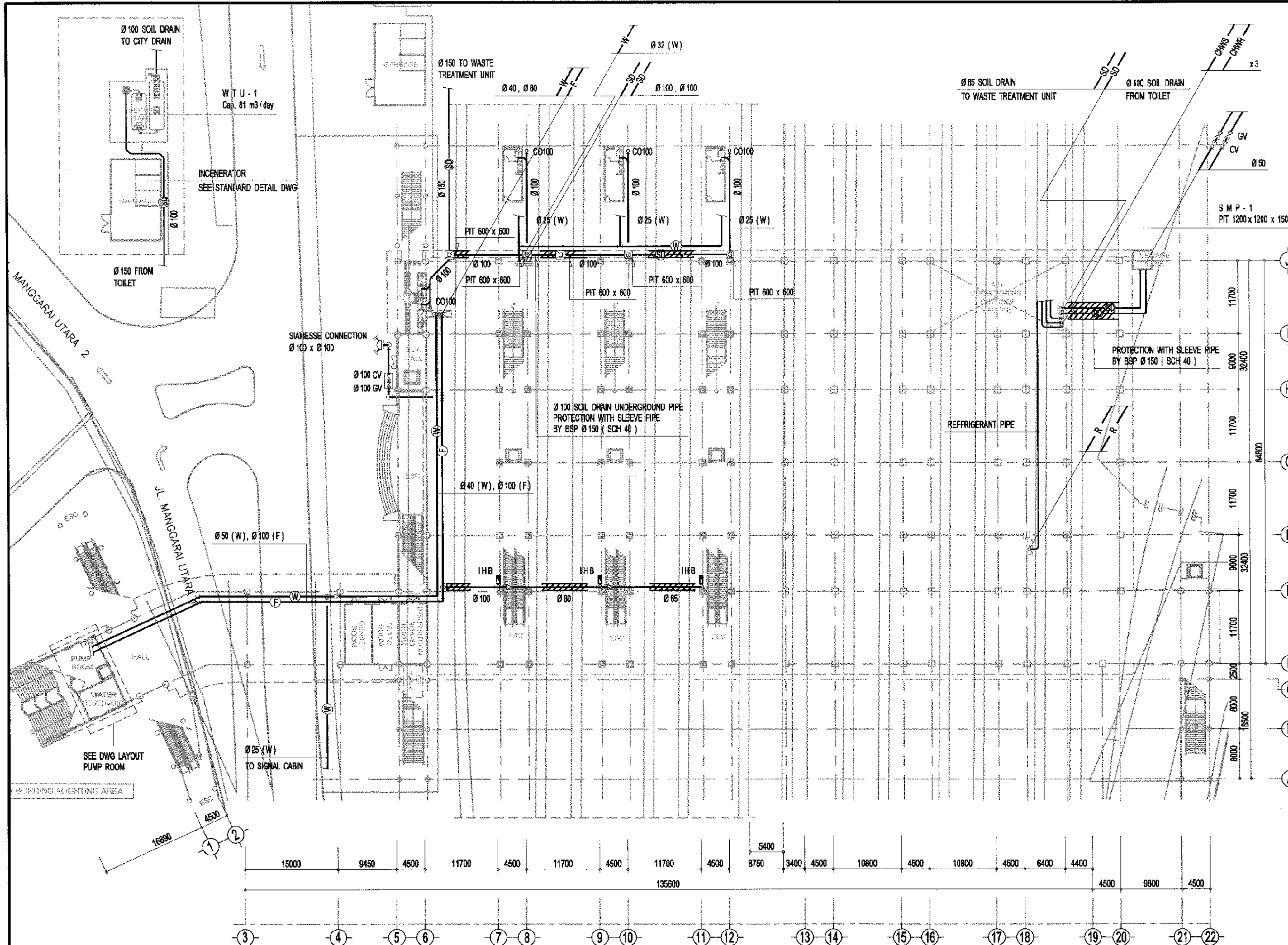
MECHANICAL
MANGGARAI STATION

DATE 08/Jan/2005

Drawing Title :
SCHEMATIC DIAGRAM AC / VENTILATING AND PIPING SYSTEM

Scale: A3/NTS Drawing No.: AM-01-001





The Railway Electrification and Double - double Tracking of Java Main Line Project



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MECHANICAL

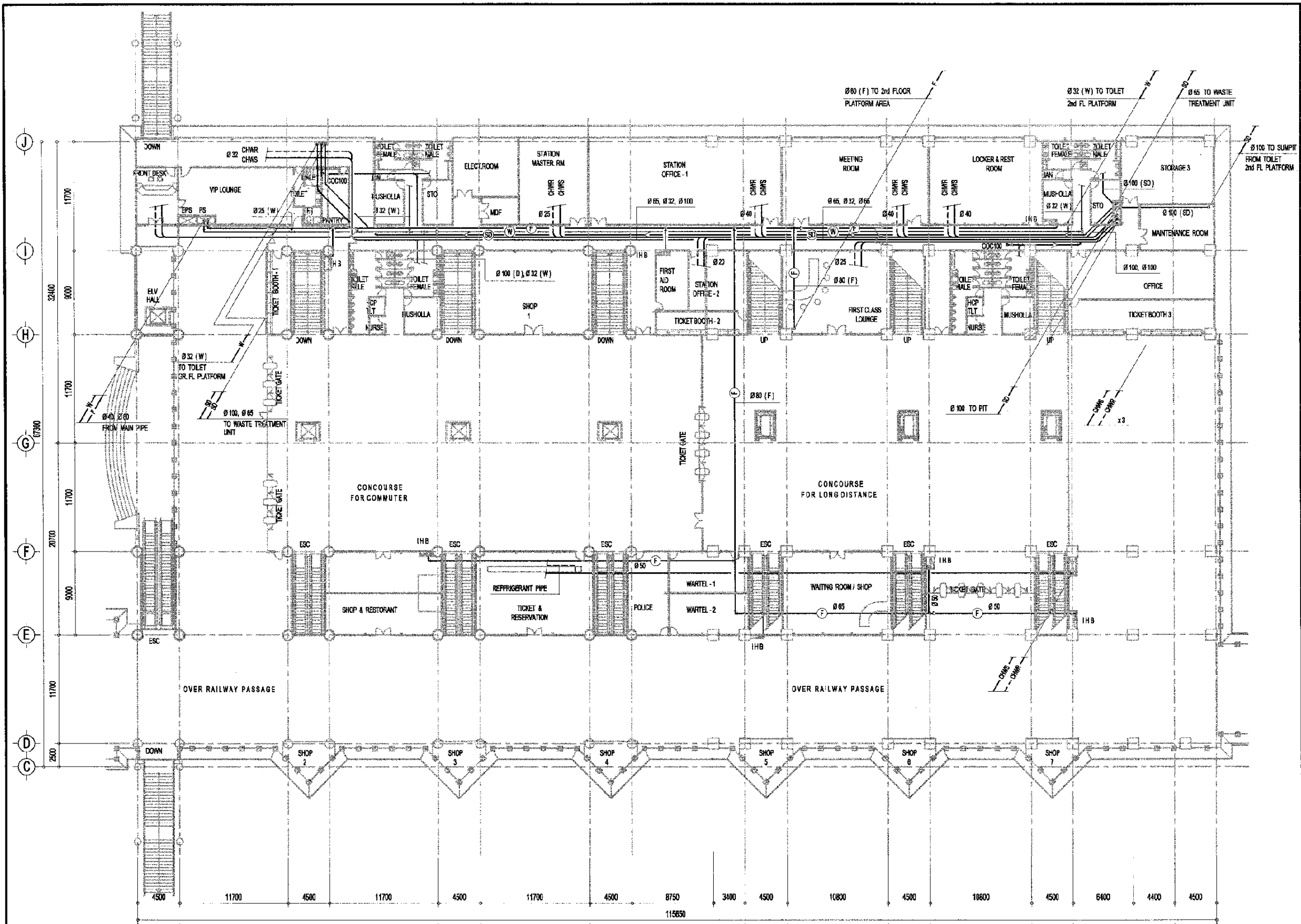
MANGGARAI STATION

DATE 21/Dec/2004

Drawing Title :
 PIPING GROUND FLOOR PLAN

Scale: A3/1:600 Drawing No.: AM - 01 - 002

PIPING GROUND FLOOR PLAN
 Scale : 1/800



The Railway Electrification and Double-double Tracking of Java Main Line Project



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MECHANICAL

MANGGARAI STATION

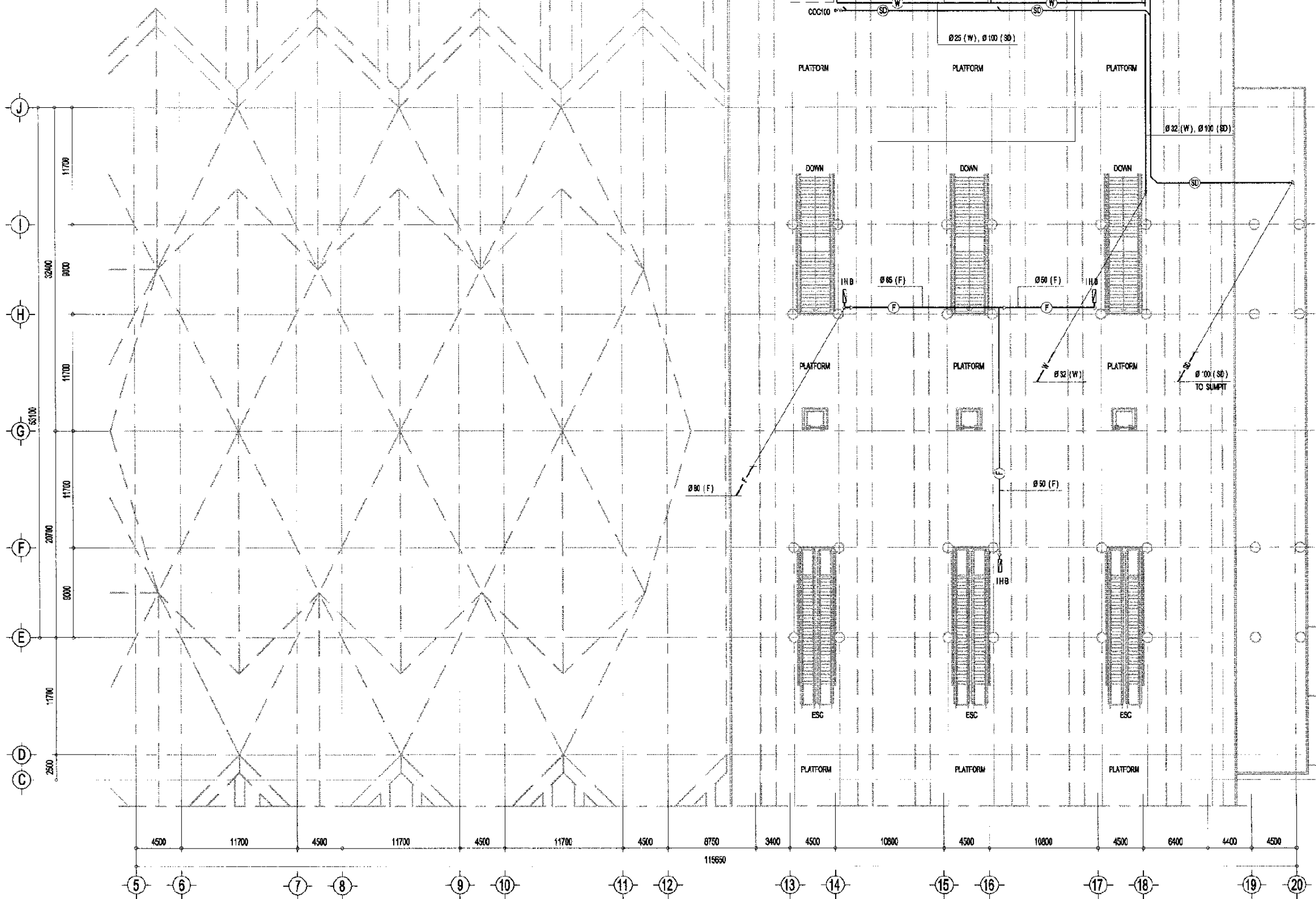
DATE 21/Dec/2004

Drawing Title :
 PIPING 1st FLOOR PLAN

Scale: A3/1:400 Drawing No.: AM - 01 - 003

PIPING 1st FLOOR PLAN
 Scale : 1/400

TOILET PLATFORM OPERATION OFFICE
FOR PLUMBING LAYOUT PLAN DETAIL
SEE DWG No. AM-28-001



The Railway Electrification and
Double - double Tracking of
Java Main Line Project



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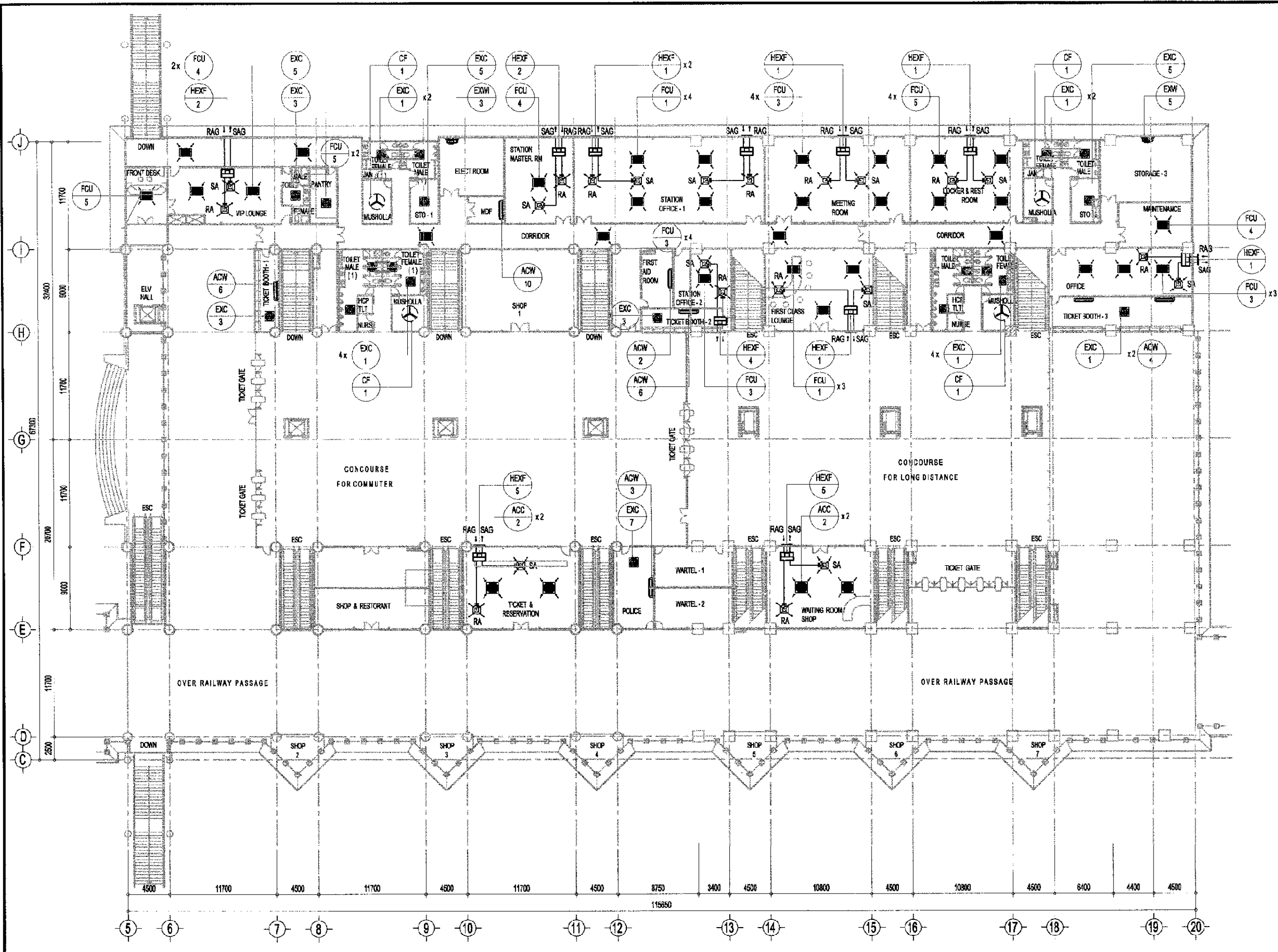
MECHANICAL
MANGGARAI STATION

DATE 19/Jan/2004

Drawing Title :
PIPING 2nd FLOOR PLAN

2nd FLOOR PLUMBING LAYOUT PLAN
Scale : 1/400

Scale: A3/1:400 Drawing No.: AM - 01 - 004



AC / VENTILATING 1st FLOOR PLAN
Scale : 1/400

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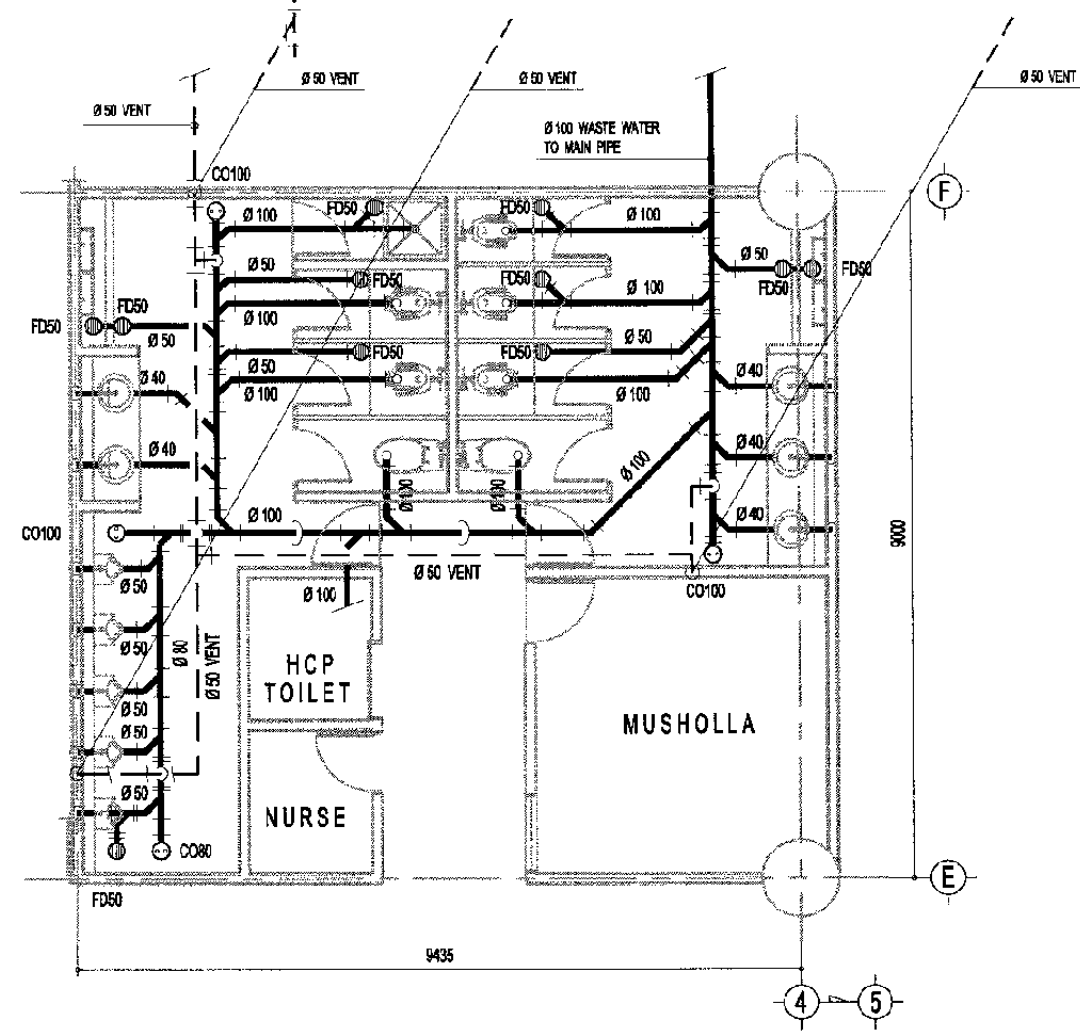
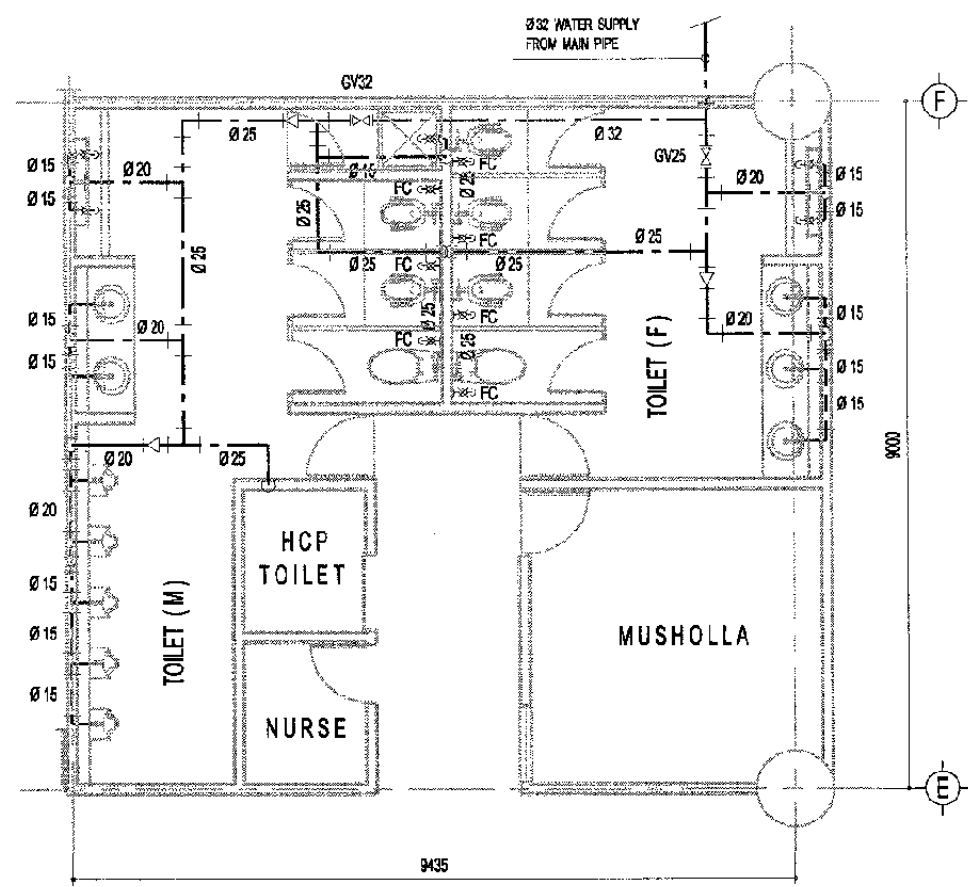
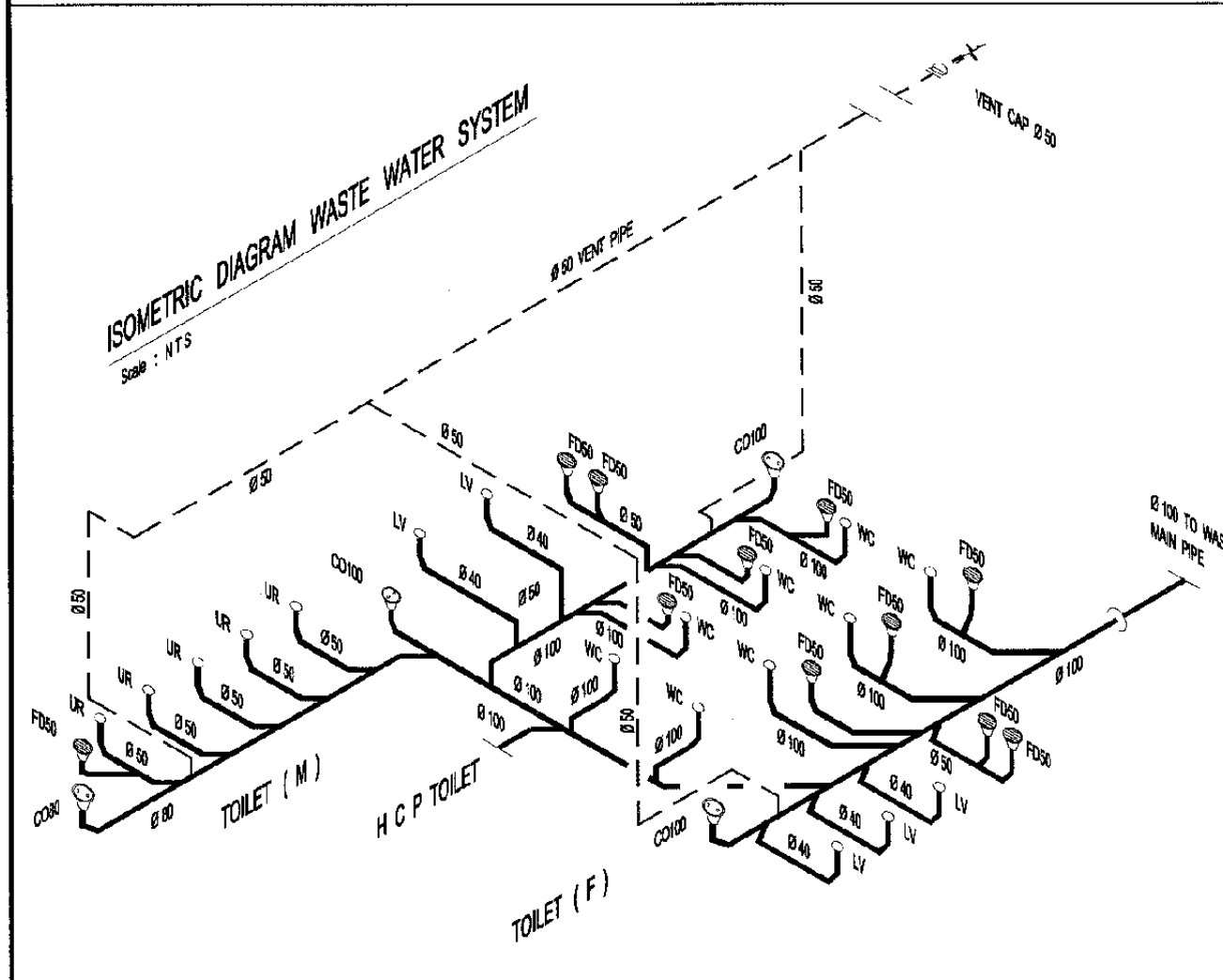
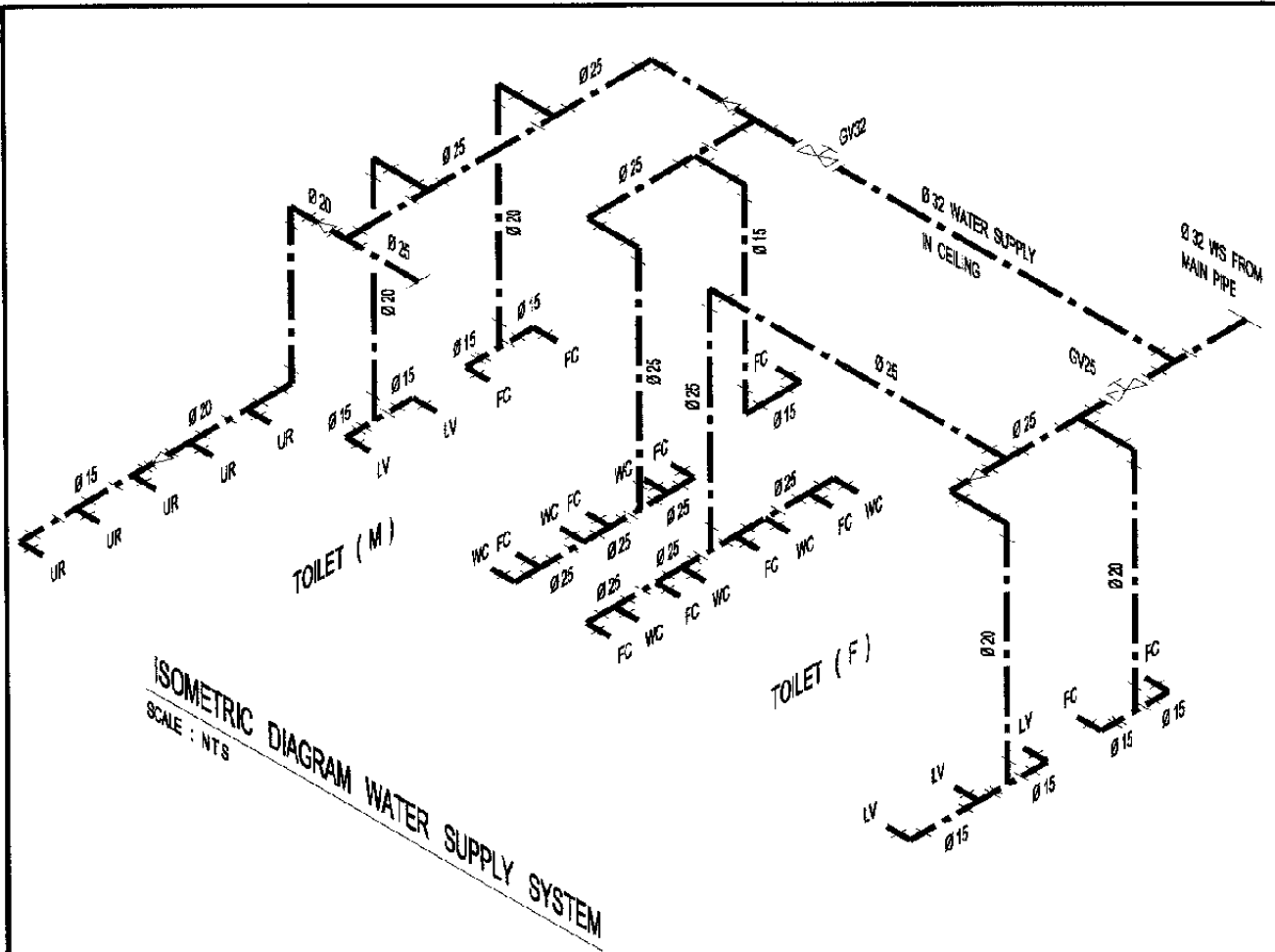
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MECHANICAL
MANGGARAI STATION

DATE 21/Dec/2004

Drawing Title :
AC AND VENTILATING 1st FLOOR PLAN

Scale: A3/1:400 Drawing No.: AM - 01 - 005



TOILET PIPING 1st FLOOR PLAN
Scale : 1/100

The Railway Electrification and Double - double Tracking of Java Main Line Project



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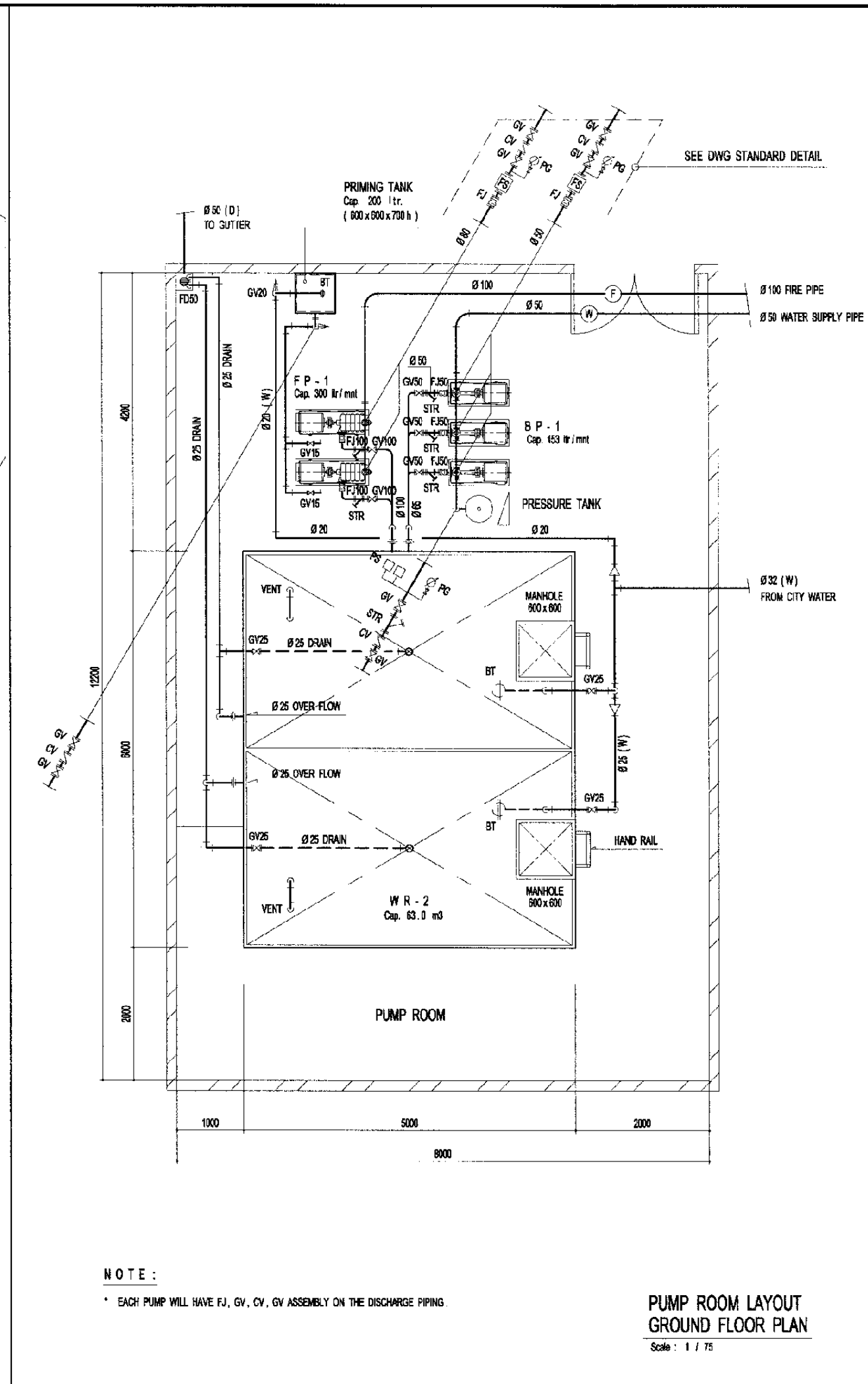
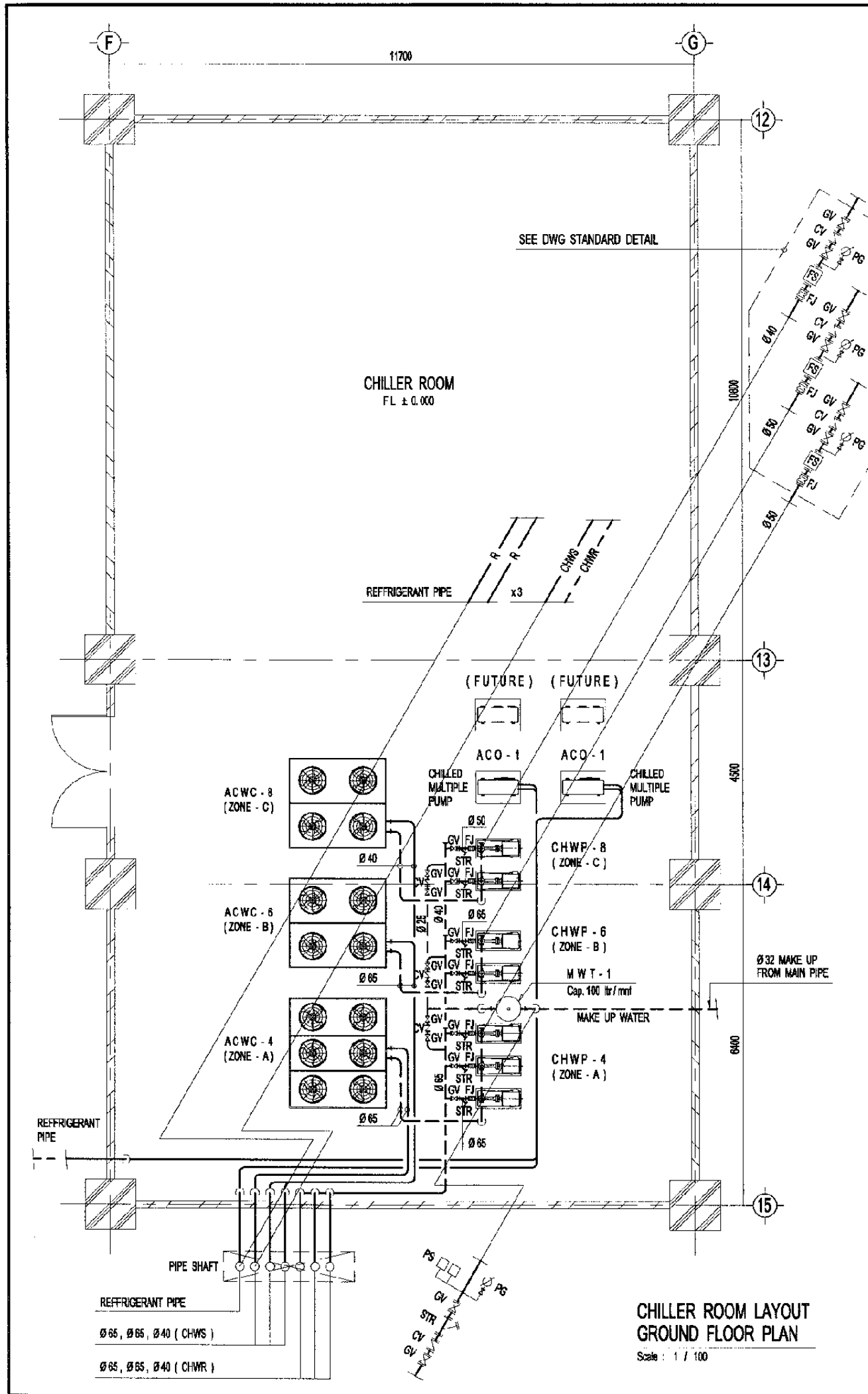
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MECHANICAL
MANGGARAI STATION

DATE | 21/Dec/2004

Drawing Title :
TOILET DETAIL PLAN

Scale: A3/1:100 | Drawing No.: AM - 01 - 006



NOTE :
* EACH PUMP WILL HAVE FJ, GV, CV, GV ASSEMBLY ON THE DISCHARGE PIPING

The Railway Electrification and Double-double Tracking of Java Main Line Project

DEPARTEMEN PERHUBUNGAN
KEMENTERIAN PERHUBUNGAN DARAT
DIREKTORAT JENDERAL PERHUBUNGAN DARAT
DIREKTORAT JENDERAL OF LAND COMMUNICATION
Jalan Medan Merdeka Barat no.8 Gedung Raya R.11. 10121-300020-300020
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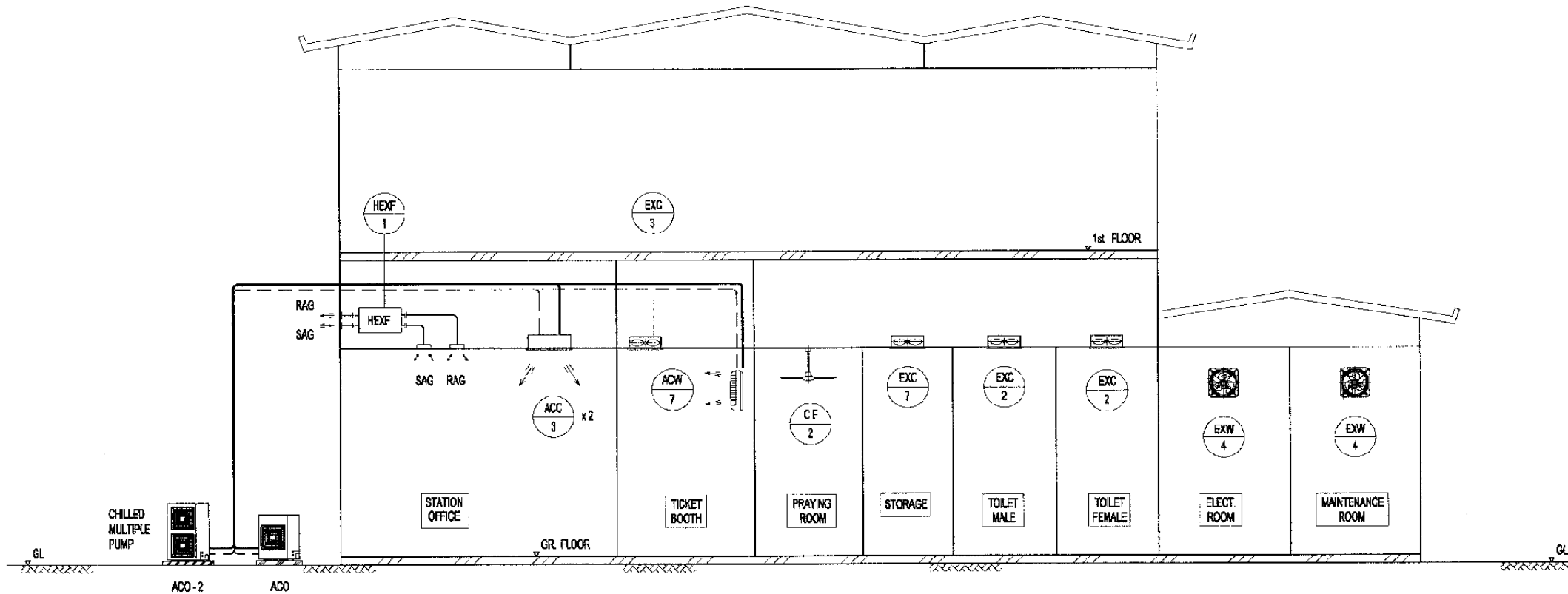
MECHANICAL

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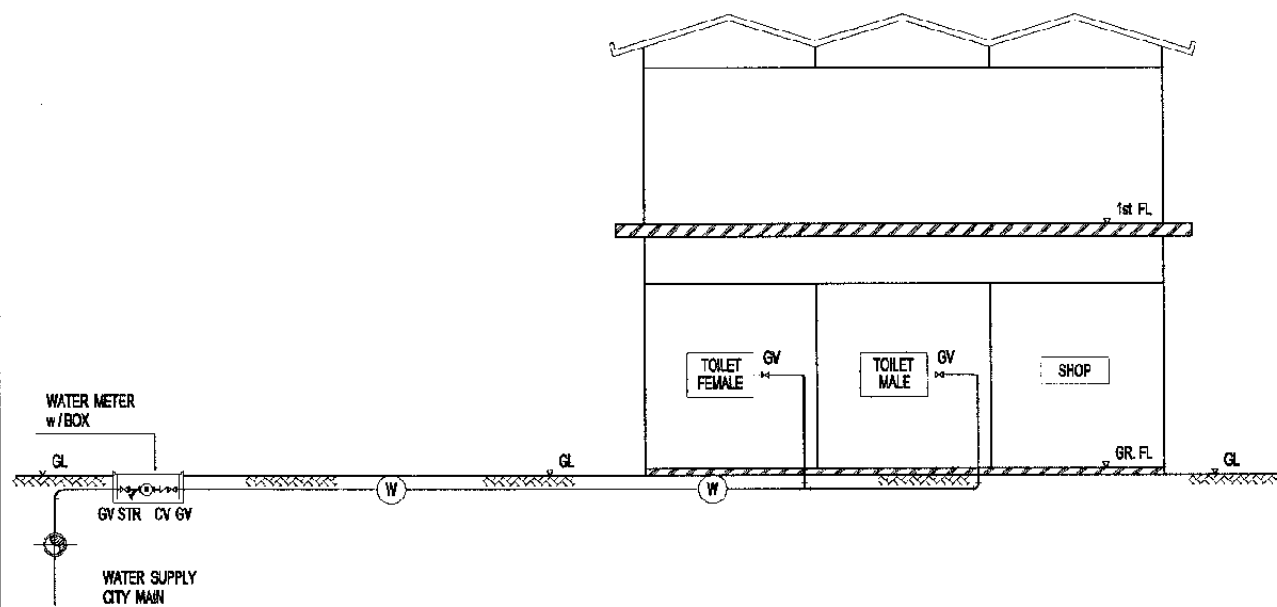
DATE | 08/Jan/2005

Drawing Title :
CHILLER & PUMP ROOM LAYOUT

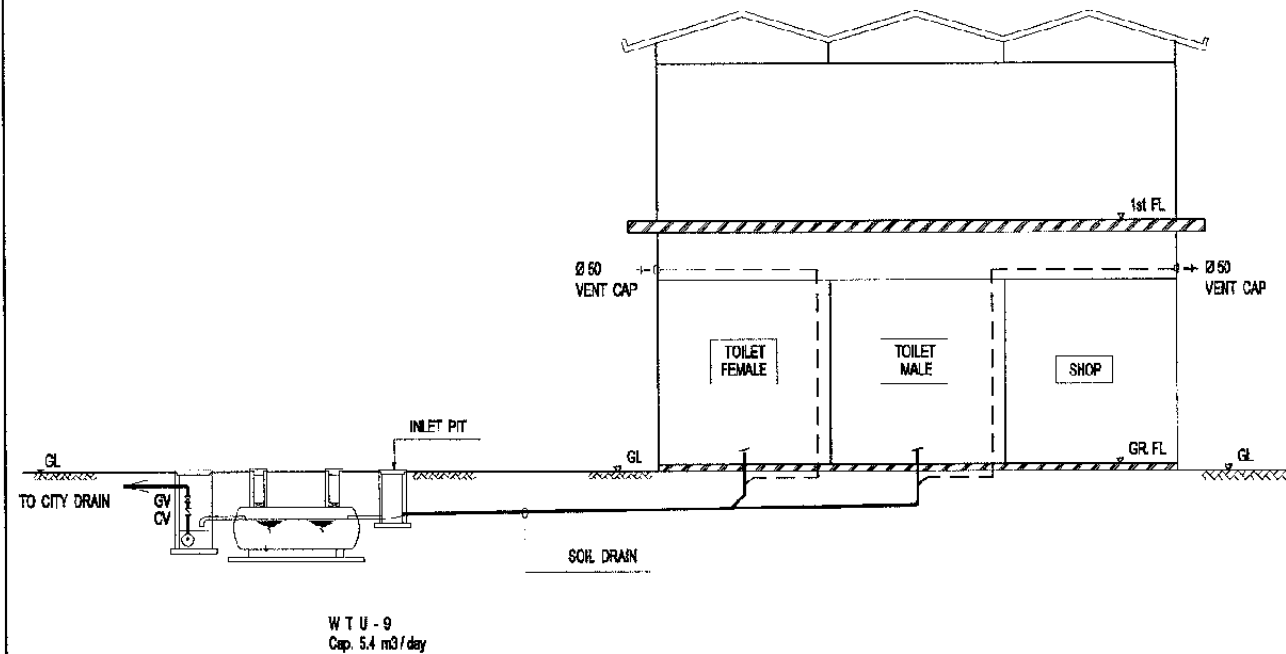
Scale: | Drawing No.:
1:100 / 75 | AM - 01 - 007



SCHEMATIC DIAGRAM AC / VENTILATING SYSTEM
Scale : NTS



SCHEMATIC DIAGRAM WATER SUPPLY SYSTEM
Scale : NTS



SCHEMATIC DIAGRAM WASTE WATER SYSTEM
Scale : NTS

The Railway Electrification and
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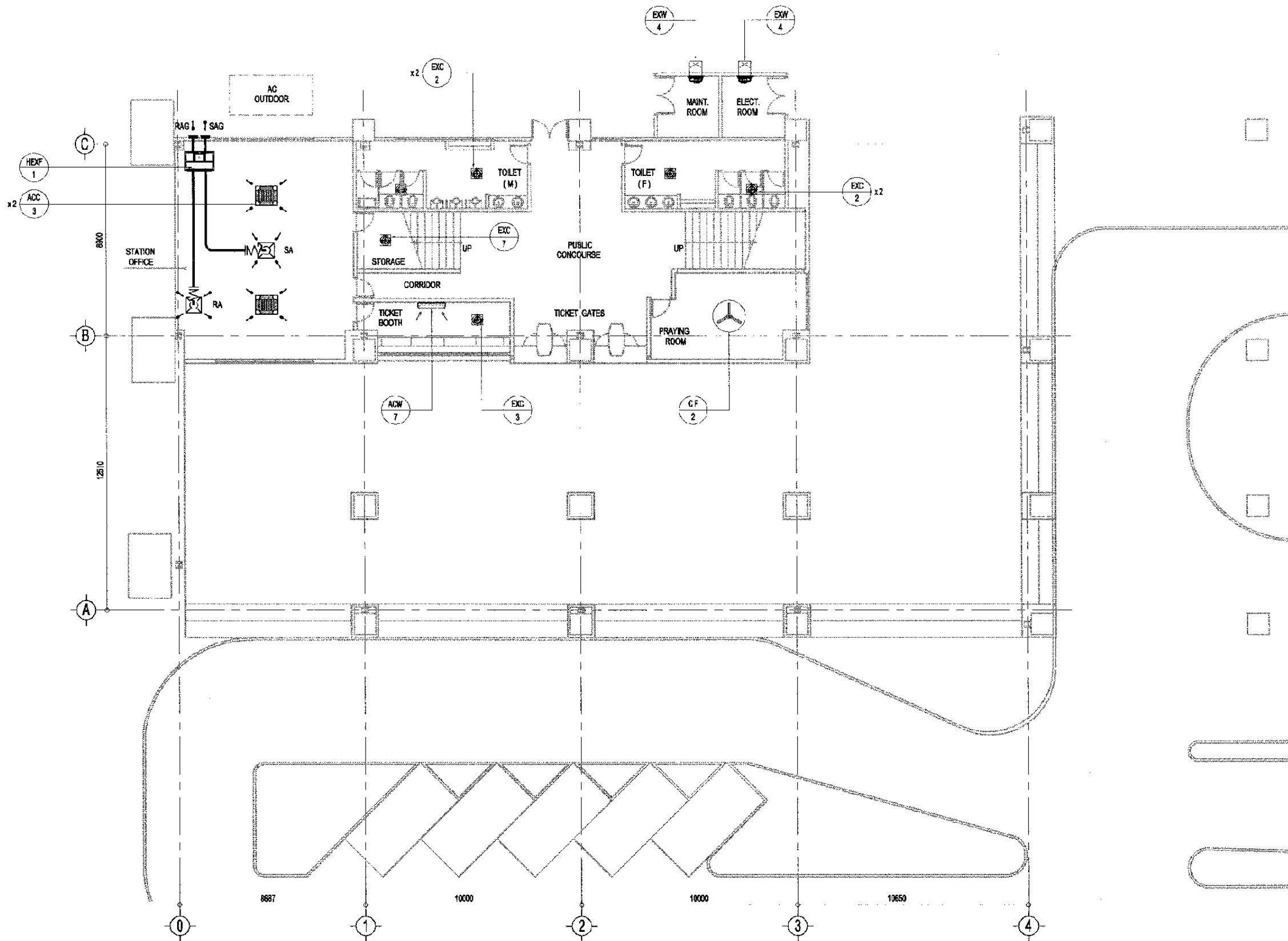
MECHANICAL

MATRAMAN STATION

DATE 29/Dec/2004

Drawing Title :
SCHEMATIC DIAGRAM
AC / VENTILATING AND
PIPING SYSTEM

Scale: A3/NTS Drawing No.: AM-02-001



AC / VENTILATING GROUND FLOOR PLAN
Scale : 1 / 200

The Railway Electrification and
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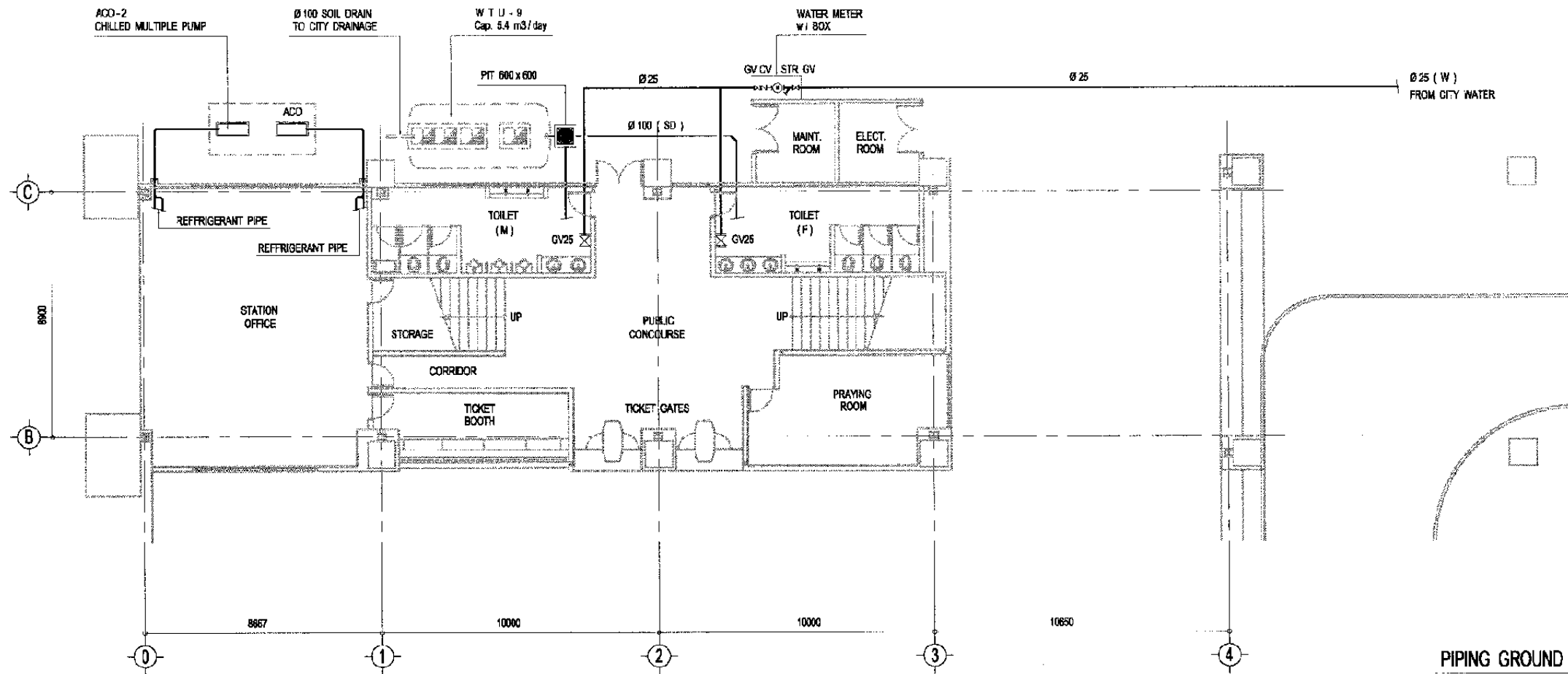
MECHANICAL

MATRAMAN STATION

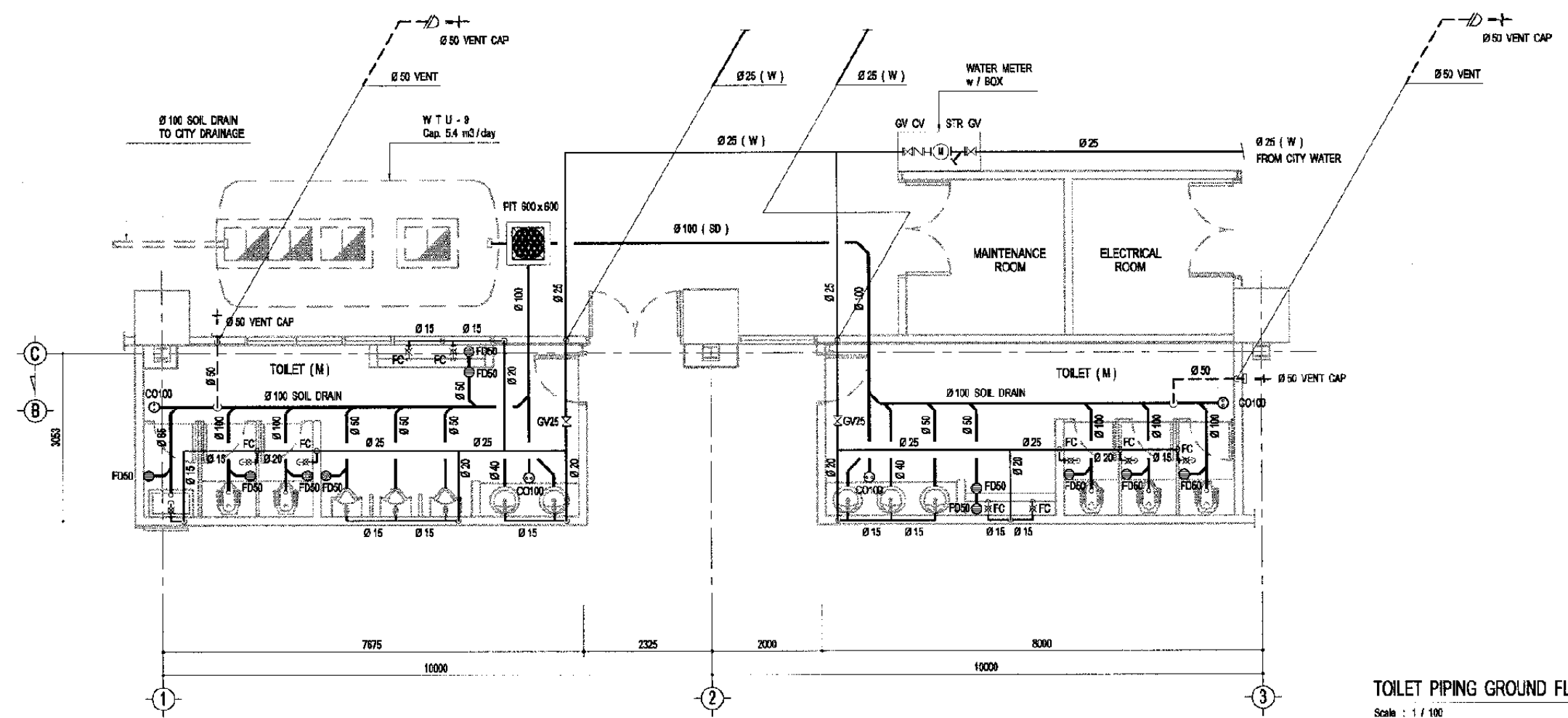
DATE 27/Jan/2004

Drawing Title :
AC / VENTILATING
GROUND FLOOR PLAN

Scale: A3/1:200 Drawing No.: AM - 02 - 002



PIPING GROUND FLOOR PLAN
Scale : 1 / 200



TOILET PIPING GROUND FLOOR PLAN
Scale : 1 / 100

The Railway Electrification and Double - double Tracking of Java Main Line Project



DEPARTMENT PERKUMHURAN
MINISTRY OF COMMUNICATION
DIREKTORAT JENDERAL PERKUMHURAN DARAT
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DATE | 27/Jan/2004

Drawing Title :
PIPING GROUND FLOOR PLAN

Scale: A3/1:200 | Drawing No.: AM - 02 - 003