

मध्य रेल CENTRAL RAILWAY



प्रधान मुख्य संकेत एवं दूरसंचार अभियंता का कार्यालय
तीसरी मंजिल, अनुलग्नक भवन, सीएसएमटी मुंबई। पिन - 400 001
OFFICE OF PRINCIPAL CHIEF SIGNAL AND TELECOM ENGINEER
3rd floor, Annex building, CSMT Mumbai. PIN – 400 001



संकेत एवं दूरसंचार-मध्य रेल

SIGNAL & TELECOMMUNICATION-CENTRAL RAILWAY

DRAWINGS & ANNEXURES-SOR-2021

मध्य रेल
CENTRAL RAILWAY



प्रधान मुख्य संकेत एवं दूरसंचार अभियंता का कार्यालय
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3rd floor, Annex building, CSMT Mumbai. PIN - 400 001

NO.N.659/WM/CC/SOR/2021

DT:17-03-2021

CSTE(C-I), CSTE(C-II),
GM(S&T)MRVC, GM(S&T)RVNL, CPM(S&T)DFCCIL,
Sr.DSTE(CO)BB, Sr.DSTE(N)BB, Sr.DSTE(E)BB,
Sr.DSTE.NGP, Sr.DSTE.BSL, Sr.DSTE.PA, Sr.DSTE.SUR,
Sr.DSTE.(WKS)BB, Sr.DSTE.(WKS)NGP
DSTE(WKS)BSL,
Dy.CSTE(CONV)Wadibunder,
Dy.CSTE(C)DR, Dy.CSTE(C)NGP, Dy.CSTE(C)BSL,

Sub: Drawings & Annexures of Schedule of Rates for Signalling and Telecommunication items.

Ref: This office L. NO.N.659/WM/CC/SOR/2021 DT:05-01-2021

The Drawings & Annexures with reference to Schedule of Rates for Signalling and Telecommunication items-2021 are compiled. The copy of the same is enclosed herewith to be used as reference on Central Railway.

The latest amendments if any or revision in drawings issued time to time shall be considered by the field units.

MADHURENDRA SAHAI

Digitally signed by MADHURENDRA
SAHAI
Date: 2021.03.17 10:37:55 +05'30'

(Madhurendra Sahai)

Dy.CSTE(HQ)

INDEX

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SCHEDULE-B (WORK PORTION)

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SCHEDULE-A

ITEM No. A-4(SOR-2021)

Portable operator console for on site programming.

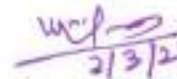
HP Spectre x360 convertible 13-ac503TU 2018 13.3- inch Laptop (8th Gen intel core i7- 8550U/16GB/512GB/Win10/Intel UHD Graphics620) Dark Ash Silver or latest.

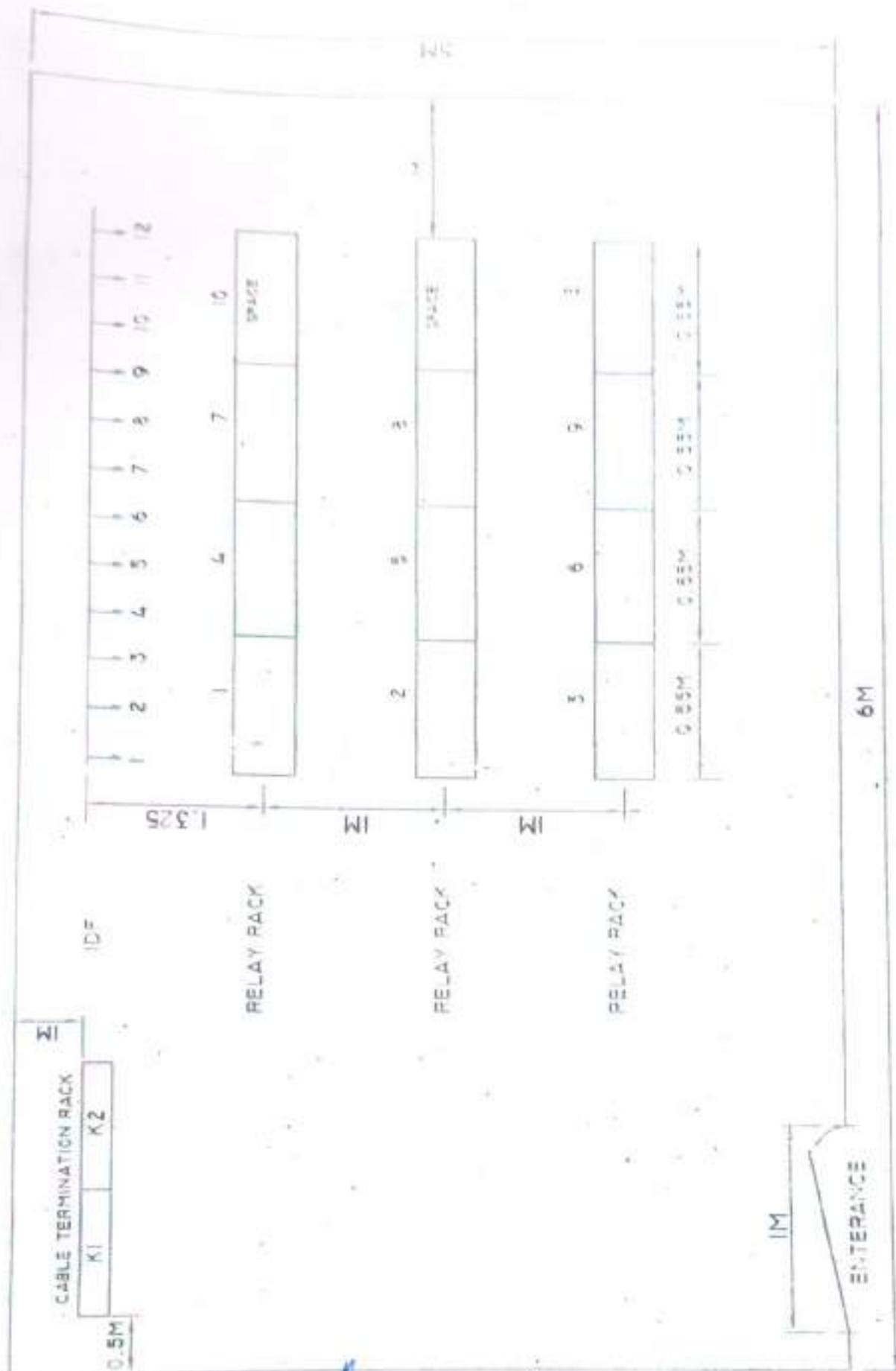
S.N	Description
1.	1.8 GHZ Intel 8 th generation Core-i7-8550U Processor.
2.	16GB DDR4 RAM
3.	512 GB Solid State hard drive
4.	13.3-inch screen, Intel UHD Graphics 620.
5.	Windows 10 Professional operating system
6.	11.5 hours battery life or higher, 1.26kg Laptop


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AEST/HR


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EST/STORE/HR


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Dy CTE/HR



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SSE/DO	AESTE/HQ	ESTE/HQ	DY.CSTE/HQ

RELAY ROOM *STORE*
TYPICAL RACK ARRANGEMENT

DRAWING NO.
SK - 7271/A'

* THE SCAF FOLDING FOR RELAY RACKS WILL CATERED FOR 2 RACKS HOWEVER ONLY 10 RACKS SHALL BE TYPAL 50' ERECTED & WIRED

5 THE SCAF FOLDING ARRANGEMENT WILL BE FOR 2 RACKS ONLY 3 OF RACKS WILL BE SUPPLIED ERECTED & WIRED

ANNEXURE -II**ITEM No. A-6(SOR-2021)****LIST OF SCAFFOLDING MATERIAL REQUIRED FOR 1 RELAY RACK.**

SN	DESCRIPTION	SIZE	UNIT	QTY
1	Relay racks with all fixtures spacers		Nos.	1
2	IDF pillars with fixtures		Nos.	1
3	Top frame angle for 1 relay rack	65x65x1105mm/ 1656mm	Nos.	1
4	Bottom frame angle for 1 relay rack	65x65x1105mm/ 1656mm	Nos.	1
5	IDF Bottom angle for 6 pillars	65x65x1105mm/ 1656mm	Nos.	2
6	IDF Top angle for 6 pillars	65x65x1105mm/ 1656mm	Nos.	2
7	Vertical support angle for RH		Nos.	1
8	Vertical support angle for LH		Nos.	1
9	Triangle base assembly with 'J' bolts, nut, flat and spring washers.		Nos.	2
10	Insulators with fixing studs, spring and flat washer (one stud each for one insulator). Stud size-	12x25mm & 12x20mm	Nos.	8
11	Cable support assembly i.e. 'L' Bracket with 4 nos. of bolts with nut, spring and plain washer for each L bracket.	8x25mm & 6x50mm	Nos.	4
12	16 way fuse holder (1.6A/0.6A) mounting strips with studs, spring and plain washer.		Nos.	3
13	8-way fuse holder (6A) mounting strips with stud, spring and plain washer.		Nos.	1
14	Bracket for mounting 16way/8 way fuse stripes with nuts, bolts and washers, (i.e. top bracket). All angle and stripes shall be 6mm & 5mm thick respectively.		Nos.	2
15	Brackets for mounting 16-way stripes (i.e. bottom)		Nos.	2
16	Cable supporting stripes	5x20x210mm	Nos.	10
17	Cable supporting stripes	5x20x150mm	Nos.	4
18	String rod with PVC insulation (sleeve) fixing bracket and stud with spring and plain washer.		Nos.	10



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19	11mm bus bar with 16 sqmm Lugs with PVC cover and fixing arrangement (Bracket for fixing cover) nut & bolts.		Nos.	1
20	Square bar for fixing 8 nos. of mini group base plate.		Nos.	16
21	PVC sleeve for insulating wire run supports on IDF pillars and at other places.	16mm	Mtrs.	15
	Angle of various sizes for frame wall support and cable run support (interspacing between racks) (All angles of 6mm thick).			
22	a) Angle	65x65x2000mm	Nos.	1
	b) Angle	40x40x2000mm	Nos.	1
	c) Angle	40x40x1350mm	Nos.	1
	d) Angle	40x40x1000mm	Nos.	2
	e) Angle	65x65x1000mm	Nos.	1
23	Angle pieces for wall support angles with 'J' bolts, nuts, springs and plain washer having 13mm holes and 8mm holes.			
	a) Angle pieces with 23mm holes at both 65mm side.	65x65x65	Nos.	1
	b) Angle pieces with one hole 13mm and other 9mm on 40mm side.	40x40x35	Nos.	2
24	Cable support 'U' Bracket.	540x100mm	Nos.	3
25	'C' bracket for cable run support (5mm thick) 20mm width MS flat to be used.	200x200 mm	Nos.	6
26	'C' bracket for cable run support (5mm thick) 20mm width MS flat to be used.	200x150x20mm	Nos.	6
27	Signal resistance mounting assembly complete fixtures and fasteners.		Nos.	1
28	Guide rails with fixuters and fasteners for-			
	a) Point group RRI		Nos.	1
	b) Point chain group		Nos.	1
	c) Route group		Nos.	1
	d) Main signal group		Nos.	1
	e) Shunt signal group		Nos.	1

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29	MS flat strip for mounting AG timers		Set	1
30	Resistance and condenser mounting assembly Quantity and size as per requirement.		Lot	1
31	Anodized nuts and bolts with plain and spring washer			
	a)'J' bolts for fixing square bars.		Nos.	10
	b)Stud for fixing relay base plate	4x20 mm	Nos.	100
	c)Bolts with nuts	6x20 mm	Nos.	15
	d)Bolts with nuts	6x25 mm	Nos.	100
	e)Bolts with nuts	6x40 mm	Nos.	10
	f)Bolts with nuts	6x50 mm	Nos.	10
	g)Bolts with nuts	6x75 mm	Nos.	5
	h)Bolts with nuts	8x25 mm	Nos.	5
	i)Bolts with nuts	12x25mm	Mtrs.	5
32	Rack joining pieces.			1
33	Ladder for cable run support and power wiring with ladder joining pieces and bolts with nuts and washers.			
	a)400x1500mm	40x40x6mm	Nos.	1
	b)200x1500mm	25x25x5mm	Nos.	1
	c)150x1500mm	25x25x3mm	Nos.	2
34	Blue colour PVC sleeve.	2.5mm	Mtr.	1
35	Relay rack designation board, L shape complete with fixing clamps.		Nos.	

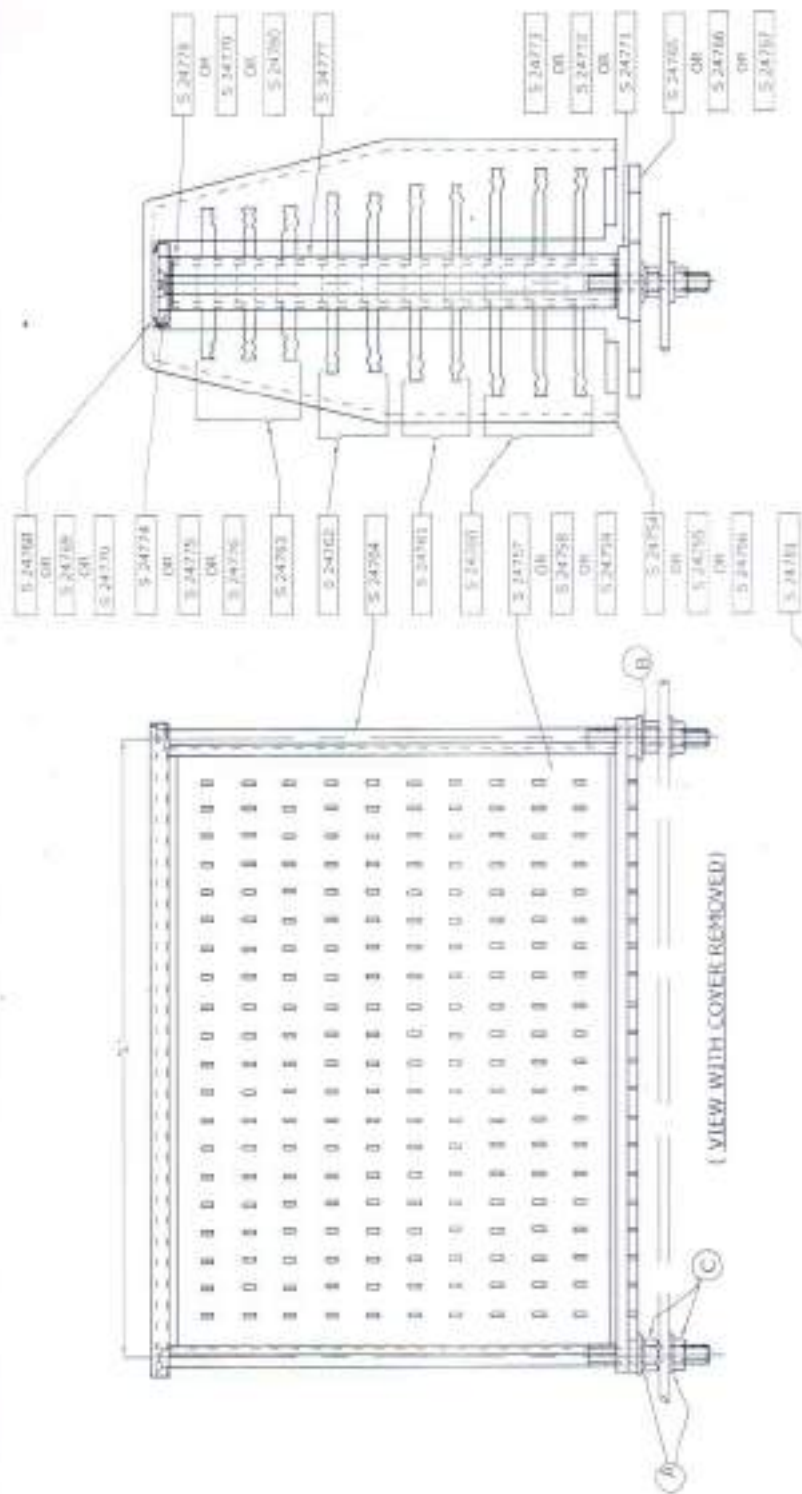
Note

1. MS angle and strap should be OF MALHOTRA or TISCO or SIMILAR
2. Above list is indicative and suitable for Siemens type relay based installations, Any other material required other than listed above or variation in quantity (more/less) shall be supplied as per site requirement free of cost. If firms desires to supply other than Siemens make groups then base plates/ Increase in relay racks should be supplied free of cost.

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CHEM	DESCRIPTION	DATA 1
SA-24751	TAG H-OCB (100 WAX)	1.77
SA-24752	TAG H-OCB (100 WAX)	1.61
SA-24753	TAG H-OCB (120 WAX)	1.13

3. PART NO. 12 SHALL BE NICKEL PLATED TO PARTS 16, 101, 101-1 OF RB-1324 AND PART NO. 10 SHALL BE NICKEL PLATED TO PART 3 OF RB-1382.

Spec.	MS-5276-577
Scale	 10 0 10 20 DO NOT SCALE

DATE	DESCRIPTION
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STANDARD CANTO	6-0-00 ADRENALINE	SA 24751-53	(ADN)
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CELL CLUSTER WEIGHTING, 2nd	THD	DOSE No. - STATION/SCHEM	IDENTIFICATION No.
DONE 1st	---	160300	160300
DONE 2nd	---	160300	160300
DONE 3rd	---	160300	160300
DONE 4th	---	160300	160300
DONE 5th	---	160300	160300
DONE 6th	---	160300	160300
DONE 7th	---	160300	160300
DONE 8th	---	160300	160300
DONE 9th	---	160300	160300
DONE 10th	---	160300	160300
DONE 11th	---	160300	160300
DONE 12th	---	160300	160300
DONE 13th	---	160300	160300
DONE 14th	---	160300	160300
DONE 15th	---	160300	160300
DONE 16th	---	160300	160300
DONE 17th	---	160300	160300
DONE 18th	---	160300	160300
DONE 19th	---	160300	160300
DONE 20th	---	160300	160300
DONE 21st	---	160300	160300
DONE 22nd	---	160300	160300
DONE 23rd	---	160300	160300
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DONE 78th	---	160300	160300
DONE 79th	---	160300	160300
DONE 80th	---	160300	160300
DONE 81st	---	160300	160300
DONE 82nd	---	160300	160300
DONE 83rd	---	160300	160300
DONE 84th	---	160300	160300

ANNEXURE -III**ITEM No. A-9(SOR-2021)****LIST OF SCAFFOLDING MATERIAL REQUIRED FOR ONE CABLE TERMINATION RACK.**

SN	DESCRIPTION	SIZE	UNIT	QTY
1	Cable termination complete with all fixtures, fasteners and spares.		Nos.	1
2	Top frame angle for relay rack (2 way) 6mmthick	65x65x1104mm	Nos.	1
3	Bottom frame angle for relay rack (2 way) 6mmthick	65x65x1104mm	Nos.	1
4	Vertical support angle RH	6mm thickx65x65	Nos.	1
5	Vertical support angle LH	6mm thickx65x65	Nos.	1
6	Triangle base assembly with 'J' bolts nuts, springs and plain washer		Nos.	2
7	Insulators with two stud each with flat and spring washer.	12mm x 20mm & 12mm x 25mm	Nos.	4
8	L Bracket re cable support assembly complete with fixtures and fasteners.		Nos.	1
9	Cable support stripes (U) i.e. 'U' Bracket.		Nos.	1
10	8-way 6A fuse mounting stripes		Nos.	1
11	Cable supporting strips with fasteners	5mmx20mmx150mm	Nos.	3
12	String rods with fixing bracket and fasteners complete with PVC insulation		Nos.	20
13	Square bars for fixing 8-way terminal block, 4nos.on each bar compete with studs for fixing 8- way terminal blocks nuts, bolts flat and spring washers for fixing square bars.		Nos.	20
14	Angles for wall support, complete with angle piece 'J' bolts, bolts with nuts, plain and spring washer with	40mmx40mmx1000mm (6mm thick)	Nos.	1
15	Ladder for outdoor cable	500mm x 2000mm	Nos.	1

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	support made of 40mm x 40mm x 6mm angle			
16	Ladder for indoor cable run support made of 40mm x 40mm x 6mm angle	400mm x 1500mm	Nos.	1
17	8-way tag block complete with its fixing assembly, fixtures and fasteners.		Nos.	8
18	Forming sheets with white colour	3x 1200x 2400mm	Nos.	1
19	Angle for wall support	40mmx40mmx2000mm (6mm thick)	Nos.	2
20	Any other material required for erection of CT Rack		Nos.	

Above list is indicative, any other material required other than listed above or variation in quantity (more/ less) shall be supplied by the contractor as per site requirement free of cost.

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ANNEXURE -IV**ITEM No. A-11(SOR-2021)****ACCESSORIES OF DATA LOGGER (ONE SET TO BE SUPPLIED WITH 1 SET OF DATA LOGGER(IRS.S.99/2006)(Amd.-3)**

ACCESSORIES OF DATA LOGGER (ONE SET TO BE SUPPLIED WITH 1 SET OF DATA LOGGER			
1	PROCESSOR & MOTHER BOARD	Intel Core i7 4770, 3.4 Ghz, 8 MB Cache or higher. Intel Q67 or higher on OEM motherboard.	1 SET.
2	HARD DISK DRIVE	1TB	1 NO.
3	DVD DRIVE	52X/24X/52X DVD-RW drive	1 NO.
4	KEY BOARD & Mouse	Wireless	1 NO.
5	PRINTER	HP Laser Jet 1022 or equivalent.	1 NO.
6	MONITOR	21" LED colour monitor.	1 NO.
7	MAIN MEMORY	8 GB DDR3 RAM or higher.	1 NO.
8	SOUND CARD	Built-in Standard along with 2 nos.	1 SET.
9	POWER SUPPLY UPS	UPS 1KVA (with 2 hrs backup for 5 Amps	1 NO.
10	VIDEO CARD	1 GB Graphic Processor	1 NO.
11	CABINET	Mini ATX power cabinet	1 NO.
12	MODEM	56 KBPS INTERNAL	1 NO.
13	PORTS	6 USB ports, 1 RS-232 serial port, Audio	1 NO.
14	MULTICARD READER	Standard in front panel	1 NO.
15	SOFTWARE	Licensed WINDOWS 10 (64BIT), MS Office	1 NO.
16	WORK STATION	a. Composite computer table of Godrej make no. T-102.	1 NO.
17		b. Chair Godrej make PCH-7002.	1 NO.

[Signature]
21/3/21
SS/ECN

[Signature]
02/3/21
AC/STP/HR

[Signature]
02/03/21
ESTG/STP/HR

[Signature]
21/3/21



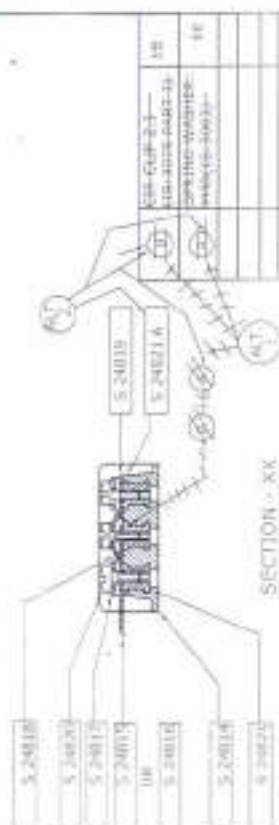
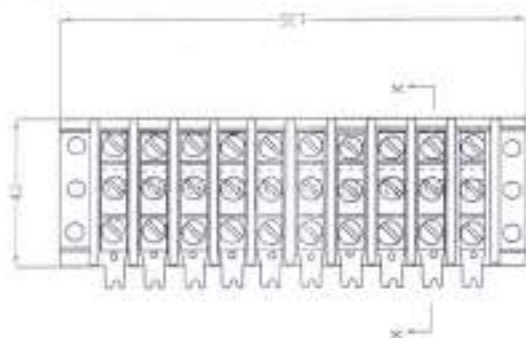
**SPECIFICATION
FOR
DATA LOGGER SYSTEM
FOR
RAILWAY S&T INSTALLATIONS**

IRS: S: 99/ 2006

APRIL 2006

Pages : 63

**Research Designs & Standards Organisation
Lucknow – 226 011**



SECTION - XX

1. ALL DIMENSIONS ARE IN MILLIMETERS (IN INCHES).
2. THE BLOCK IS TO BE USED ON SCREWS.
3. THE BLOCK IS TO BE USED ON SCREWS.
4. THE BLOCK IS TO BE USED ON SCREWS.
5. THE BLOCK IS TO BE USED ON SCREWS.
6. THE BLOCK IS TO BE USED ON SCREWS.
7. THE BLOCK IS TO BE USED ON SCREWS.
8. THE BLOCK IS TO BE USED ON SCREWS.
9. THE BLOCK IS TO BE USED ON SCREWS.
10. THE BLOCK IS TO BE USED ON SCREWS.
11. THE BLOCK IS TO BE USED ON SCREWS.
12. THE BLOCK IS TO BE USED ON SCREWS.

NO.	DESCRIPTION	REQ.
1	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
2	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
3	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
4	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
5	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
6	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
7	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
8	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
9	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
10	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
11	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
12	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10

R. D. S. O.

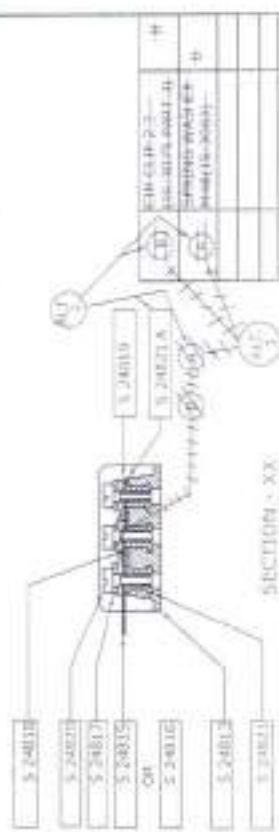
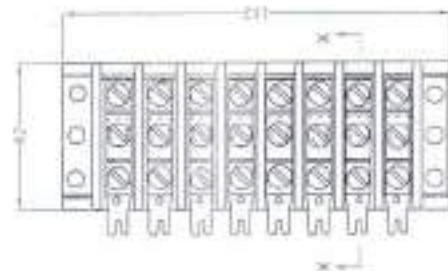
TERMINAL BLOCK

(ISOLATING TYPE) 12WAY

NO.	DESCRIPTION	REQ.
1	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
2	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
3	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
4	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
5	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
6	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
7	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
8	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
9	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
10	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
11	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10
12	TERMINAL BLOCK (ISOLATING TYPE) 12WAY	10

SA 24812

(ADV)



SECTION - XX

1. ALL DIMENSIONS ARE IN MILLIMETERS (IN INCHES).
2. THE BLOCK IS TO BE USED ON SCREWS.
3. THE BLOCK IS TO BE USED ON SCREWS.
4. THE BLOCK IS TO BE USED ON SCREWS.
5. THE BLOCK IS TO BE USED ON SCREWS.
6. THE BLOCK IS TO BE USED ON SCREWS.
7. THE BLOCK IS TO BE USED ON SCREWS.
8. THE BLOCK IS TO BE USED ON SCREWS.
9. THE BLOCK IS TO BE USED ON SCREWS.
10. THE BLOCK IS TO BE USED ON SCREWS.
11. THE BLOCK IS TO BE USED ON SCREWS.
12. THE BLOCK IS TO BE USED ON SCREWS.

NO.	DESCRIPTION	REQ.
1	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
2	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
3	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
4	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
5	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
6	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
7	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
8	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
9	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
10	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
11	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
12	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10

R. D. S. O.

TERMINAL BLOCK

(ISOLATING TYPE) 8WAY

NO.	DESCRIPTION	REQ.
1	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
2	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
3	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
4	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
5	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
6	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
7	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
8	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
9	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
10	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
11	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10
12	TERMINAL BLOCK (ISOLATING TYPE) 8WAY	10

SA 24811

(ADV)

NOTIFICATION No.

APPROVED

DATE

31/5/78

LARGE No.

PASSED

THD

CHD

DOW

HOU

LND

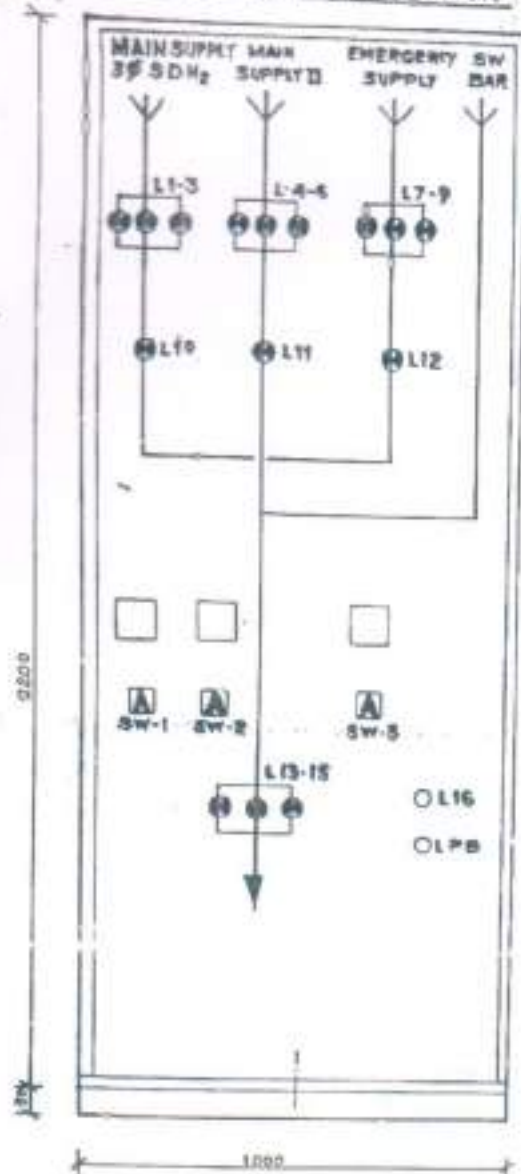
DATE BY

O-40

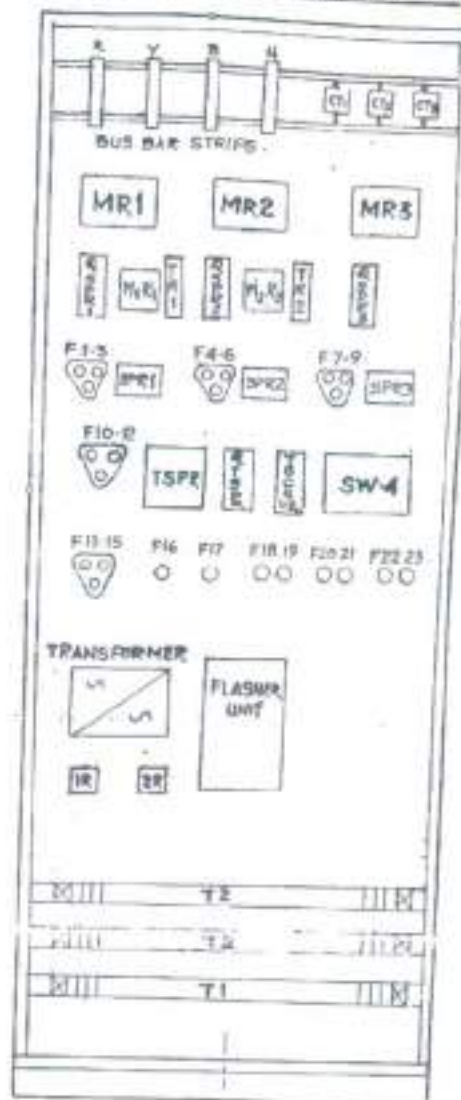
HOU

LND

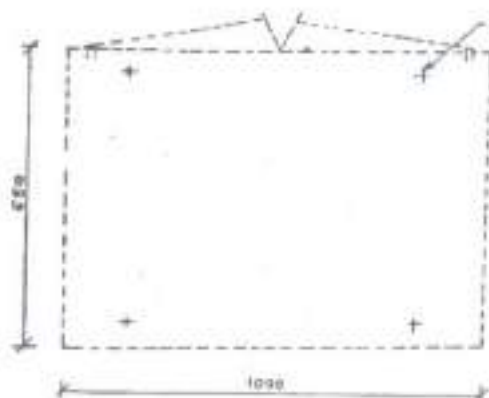
FRONT VIEW WITH DOOR



FRONT VIEW WITHOUT DOOR



SIDE VIEW

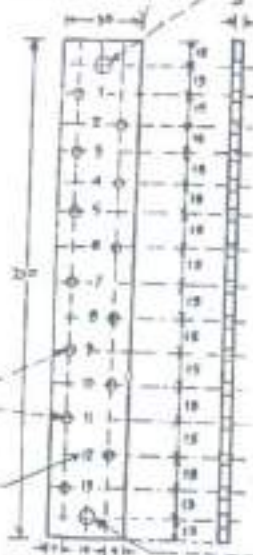


GROUNDING HOLES

HOLE FOR FIXING BUS BAR STRIP

THREADED HOLES TO SUIT 6 M.M. DIA. SCREWS

NUMBERS FROM 1-15 ON EACH STRIP SHALL BE ENGRAVED



*NOTES FOR PROGRAMME SWITCH

- 1) 63 Amps current rating.
- 2) 9 Packets - uniform switching packets assembled in the form of a stack.
- 3) Each packet carries 2 fixed contacts outside & 2 moving contacts inside.
- 4) Moving contacts operated by moulded breakers, activated by spring operated mechanism & switched for make & break operation.
- 5) The switch should have machine handle.
- 6) Switch should be capable of upto 200 switching cycles per hour operation frequency.
- 7) Mounting arrangement on hylon sheet as per DRG.

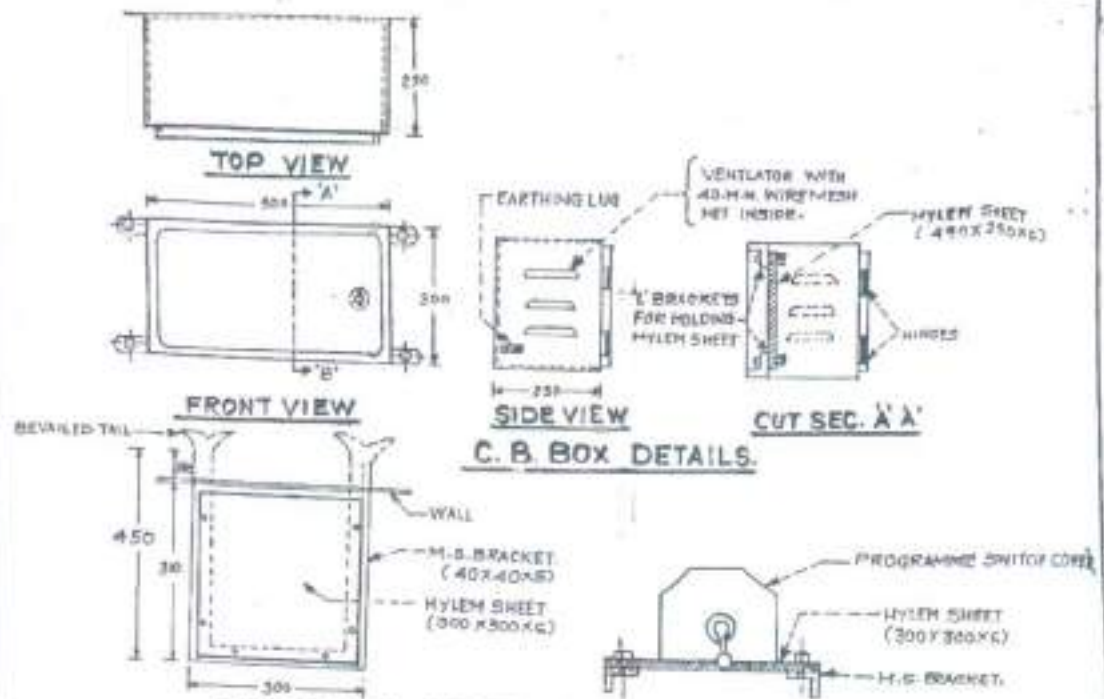
HOLE FOR FIXING BUS BAR STRIP

BUS BAR STRIP DETAILS (CHROME PLATED COPPER STRIP)

BY: CST/CON/100

DATE	POWER
17-11-95.	INTERU POWER SWITCH

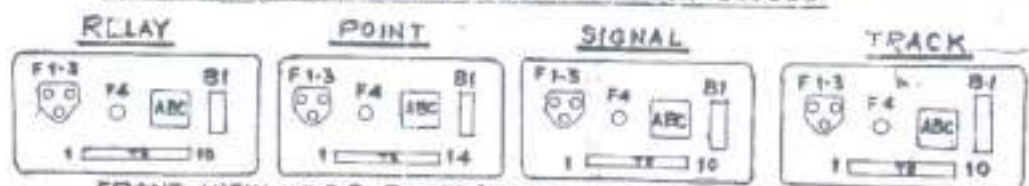
SIDE VIEW



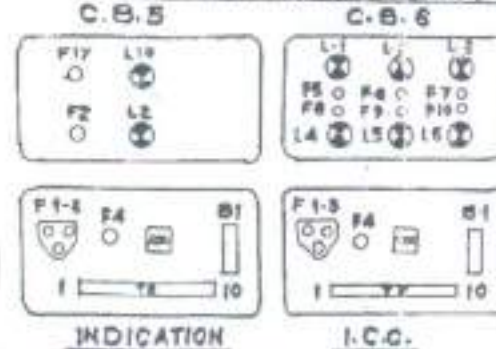
PROGRAMME SWITCH MOUNTING ARRANGEMENT



FRONT VIEW OF C.B. BOXES (C.B.) WITH DOOR CLOSED.



FRONT VIEW OF C.B. BOXES (C.B.) WITH DOOR OPENED.



NOTES:-

- 1) ENTIRE L.T. PANEL BODY SHALL BE FABRICATED FROM 14 SWG CRCA SHEET & SHALL BE POWDER COATED.
- 2) ALL INDICATION LAMP SHALL BE JUMBO LEDS.
- 3) ALL PROGRAMME SWITCHES SHALL BE PROVIDED WITH SUITABLE COVER MADE OF 16 SWG H.S. SHEET AND SHALL BE POWDER COATED.
- 4) ALL C.B. BOXES SHALL BE MADE OF 16 SWG H.S. SHEET & SHALL BE POWDER COATED.
- 5) TOTAL FUSES MAY BE SUITABLY ADJUSTED, IF REQUIRED.
- 6) ALL WIRING INSIDE AND OUTSIDE OF L.T. PANEL, C.B. BOXES, PROGRAMME SWITCHES ETC. SHALL BE DONE USING SUITABLE COPPER LUGS OF DOWELLS MAKE AND MULTISTRAND FLEXIBLE WIRE AS PER I.S. CODE OF DIT WITH LATEST AMENDMENTS OR APPROVED CORRESP.

lets assembled in the form of a stack.
C.B. 400x300x500 outside & 2 moving.

added 3 phase cams activated by spring
or make & break operation.

handle.

200 switching cycles per hour operation

sheet as per tag.

BY CST/CON/WB

DATE	POWER SUPPLY SCHEME FOR R.R.I. / PANEL INTERLOCKING INCLUDING L.T. POWER PANEL, POWER SUPPLY EQUIPMENTS, PROGRAMME SWITCHES ETC. (440V, 3 PHASE)	CENTRAL RLY (S&T)	DRAWING NO
17-11-95.		D.S.T.E (C)'N' DR.	R-ST/C/106
			SHEET NO. 1
			TOTAL NO. 6

EMERGENCY)

MAIN SUPPLY III (MSTB)

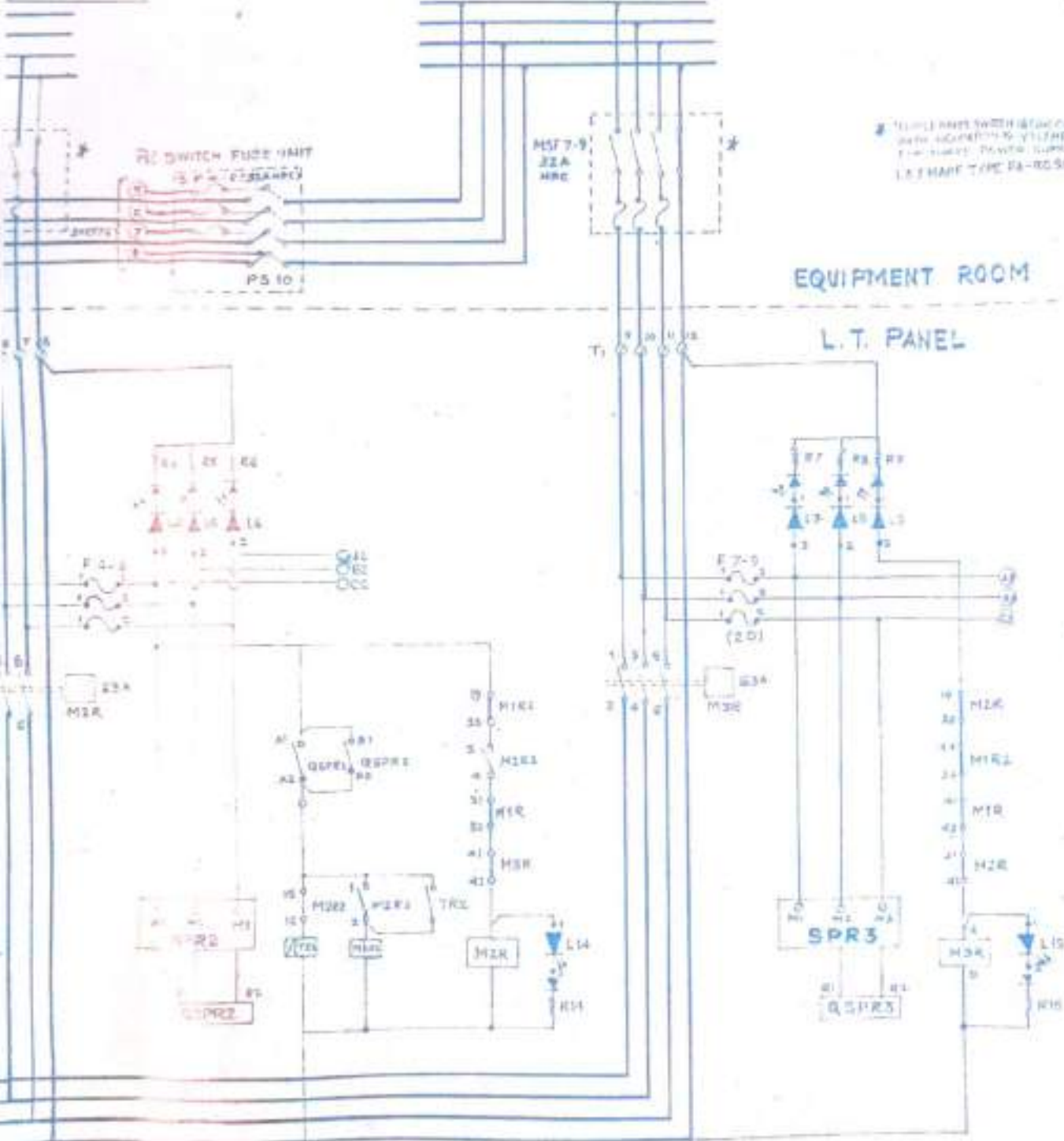
RE SWITCH FUSE UNIT
(5 P.W. 175A/100V)

MSTB-9
32A
MRE

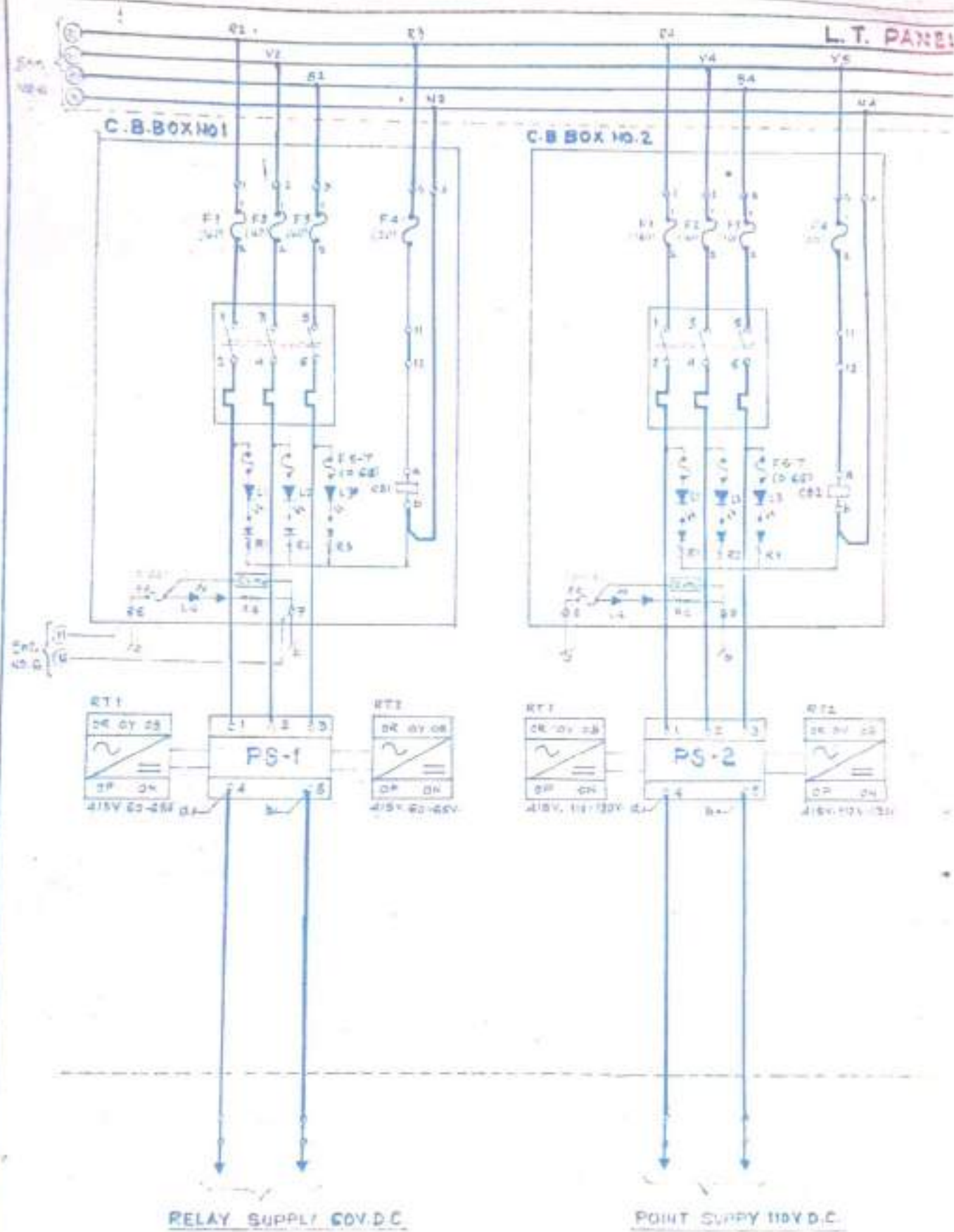
* TYPICAL SWITCH (SEE COMMENT)
WITH 400V/100V VOLTAGE
TRANSFORMER. POWER SUPPLY
L.E.T. HART TYPE PA-RO 500A.

EQUIPMENT ROOM

L.T. PANEL



DATE	POWER SUPPLY SCHEME FOR R.R.I./ PANEL INTERLOCKING INCLUDING L.T. POWER PANEL POWER SUPPLY EQUIPMENTS, PROGRAMME SWITCHES ETC. (440V. 3 PHASE).	CENTRAL R.R.I. (SET) D.S.T.E.C. (NOR)	DRAWING NO. R-ST/C/106	SHEET NO. 3	NO. OF SHEETS 6
17-11-95.					



PANEL

C.B. BOX NO. 3.

L.T. PANEL

EQUIPMENT ROOM

SIGNAL SUPPLY
3 ϕ 110V/130V.

POWER SUPPLY SCHEME FOR R.R.I/ PANEL
INTERLOCKING INCLUDING L.T. POWER PANEL,
POWER SUPPLY EQUIPMENTS, PROGRAMME
SWITCHES ETC, (440V. 3 PHASE)

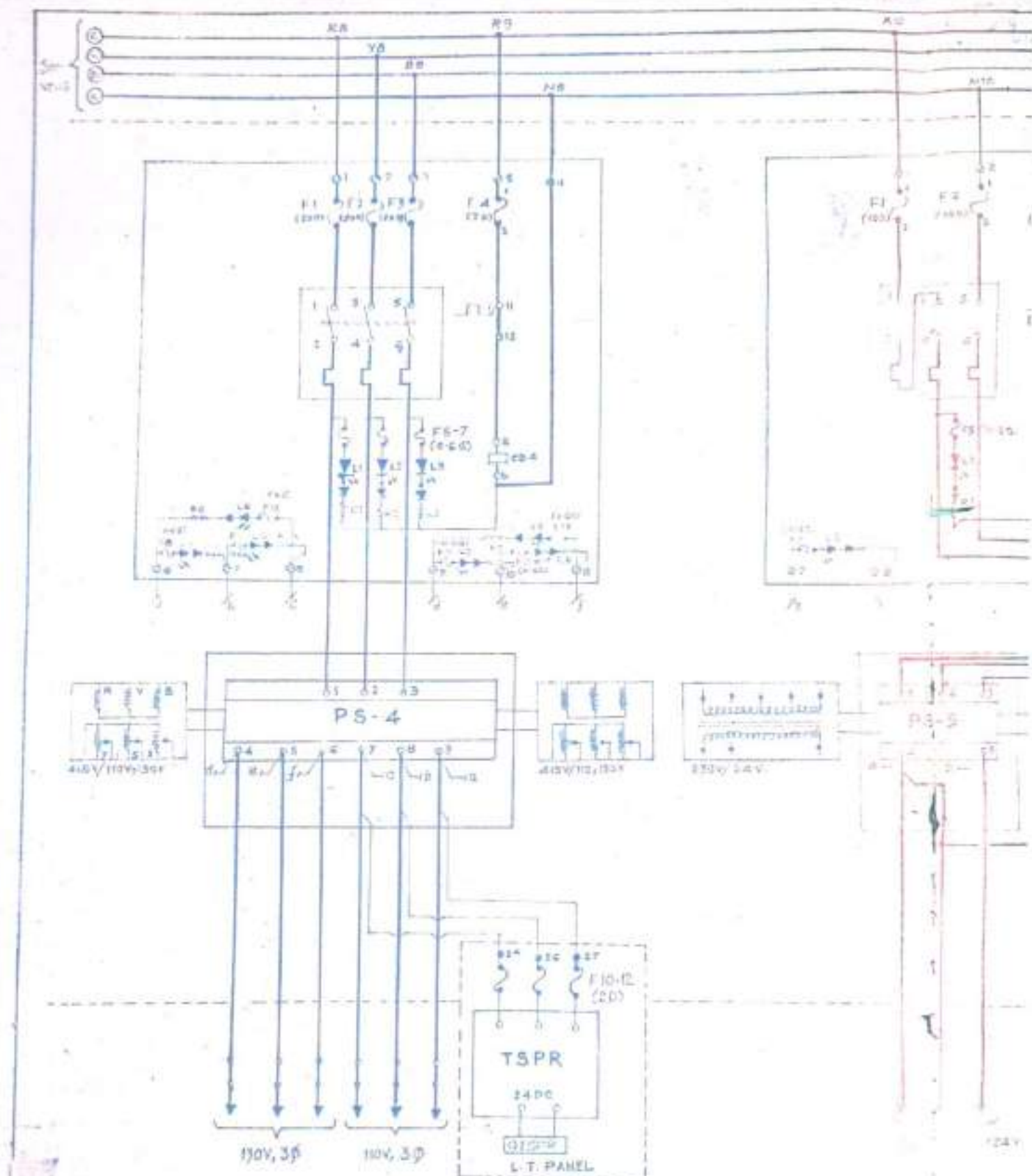
CENTRAL RLY (SAT)

DRAWING NO.

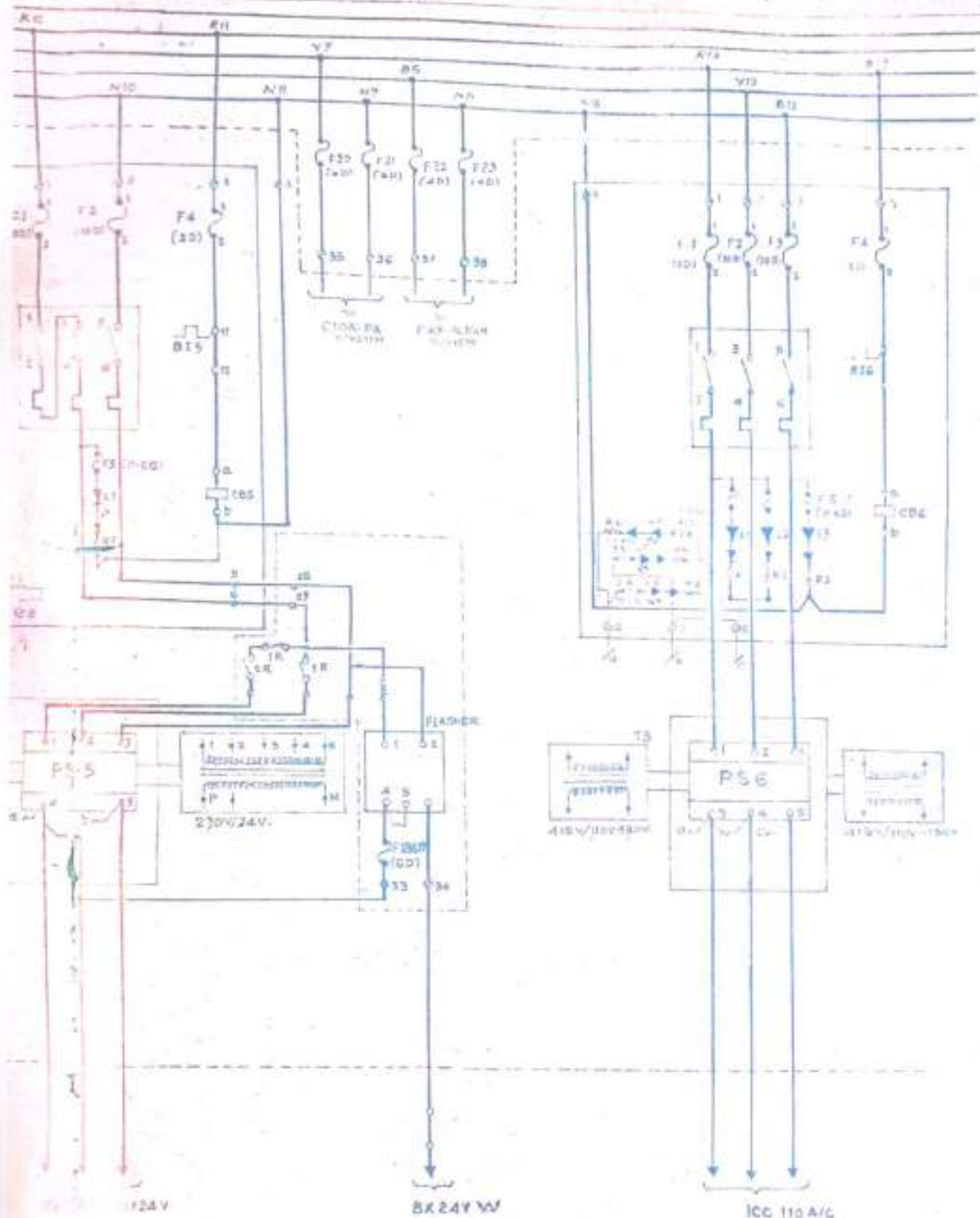
D.S.T.E.(G) N'DR.

R-ST/C/106

SHEET NO. 4
NO. OF SHEETS 6

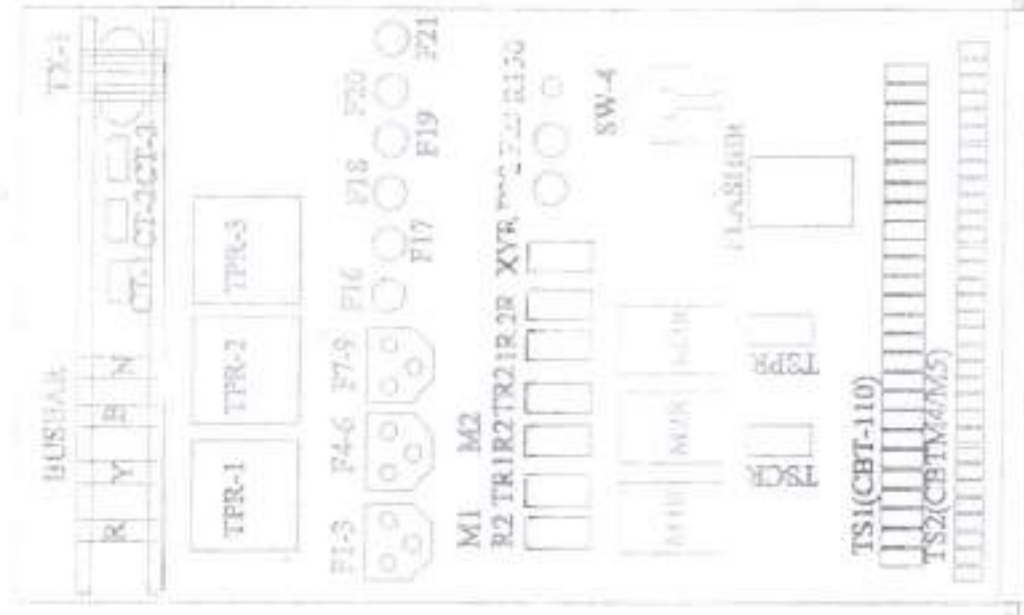


TRACK CIRCUIT SUPPLY 3 ϕ 110V. 130 A/C.



PANEL INDICATION SUPPLY 24V A.C.

75	POWER SUPPLY SCHEME FOR R.R./PANEL INTERLOCKING INCLUDING L.T. POWER PANEL POWER SUPPLY EQUIPMENTS. PROGRAMME SWITCHES ETC. (440V. 3 PHASE)	CENTRAL RLY (SET) D.S.T.E. (C) N'DR.	DRAWING NO. R-ST/C/106	5 6
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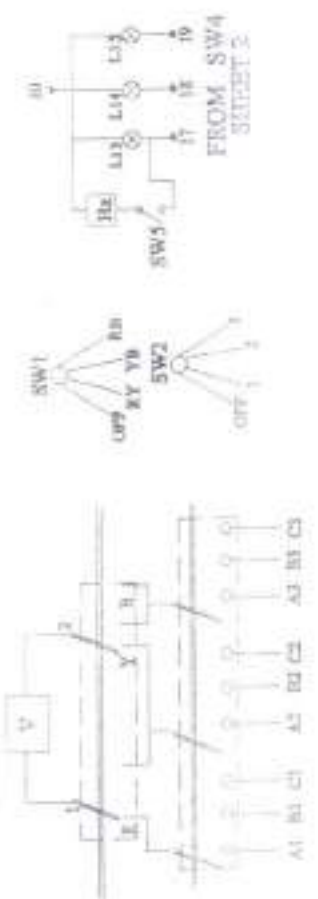
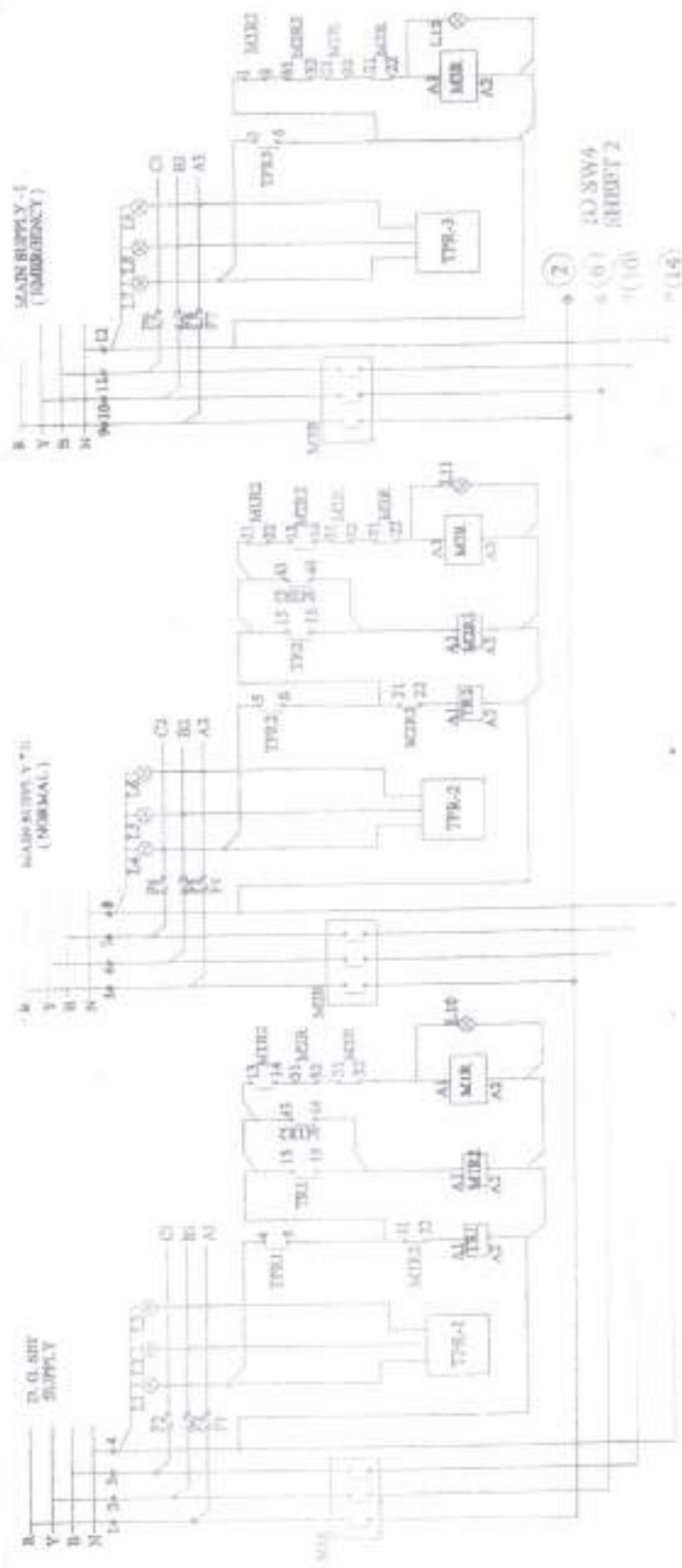
<i>Bipin</i> 02/2/21	<i>[Signature]</i> 02/2/21	<i>[Signature]</i> 02/03/21	<i>[Signature]</i> 02/2/21
SSE/DO	AESTE/HQ	ESTE/HQ STORE	DY.CSTE/HQ

SCHEMATIC DIAGRAM OF LOW TENSION
POWER PANEL (AUTO CHANGE OVER
SYSTEM)

DRAWING NO.

R-5T-11796/1
(IN FIVE SHEETS)

5401 Hg



W.P. 2/3/21

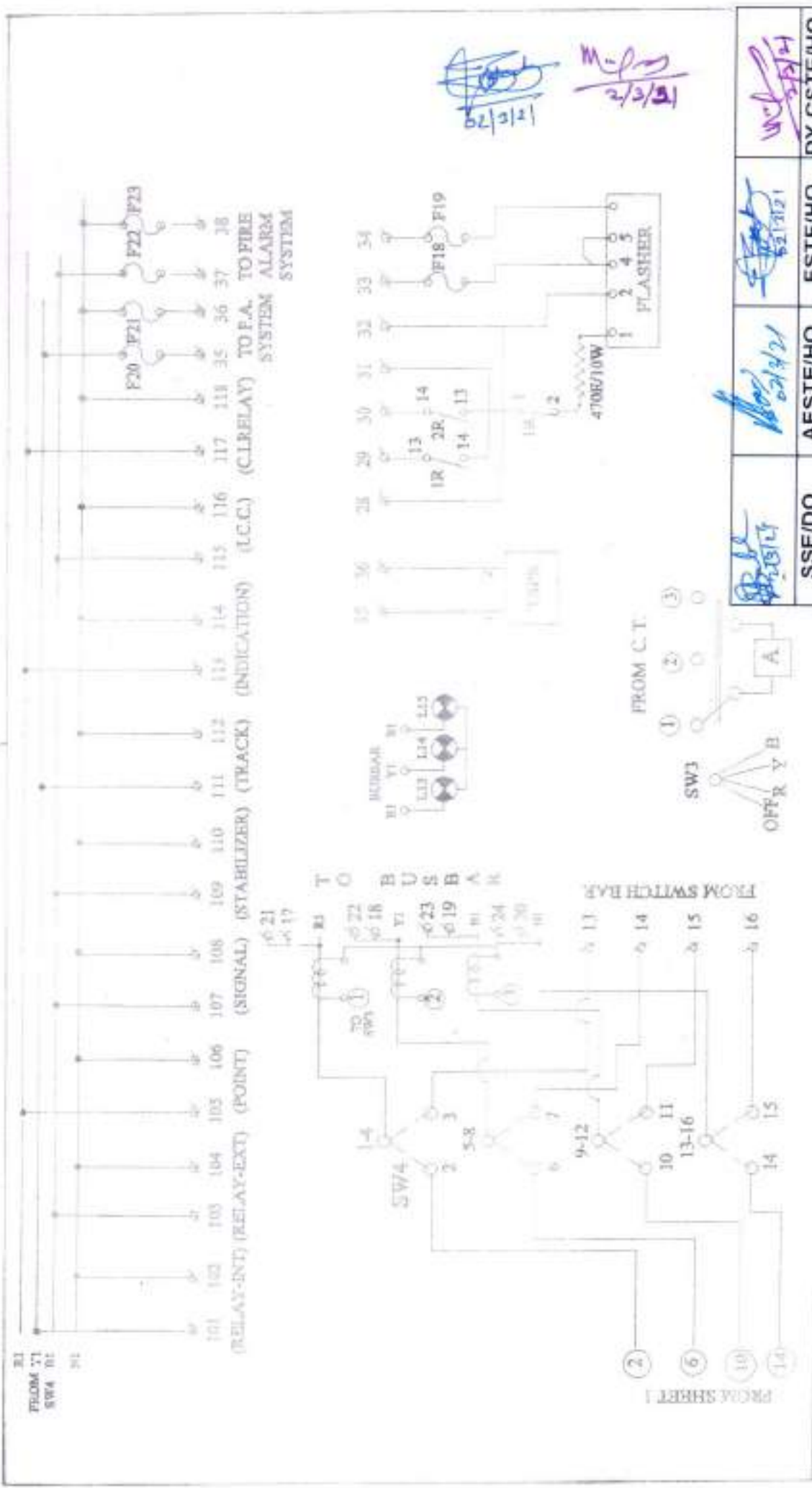
W.P. 2/3/21

SSE/DO	AESTE/HQ	ESTE/HQ	DY.CSTE/HQ
W.P. 2/3/21	W.P. 2/3/21	W.P. 2/3/21	W.P. 2/3/21
DRAWING NO.			
R-ST-11796/2			
(IN FIVE SHEETS)			
SH 2 OF 5			

DATE: 7/1/20

CENTRAL RLYCS & SYSTEM

CIRCUIT DIAGRAM FOR LT. PANEL



62/3/21
M. P. J.
2/3/21

SSE/DO	AESTE/HQ	ESTE/HQ	DY.CSTE/HQ
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
DATE	CENTRAL RLY C.S.T.M	DRAWING NO.	
7/4/04		R-ST-11796/3	
		(IN FIVE SHEETS)	

CIRCUIT DIAGRAM FOR L.T. PANEL

DETAILS OF MATERIAL REQUIRED FOR AUTO CHANGEOVER SYSTEM

NO	DRG. REF.	DESCRIPTION	QUANTITY	MAKE	QTY
1	1 TO 24	TERMINALS	114	114	24
2	28 TO 38 42 TO 58	TERMINALS	114	114	38
3	101 TO 110	TERMINALS	114	114	18
4	SW1 - SW2	POWER CONTACTOR	1	1	1
5	SW1 - SW2	MAIN CONTACTOR	1	1	2
6	TR - 2R	MAIN CONTACTOR	1	1	2
7		MAIN CONTACTOR (1 NC)	1	1	4
8		MAIN CONTACTOR (1 NC)	1	1	1
9	TR1 - TR2	ON DELAY TIMER	1	1	2
10	NVR	MAIN CONTACTOR	1	1	1
11	PR1	PUSH BUTTON FOR NVR	1	1	1
12	TR1 - TR2	ON DELAY TIMER (1 NC)	1	1	1
13	1.1, 1.2, 1.3	ON INDICATION	1	1	2
14	1.2, 1.3, 1.4, 1.5	ON INDICATION	1	1	4
15	1.3, 1.6, 1.9, 1.15	ON INDICATION	1	1	4
16	1.10 - 1.12	ON INDICATION	1	1	3
17	SW1	ON INDICATION (1 NC)	1	1	1
18	SW2	OFF INDICATION	1	1	1
19	SW3	AMMETER SELECTOR	1	1	1
20	SW4	AUTO MANUAL SWITCH	1	1	1
21	CT1 - CT3	CURRENT TRANSFORMER	1	1	1
22	V	VOLTMETER	1	1	1

CONT'D ON SH. 5

DETAILS OF MATERIAL REQUIRED FOR
AUTO CHANGEOVER SYSTEM

DATE 2/4/04 CENTRAL RLYCS & T&E DRAWING NO.

R-ST-11796/4
(IN FIVE SHEETS)

SH. 4 OF 5

SSE/DO

AESTE/HQ

ESTE/HQ

DY.CSTE/HQ

STORE

NO	DRG. REF.	DESCRIPTION	RATING / CAPACITY	MAKE	QTY
23	A	AMMETER	50 A / 5 A CTR.	BEEMET	1
24	HZ	FREQUENCY METER	50 Hz - 55 Hz	BEEMET	1
25	T.N.1	INTENSITY CONTROL TRANSFORMER	230 V / 20-22-24 V - 500 VA	GALC	1
26	F1-3,14-6,F7-9	CONTROL FUSES	20A TP FUSEBASE	BL	3
27	F1-9	FUSE	2A FUSE	BL	9
28	F16 - F23	FUSE	20A SP FUSEBASE	BL	8
29	F17	FUSE	2A FUSE	BL	1
30	F16,22,23	FUSE	4A FUSE	BL	3
31	F18,19,20,21	FUSE	6A FUSE	BL	4
32					

8/1/21	12/13/21	12/13/21	12/13/21
SSE/DO	AESTE/HQ	ESTE/HQ	DY.CSTE/HQ

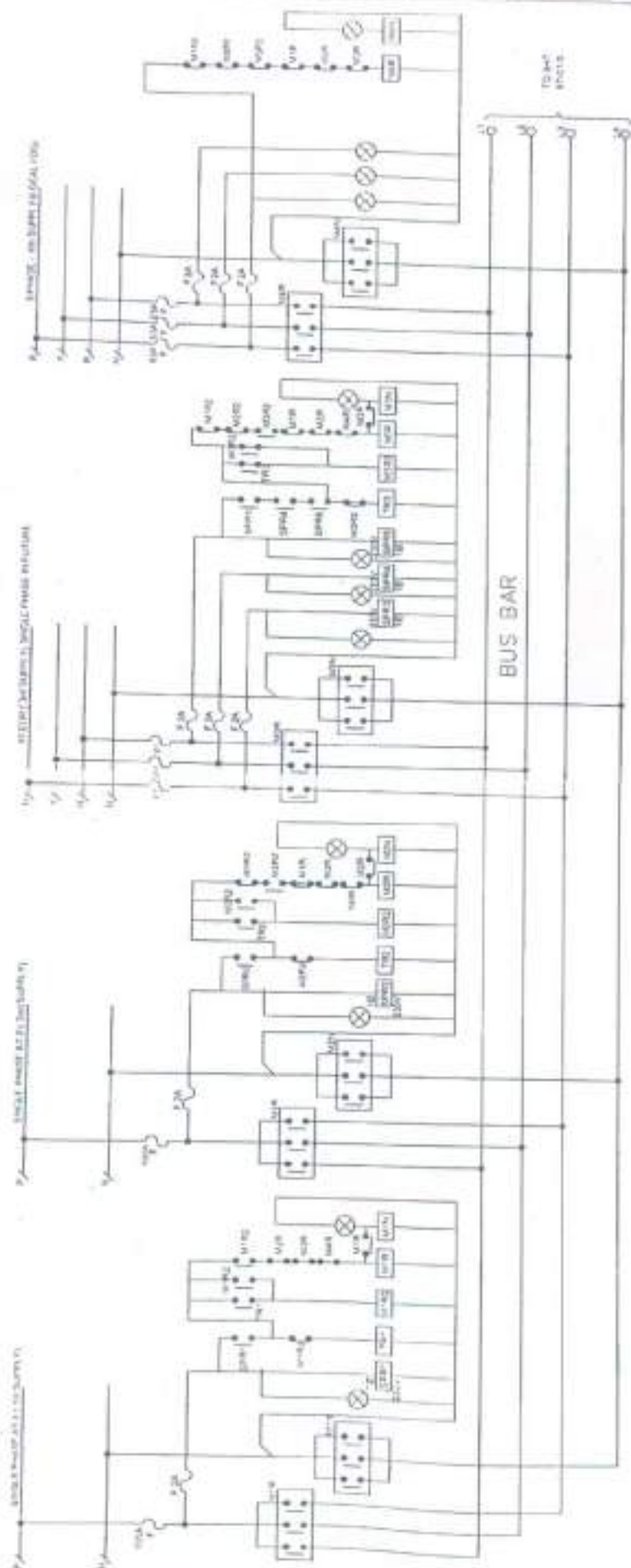
DATE CENTRAL RLY(S&T) CSTM DRAWING NO.

7/4/04

R-ST-11796/5

(IN FIVE SHEETS)

L.T. PANEL WIRING DIAGRAM FOR 3 SUPPLY

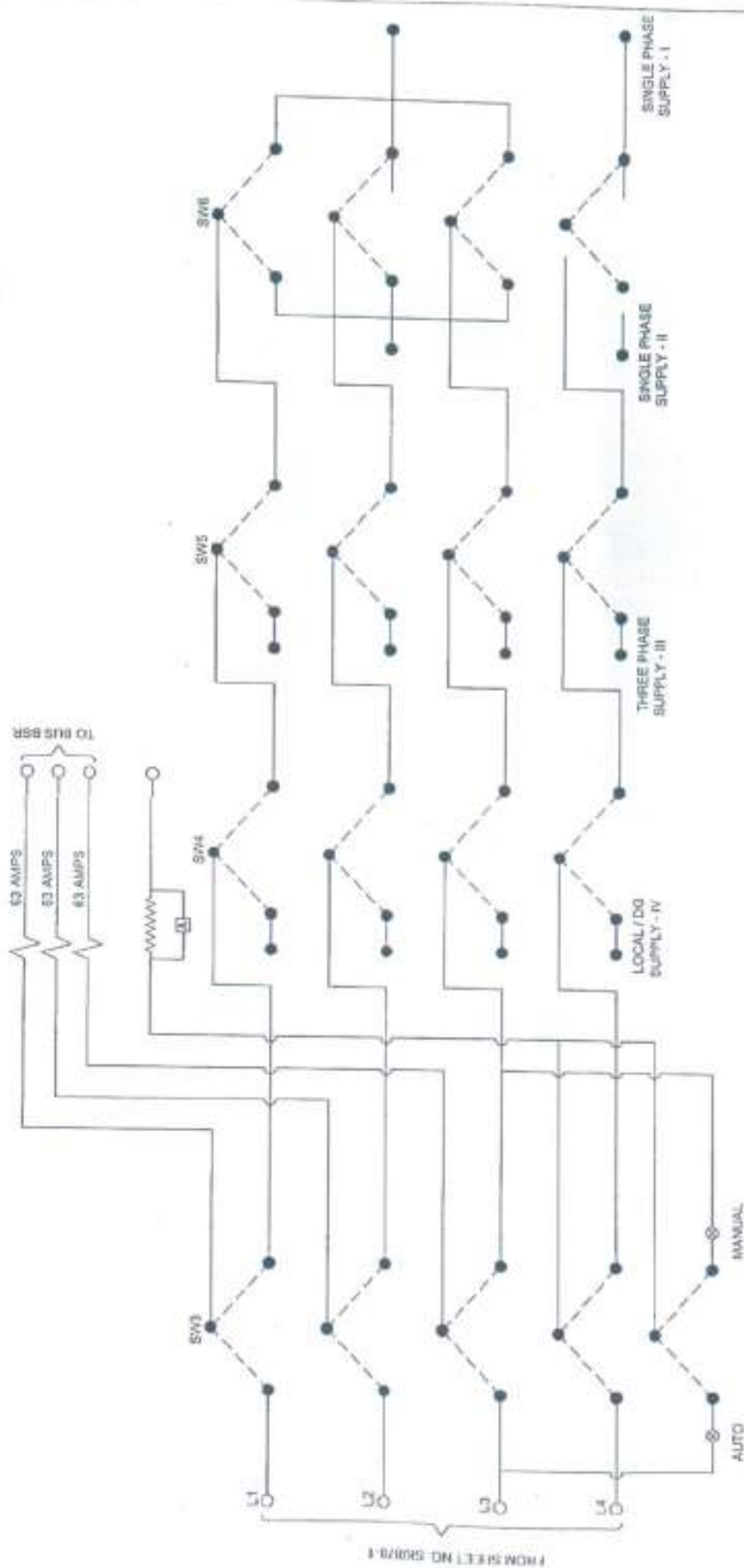


NOTE: Minor alterations may have to be carried out by contractor as per instruction of Engineer in charge at any stage before 250V charging of section.
 * 63 Amps Fuse with 100 Amps fuse carrier

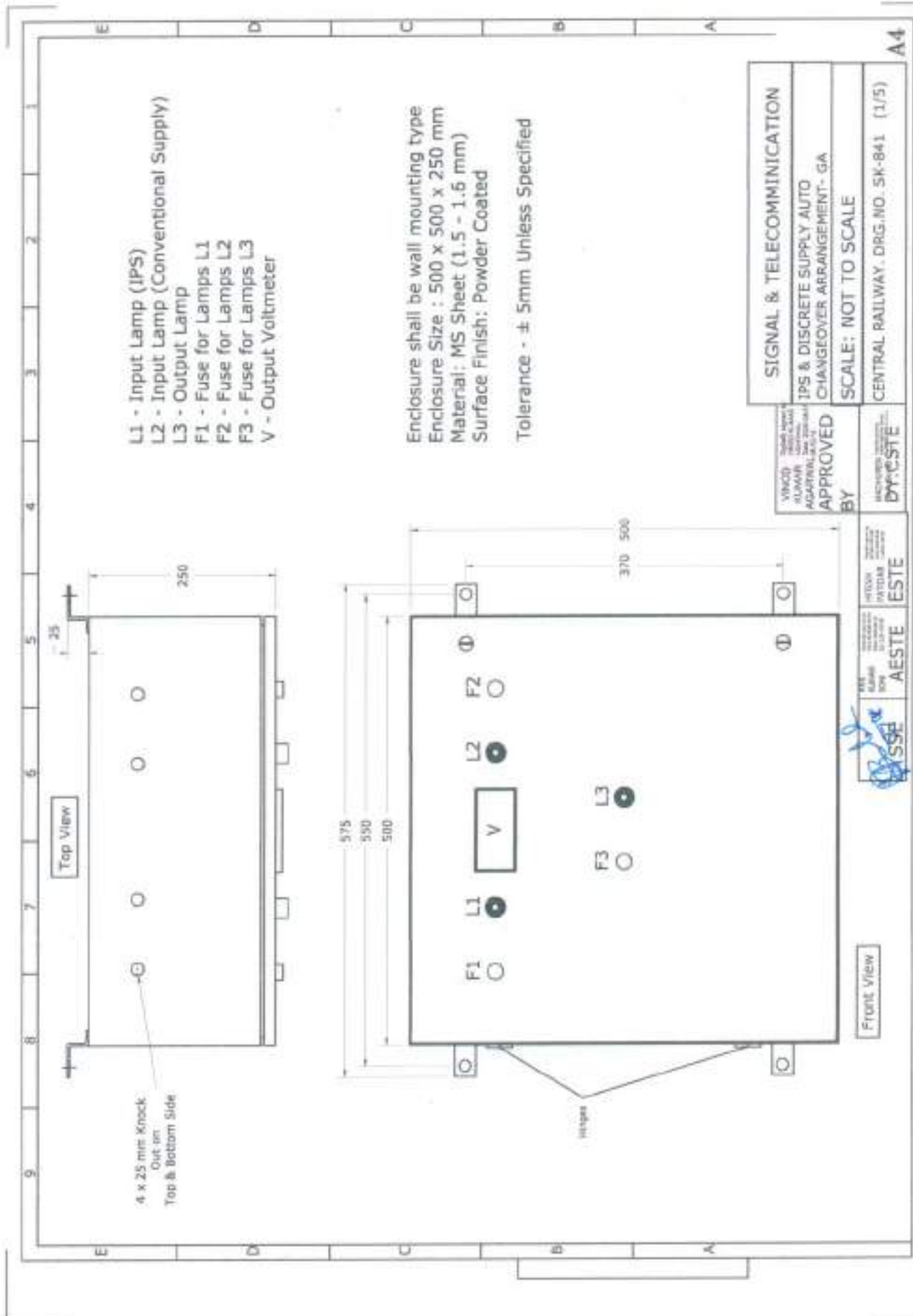
S.N.	DESCRIPTION	LTR-1
1	WTR, NGR, M3R, M1N, M2N, M3N	150 Amps or 200 Amps.
1A	NAR, N4N	63 Amps.
2	AUTO MANUAL PROGRAMME SWITCH	7 PACKETS 63 Amps. I
3	INTERNAL POWER SUPPLY WIRING	25 sq mm
4	INPUT FUSE (THREE SUPPLY)	100A
5	M1R2, M2R3, M3R2, M4N, COMF	10A
6	TR1, TR2, TR3, TR4 (RELAY FUSE)	2000A/5 Sec. to 60 Sec.
7	SPR1, SPR2, SPR3, SPR4, SPR5	200V Single Phase (5'x10')
8	Signal Fuses (4 Nos.)	100A with fusing arrangement

DRAWN BY: DT	CHECKED BY DT	APPROVED DT	CENTRAL RAILWAY SIGNAL & TELECOMMUNICATION	
SSE/DO	AEST/DO	EST/DO	L.T. PANEL WIRING DIAGRAM 3 - SUPPLY	
			DRG NO. SW/870	SHEET 1

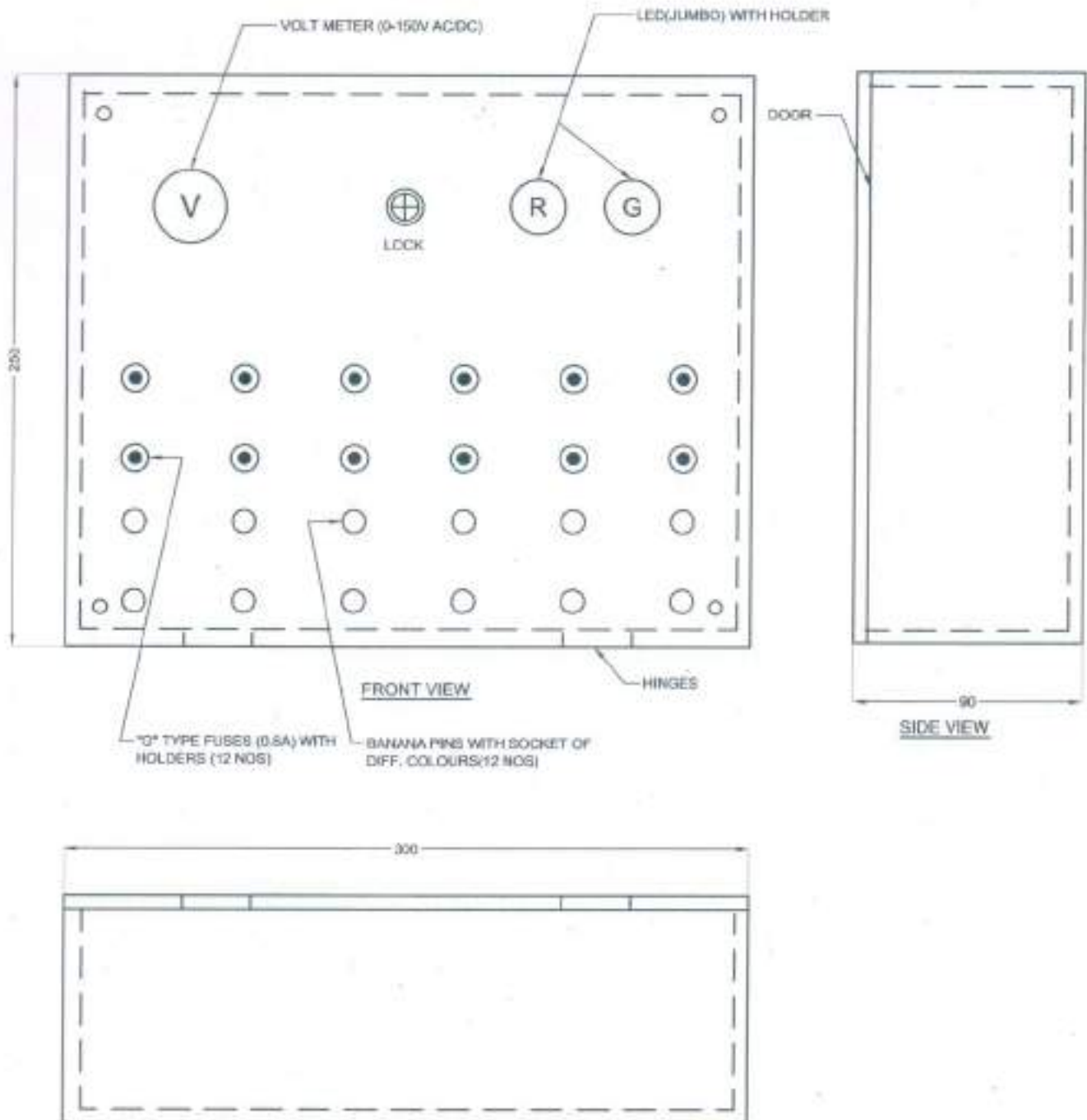
L.T. PANEL WIRING DIAGRAM FOR 3 SUPPLY



DRAWN BY DT.	CHECKED BY DT.	CHECKED BY DT.	APPROVED DT.	CENTRAL RAILWAY SIGNAL & TELECOMMUNICATION	
<i>[Signature]</i> 02/03/21	<i>[Signature]</i> 02/03/21	<i>[Signature]</i> 02/03/21	<i>[Signature]</i> 02/03/21	PROGRAMME SWITCH WIRING DIAGRAM FOR L T PANEL 3 - SUPPLY	
SSE/DO	AESTE/HQ.	ESTE/HQ. / <i>[Signature]</i>	DT. C.S.T.E. HQ.	DRG NO. SK/870	SHEET 2



TEST BOARD



NOTE>

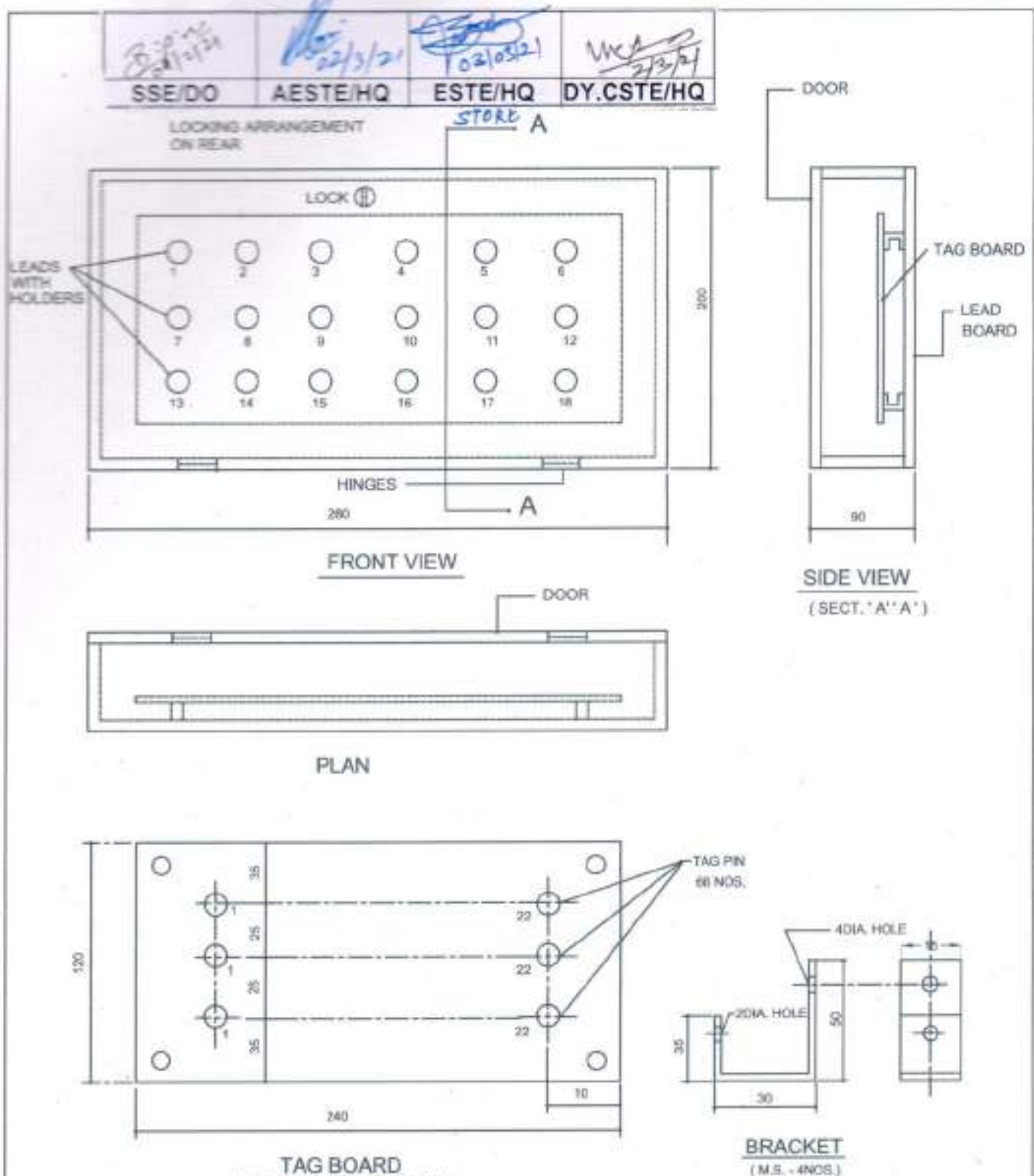
PLAN

- (1) ALL DIMENSIONS ARE IN MM.
- (2) FRONT BOARD & DOOR SHALL BE MADE FROM FORMICA SHEET (3 M.M. THICK) OF WHITE COLOUR.
- (3) BOX FRAME SHOULD BE MADE FROM 10 M.M. THICK HYLEM SHEET.

<i>B. J. 12/21</i>	<i>02/3/21</i>	<i>03/03/21</i>	<i>11/3/21</i>
SSE/DO	AESTE/HQ	ESTE/HQ	DY.CSTE/HQ

97026

CENTRAL RAILWAY (S & T)
TEST BOARD
DRG. NO. - R-ST/105A 01/01



NOTE :-

TAG BOARD
 (HYLAM SHEET 2mm THICK)

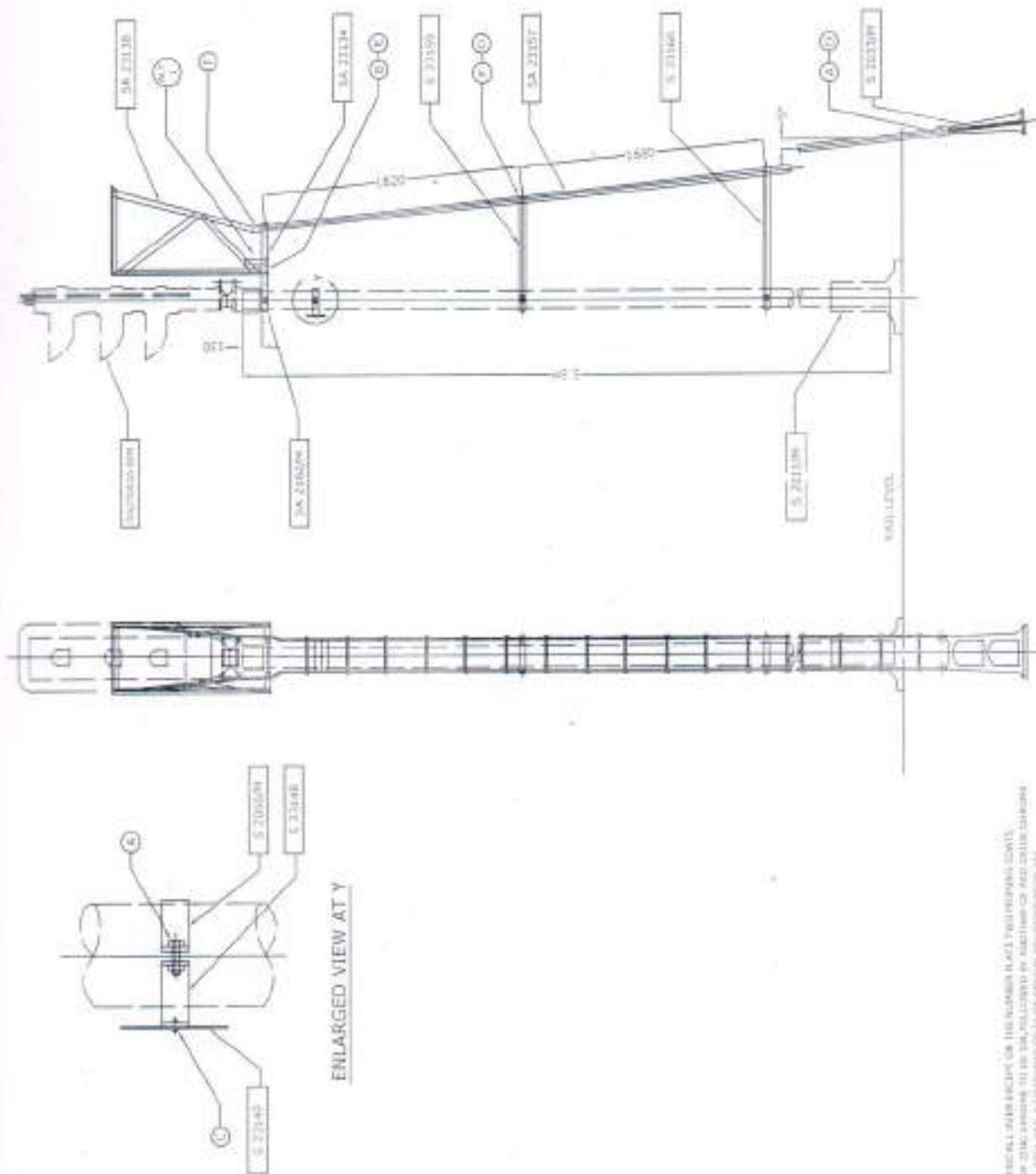
- (1) ALL DIMENSIONS ARE IN MM.
 (2) LED BOARD & DOOR SHALL BE MADE OF FORMICA SHEET (3mm THICK) OF WHITE COLOUR
 (3) BOX FRAME SHOULD BE MADE FROM 10 M.M. THICK HYLAM SHEET.
 (4) LED PERTICULARS (18 NOS.)
 1. GNCR.... GREEN
 2. UNCR.... GREEN
 3. WNCR.... GREEN
 4. AUZICR.... GREEN
 5. CHYNCR.... GREEN
 6. WNCR.... GREEN
 7. MN GNPR.... RED
 8. Z1UR.... RED
 9. GZR.... RED
 10. ZDUCR.... RED
 11. SHGZR.... RED
 12. SHGNPR.... RED
 13. EUUYNR.... WHITE/PINK
 14. EUUYNCR.... WHITE/PINK
 15. EUUYNR.... WHITE/PINK
 16. EUYR.... WHITE/PINK
 17. EUYNR.... WHITE/PINK
 18. WNPRL.... WHITE/PINK
 (5) DIODES (13 Nos) NO. 4007
 (6) RESISTANCES (17 NOS) 1K 0.5 W AND RESISTANCES (18 NO) 10 K 0.5 W.

RETRACED FROM EXISTING DRG. NO.-R.ST./C/105/B
 DRAWING IN ONE SHEETS.

CENTRAL RAILWAY (S & T)
 CIRCUIT PROGRESSING
 BOARD

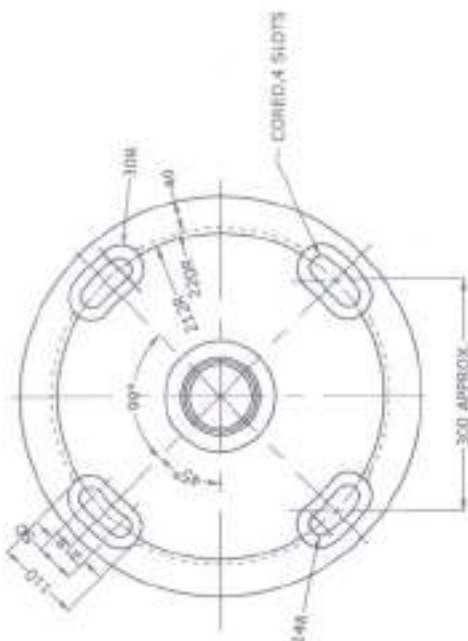
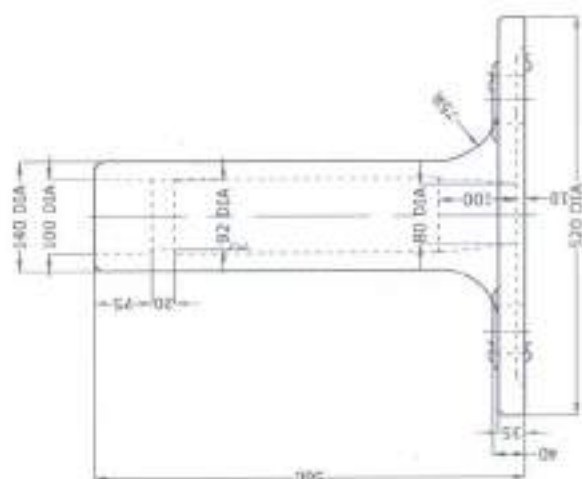
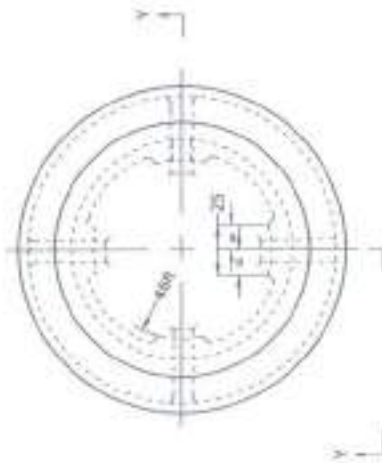
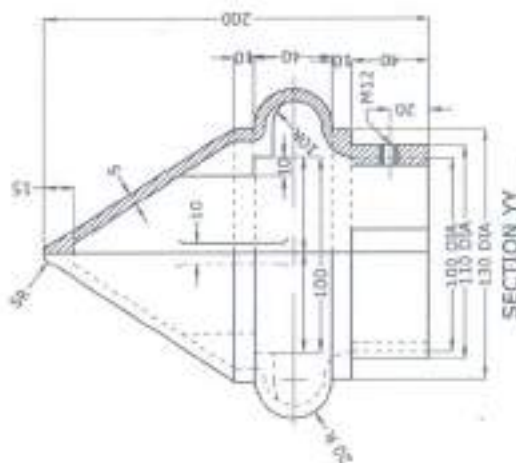
DRG. NO. - R.ST./C/105/B

DRG. NO. - R.ST./C/105/B 01/01



ENLARGED VIEW AT Y

1. PROVIDE ALL DIMENSIONS FOR THE NUMBER PLATE (SA 2313B) AND THE NUMBER PLATE (SA 2313A) AND THE NUMBER PLATE (SA 2313C) AND THE NUMBER PLATE (SA 2313D) AND THE NUMBER PLATE (SA 2313E) AND THE NUMBER PLATE (SA 2313F) AND THE NUMBER PLATE (SA 2313G) AND THE NUMBER PLATE (SA 2313H) AND THE NUMBER PLATE (SA 2313I) AND THE NUMBER PLATE (SA 2313J) AND THE NUMBER PLATE (SA 2313K) AND THE NUMBER PLATE (SA 2313L) AND THE NUMBER PLATE (SA 2313M) AND THE NUMBER PLATE (SA 2313N) AND THE NUMBER PLATE (SA 2313O) AND THE NUMBER PLATE (SA 2313P) AND THE NUMBER PLATE (SA 2313Q) AND THE NUMBER PLATE (SA 2313R) AND THE NUMBER PLATE (SA 2313S) AND THE NUMBER PLATE (



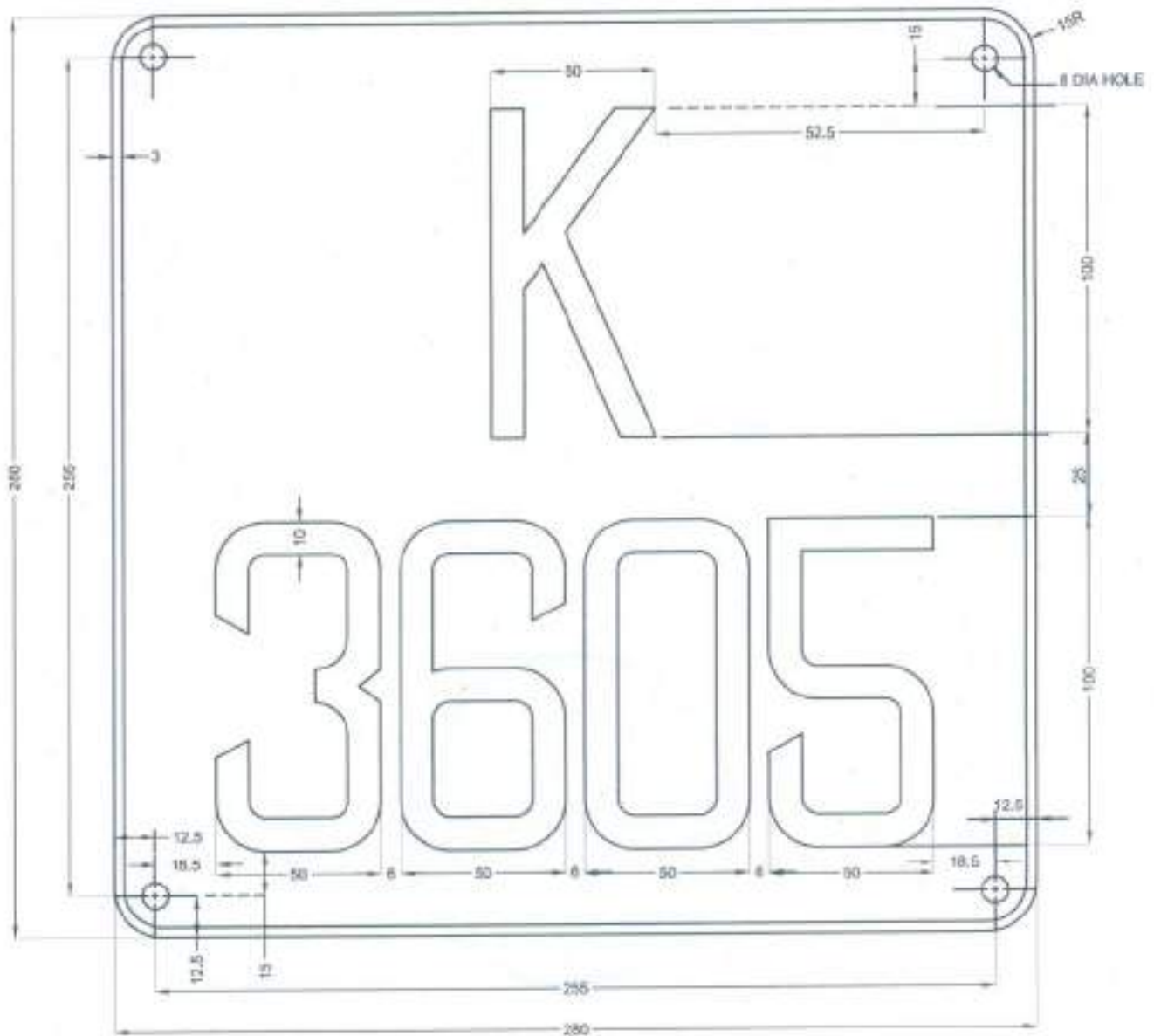
1	FIGING ARRANGEMENT FOR ELECTRIC SHUNTINGS PERMITTED INDICATOR	SA 345-00
FIG. NO.	DESCRIPTION	NO.
OFF	FOR ASSEMBLY	
R. D. S. O.		
FIGING ARRANGEMENT FOR ELECTRIC SHUNTINGS PERMITTED INDICATOR - POLE BASE (FOR 90 DIA POST)		
ISSUED	9-12-81	ADVANCE
S 24610		(AV 1)

1	ROOM ATTACHMENT FOR ELECTRIC SHUNTING PERMITTED INDICATOR	SR 24608
NO.	DESCRIPTION	QTY.
OFF	FOR ASSEMBLY	
R. D. S. O.		
FIXING ARRANGEMENT FOR ELECTRIC SHUNTING PERMITTED INDICATOR - PINNACLE (FOR 93 DIA. POST)		
ISSUED BY	DATE	QTY.
24608	10-12-81	ADVANCE
S 24611		QTY.

<p>PAINTED ALL OVER EXCEPT ON WORKING SURFACES WITH TWO PRIMING COATS, ONE OF ZINC CHROMATE TO 15:104-76, FOLLOWED BY ANOTHER OF RED OXIDE-ZINC CHROME TO 15:107-62 AND A FINISHING COAT OF DEAD BLACK PAINT TO 15:134-50.</p> <p>DRESSED SMOOTH ALL OVER.</p> <p>ANGULAR DIMENSIONS SHALL NOT DEVIATE BY MORE THAN 1°</p> <p>ALL DIMENSIONS SHALL BE WITHIN ±0.0005 UNLESS OTHERWISE SPECIFIED</p> <p>ALL DIMENSIONS IN MILLIMETRES.</p>	<p>MATL</p> <p>CAST IRON</p> <p>GRADE TO 100</p> <p>25:210-78</p>	<p>DESCRIPTION</p>	<p>DATE</p>
	<p>SPEC</p> <p>105-510-78</p> <p>WILLIMETRES</p> <p>10 0 50 100</p> <p>SCALE</p> <p>10 0 50 100</p> <p>NO NOT SCALE</p>		

1	ROOM ATTACHMENT FOR ELECTRIC SHUNTING PERMITTED INDICATOR	SR 24608
NO.	DESCRIPTION	QTY.
OFF	FOR ASSEMBLY	
R. D. S. O.		
FIXING ARRANGEMENT FOR ELECTRIC SHUNTING PERMITTED INDICATOR - PINNACLE (FOR 93 DIA. POST)		
ISSUED BY	DATE	QTY.
24608	10-12-81	ADVANCE
S 24611		QTY.

NUMBER PLATE



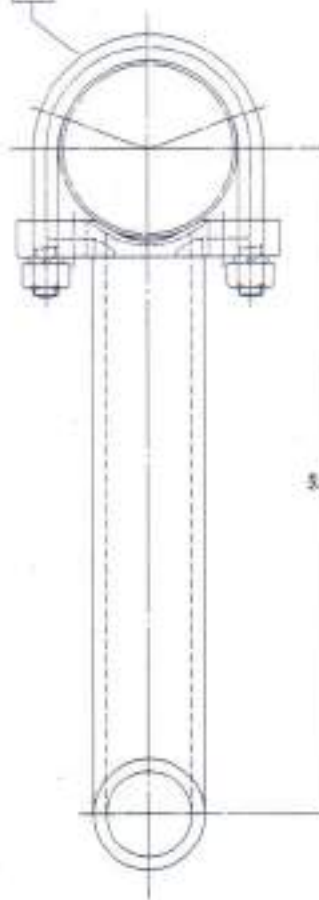
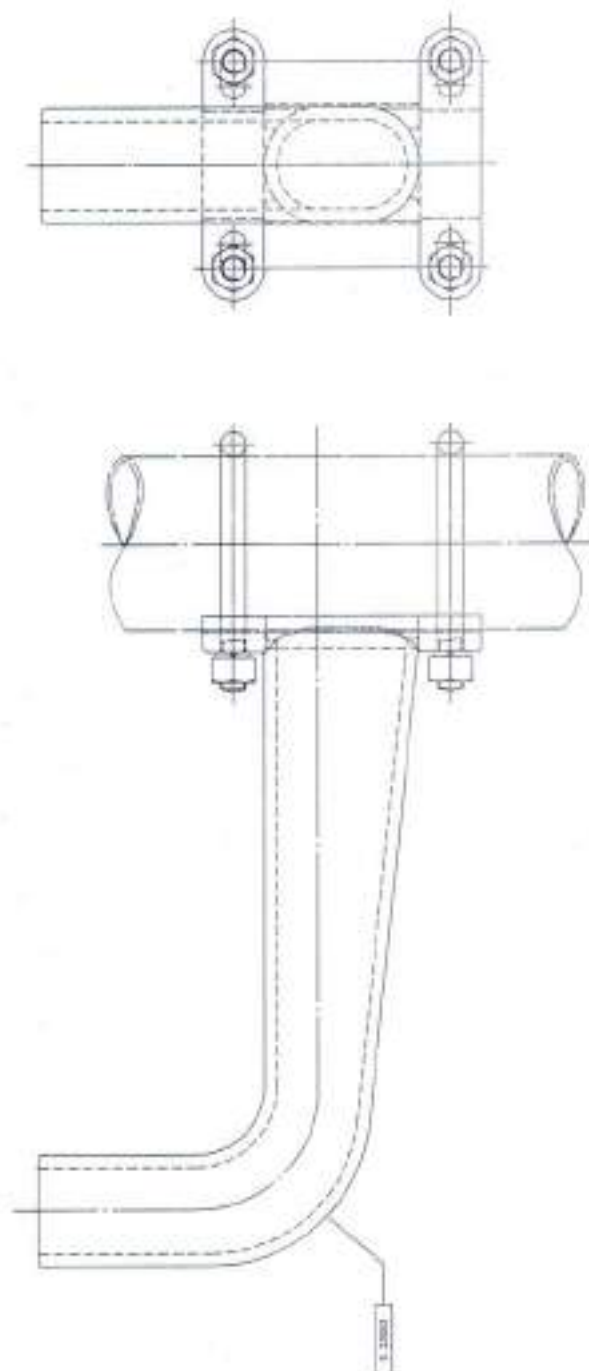
NOTE :-

- (1) PLATES SHALL BE MADE OF OPEN HEARTH ENAMELLING STEEL OR ARMCO INCOOT IRON ENAMELLED WITH NOT LESS THAN THREE(3) COATS OF VITREOUS ENAMEL.
- (2) PLATES TO HAVE YELLOW FACE WITH BLACK BORDER AND BLACK LETTERS AND FIGURES.
- (3) BACK OF PLATES TO BE BLACK.
- (4) THE LETTERS AND FIGURES SHOWN ARE ONLY TYPICAL LETTERS AND FIGURES REQUIRED FOR EACH PLATE SHOULD BE OBTAINED BY THE CONTRACTOR FROM Sr. DSTE /DY.CSTE.
- (5) EACH PLATE TO BE SUPPLIED WITH TWO BOLTS 624793 WITH NUTS FOUR WASHERS AND FOUR CORK WASHERS.
- (6) IN ALL CASES 15mm SPACE MUST BE LEFT BETWEEN THE LETTER AND ADJACENT FIGURE ON RIGHT OF IT.
- (7) THICKNESS OF PLATE IS 3mm / 11 SWG.

NOT TO SCALE
ALL DIMENSIONS IN mm.
RETRACED FROM EXISTING DRG. NO.-RST-11393
DRAWING IN ONE SHEETS.

APPROVED
BY
S.E.E.
S.Y.C.S.E.
S.E.E.
S.Y.C.S.E.
S.E.E.
S.Y.C.S.E.

CENTRAL RAILWAY (S & T)
ENAMELLED NUMBER PLATE.
DRG. NO.- S&T/C/SK/842 01/01



Income (\$)	For society (\$a, b)
10,000	100
50,000	500
100,000	1,000
500,000	5,000
1,000,000	10,000

[illegible]

270	100
260	100
250	100
240	100
230	100
220	100
210	100
200	100
190	100
180	100
170	100
160	100
150	100
140	100
130	100
120	100
110	100
100	100
90	100
80	100
70	100
60	100
50	100
40	100
30	100
20	100
10	100
0	100

Part No.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
100000	100000	1	UNIT	100000	100000
100001	100001	1	UNIT	100001	100001
100002	100002	1	UNIT	100002	100002
100003	100003	1	UNIT	100003	100003
100004	100004	1	UNIT	100004	100004
100005	100005	1	UNIT	100005	100005
100006	100006	1	UNIT	100006	100006
100007	100007	1	UNIT	100007	100007
100008	100008	1	UNIT	100008	100008
100009	100009	1	UNIT	100009	100009
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100013	100013	1	UNIT	100013	100013
100014	100014	1	UNIT	100014	100014
100015	100015	1	UNIT	100015	100015
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100018	100018	1	UNIT	100018	100018
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100020	100020	1	UNIT	100020	100020
100021	100021	1	UNIT	100021	100021
100022	100022	1	UNIT	100022	100022
100023	100023	1	UNIT	100023	100023
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100202	100202	1	UNIT	100202	100202
100203	100203	1	UNIT	100203	100203
100204	100204	1	UNIT	100204	100204
100205	100205	1	UNIT	10	

R. D. S. O.

SIGNAL BRACKET

COLOUR/POSITION LIGHT
[FOR 145 OUTSIDE DIA #027]

10.8.22	10.8.22
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SA 23080-09

100

[illegible]

10

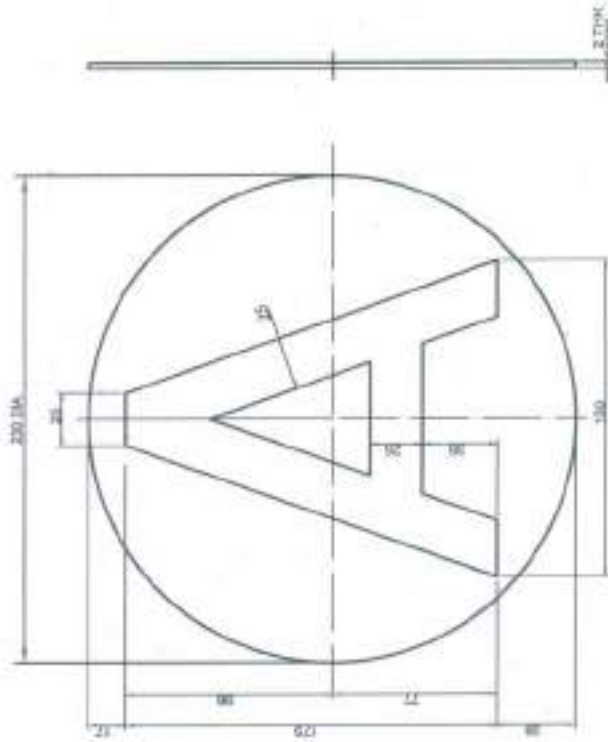
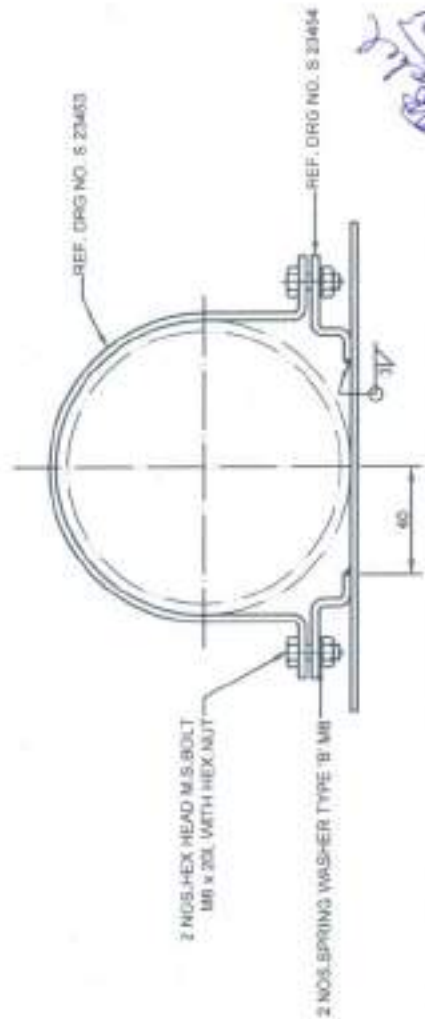
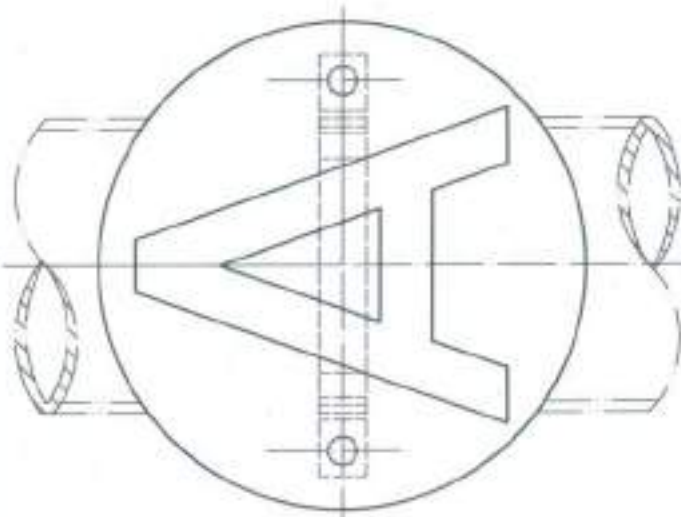
PLATE 1	PLATE 2
---------	---------

1000

NAME: P. H. H. H.

10/10/2018

My 10th grade science teacher



FRONT - VITREOUS ENAMELLED WHITE
(MINIMUM 2 COATS) WITH LETTER 'A'
ENAMELLED BLACK

BACK - ENAMELLED BLACK

NOTES:

- 1) ALL DIMENSIONS IN MILLIMETRES.
- 2) ALL DIMENSIONS SHALL BE WITHIN ± 0.3 UNLESS OTHERWISE SPECIFIED.
- 3) DISC SHALL BE ENAMELLED TO (RES 510 AFTER WELDING STRIPS) 204541
- 4) THIS DRG. IS AS PER ISO DRAWING OF "PARKER (NON-ILLUMINATED) DISC"

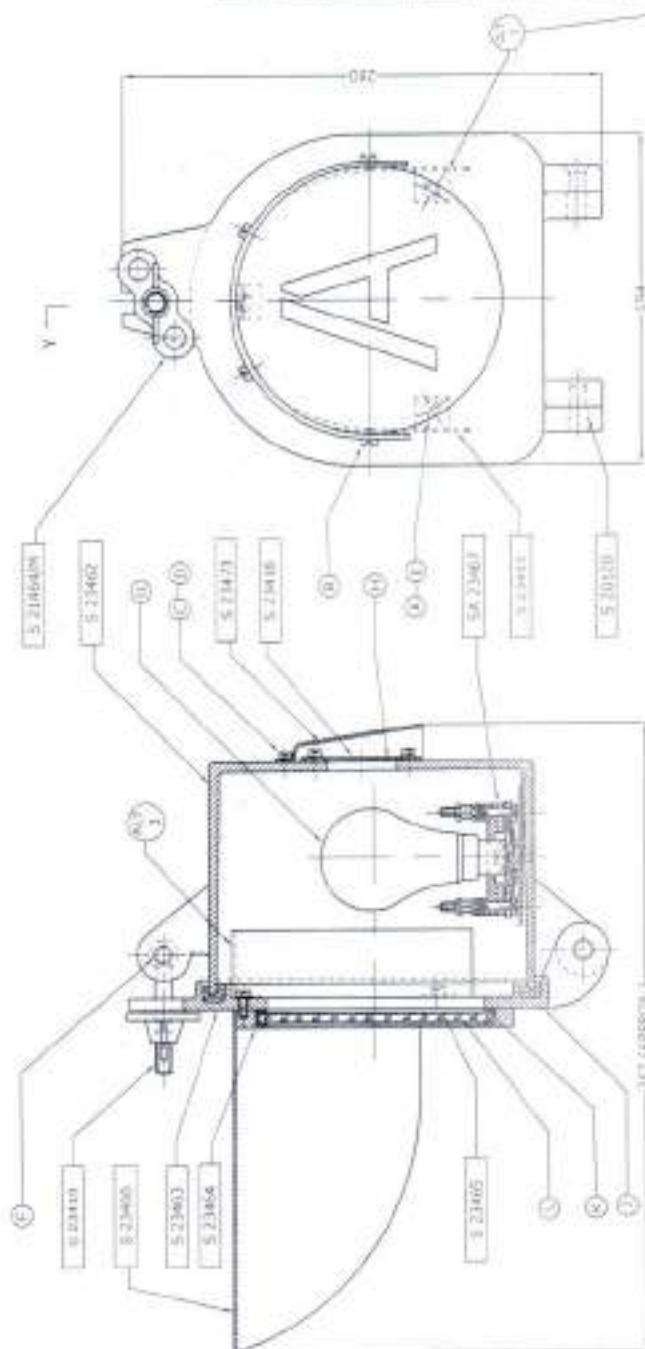
'A' MARKER
(NON-ILLUMINATED) DISC

DATE /	CENTRAL RLY 6MT CSTM	DRAWING NO.
--------	----------------------	-------------

CENTRAL RLY SAT CSTN

DRAWING NO.

R-ST-11444/1

[illegible]A' MARKER
(ILLUMINATED)

R.	D.	S.	O.
----	----	----	----

SA 23461

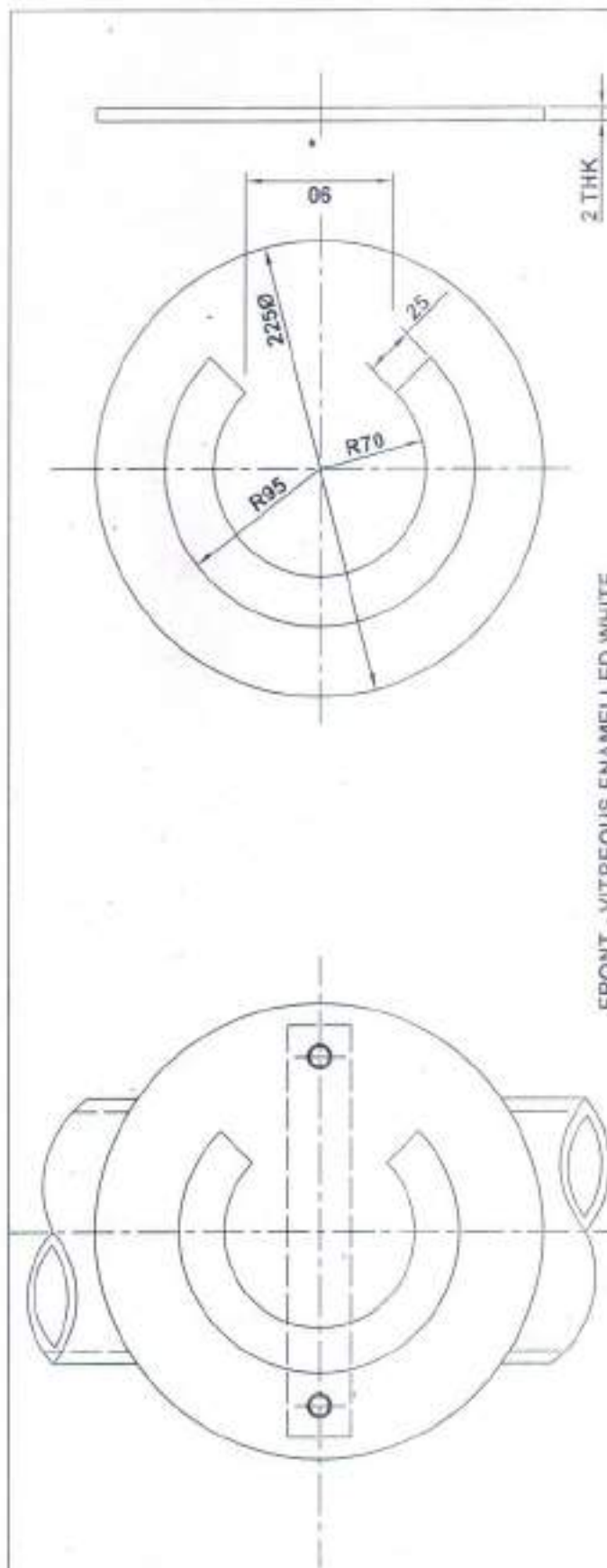
SITEC	Utz: 8 23	3	LANDS ACQUIRED VIEWS ADJACENT	1.76
SOLE	10 18 20 40 80 100 200 500	2	PLANTED & WEATHER	0.8-11
		411	DISCRIPTION	0.8-11

2. FISHING ARRANGEMENTS SHALL BE AS PER DRAWING NO. EA-23474.
3. ALL DIMENSIONS IN MILLIMETRES.

NOTE

2. FÜR DAS ANFANGSSTÜCK SOLL DIE AB NACH DRÄHTUNG DES EA 23474.
1. ALL. DIMENSIONEN IN MILLIMETER.

Note



FRONT - VITREOUS ENAMELLED WHITE
(MINIMUM 2 COATS) WITH LETTER 'C'
ENAMELLED BLACK.

BACK - ENAMELLED BLACK

NOTES -

- 1) ALL DIMENSIONS IN MILLIMETERS.
- 2) ALL DIMENSIONS SHALL BE WITHIN ± 1.0 UNLESS OTHER SPECIFIED DEPENDS UPON RELATED DIMENSIONS.
- 3) DISC SHALL BE ENAMELLED TO IRS S10 AFTER WELDING STRAPS (S23454)
- 4) THIS DRG IS AS PER RDSO DRAWING QF 'P' MARKER (NON-ILLUMINATED DISC).

2 NOS. HEX HEAD
M.S. BOLT M6 X 20L
WITH HEX NUT

2 NOS. SPRING WASHER
TYPE 'B' M6

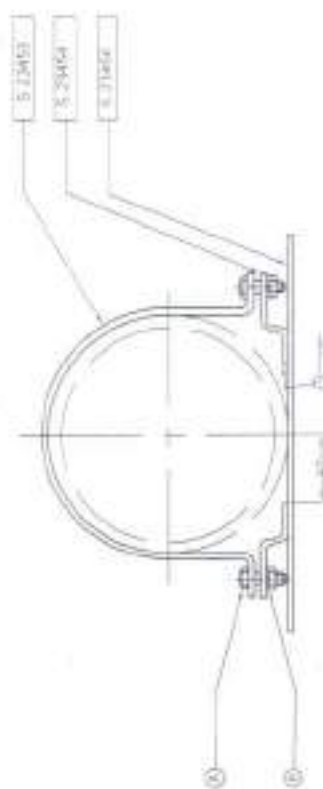
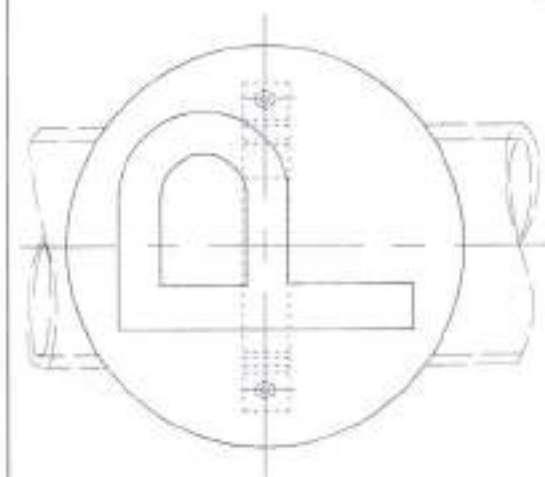
S.S.E.(D)	AESTE	ESTE	DY.CSTE(HQ.)
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
2/3/12	2/3/12	2/3/12	2/3/12

CENTRAL RAILWAY

SIGNAL & TELECOMMUNICATIONS

'C' MARKER

DRG. NO. R-ST.11445



ITEM	DESCRIPTION	QTY
(1)	304 STAINLESS STEEL	1
(2)	304 STAINLESS STEEL	1
(3)	304 STAINLESS STEEL	1
(4)	304 STAINLESS STEEL	1
(5)	304 STAINLESS STEEL	1
(6)	304 STAINLESS STEEL	1
(7)	304 STAINLESS STEEL	1
(8)	304 STAINLESS STEEL	1
(9)	304 STAINLESS STEEL	1
(10)	304 STAINLESS STEEL	1

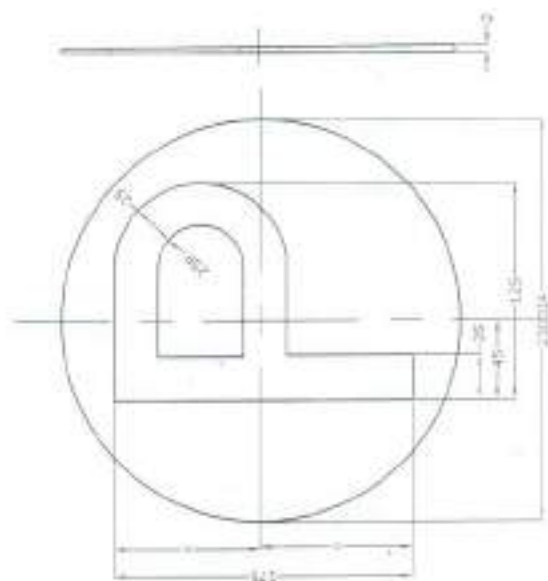
R. D. S. O.

'P' MARKER
(NON-ILLUMINATED)

ITEM	DESCRIPTION	QTY
(1)	304 STAINLESS STEEL	1
(2)	304 STAINLESS STEEL	1
(3)	304 STAINLESS STEEL	1
(4)	304 STAINLESS STEEL	1
(5)	304 STAINLESS STEEL	1
(6)	304 STAINLESS STEEL	1
(7)	304 STAINLESS STEEL	1
(8)	304 STAINLESS STEEL	1
(9)	304 STAINLESS STEEL	1
(10)	304 STAINLESS STEEL	1

ITEM	DESCRIPTION	QTY
(1)	304 STAINLESS STEEL	1
(2)	304 STAINLESS STEEL	1
(3)	304 STAINLESS STEEL	1
(4)	304 STAINLESS STEEL	1
(5)	304 STAINLESS STEEL	1
(6)	304 STAINLESS STEEL	1
(7)	304 STAINLESS STEEL	1
(8)	304 STAINLESS STEEL	1
(9)	304 STAINLESS STEEL	1
(10)	304 STAINLESS STEEL	1

NOTE



PROF. VITREOUS ENAMELLED WHITE
(MINIMUM 2 COATS) WITH LETTERS 'P'
(ENAMELLED BLACK)

BACK: ENAMELLED BLACK

ITEM	DESCRIPTION	QTY
(1)	304 STAINLESS STEEL	1
(2)	304 STAINLESS STEEL	1
(3)	304 STAINLESS STEEL	1
(4)	304 STAINLESS STEEL	1
(5)	304 STAINLESS STEEL	1
(6)	304 STAINLESS STEEL	1
(7)	304 STAINLESS STEEL	1
(8)	304 STAINLESS STEEL	1
(9)	304 STAINLESS STEEL	1
(10)	304 STAINLESS STEEL	1

R. D. S. O.

'P' MARKER
(NON-ILLUMINATED)-DISC

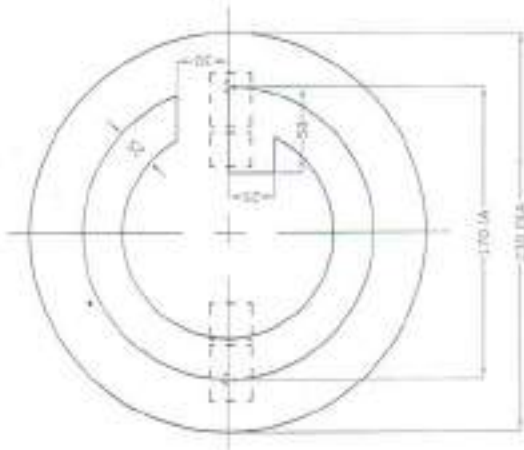
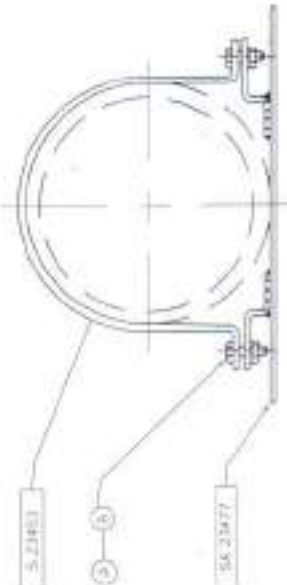
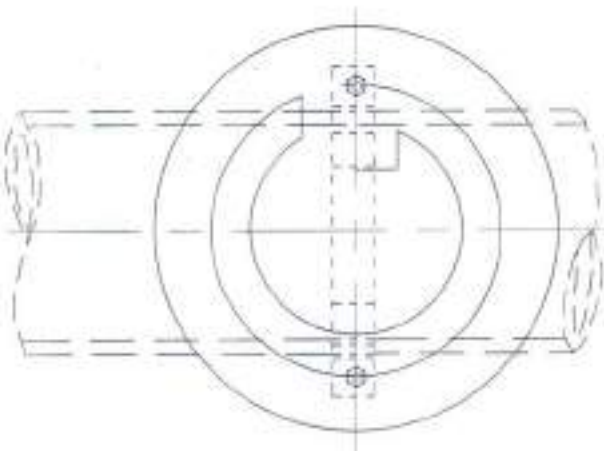
ITEM	DESCRIPTION	QTY
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(2)	304 STAINLESS STEEL	1
(3)	304 STAINLESS STEEL	1
(4)	304 STAINLESS STEEL	1
(5)	304 STAINLESS STEEL	1
(6)	304 STAINLESS STEEL	1
(7)	304 STAINLESS STEEL	1
(8)	304 STAINLESS STEEL	1
(9)	304 STAINLESS STEEL	1
(10)	304 STAINLESS STEEL	1

ITEM	DESCRIPTION	QTY
(1)	304 STAINLESS STEEL	1
(2)	304 STAINLESS STEEL	1
(3)	304 STAINLESS STEEL	1
(4)	304 STAINLESS STEEL	1
(5)	304 STAINLESS STEEL	1
(6)	304 STAINLESS STEEL	1
(7)	304 STAINLESS STEEL	1
(8)	304 STAINLESS STEEL	1
(9)	304 STAINLESS STEEL	1
(10)	304 STAINLESS STEEL	1

NOTE

ITEM	DESCRIPTION	QTY
(1)	304 STAINLESS STEEL	1
(2)	304 STAINLESS STEEL	1
(3)	304 STAINLESS STEEL	1
(4)	304 STAINLESS STEEL	1
(5)	304 STAINLESS STEEL	1
(6)	304 STAINLESS STEEL	1
(7)	304 STAINLESS STEEL	1
(8)	304 STAINLESS STEEL	1
(9)	304 STAINLESS STEEL	1
(10)	304 STAINLESS STEEL	1

NOTIFICATION No.



DISC
FRONT
DISC
BACK
DISC
FRONT
DISC
BACK

1. ALL DIMENSIONS IN MILLIMETRES.
2. DISC SHALL BE REMOVED
TO DIS-510 AFTER WELDING
STRAP (S. 23454).

QTY	DESCRIPTION	NO.
2	SPRING WASHER PG. 8115, 50X13	1
2	WASHER PG. 8115, 50X13	1
2	WASHER PG. 8115, 50X13	1

R. D. S. O.

G' MARKER

SCALE	DATE	BY	CHKD
1:1	10/10/85	10/10/85	10/10/85

1. ALL DIMENSIONS IN MILLIMETRES.
2. DISC SHALL BE REMOVED
TO DIS-510 AFTER WELDING
STRAP (S. 23454).

QTY	DESCRIPTION	NO.
2	SPRING WASHER PG. 8115, 50X13	1
2	WASHER PG. 8115, 50X13	1
2	WASHER PG. 8115, 50X13	1

R. D. S. O.

G' MARKER

SCALE	DATE	BY	CHKD
1:1	10/10/85	10/10/85	10/10/85

1. ALL DIMENSIONS IN MILLIMETRES.
2. DISC SHALL BE REMOVED
TO DIS-510 AFTER WELDING
STRAP (S. 23454).

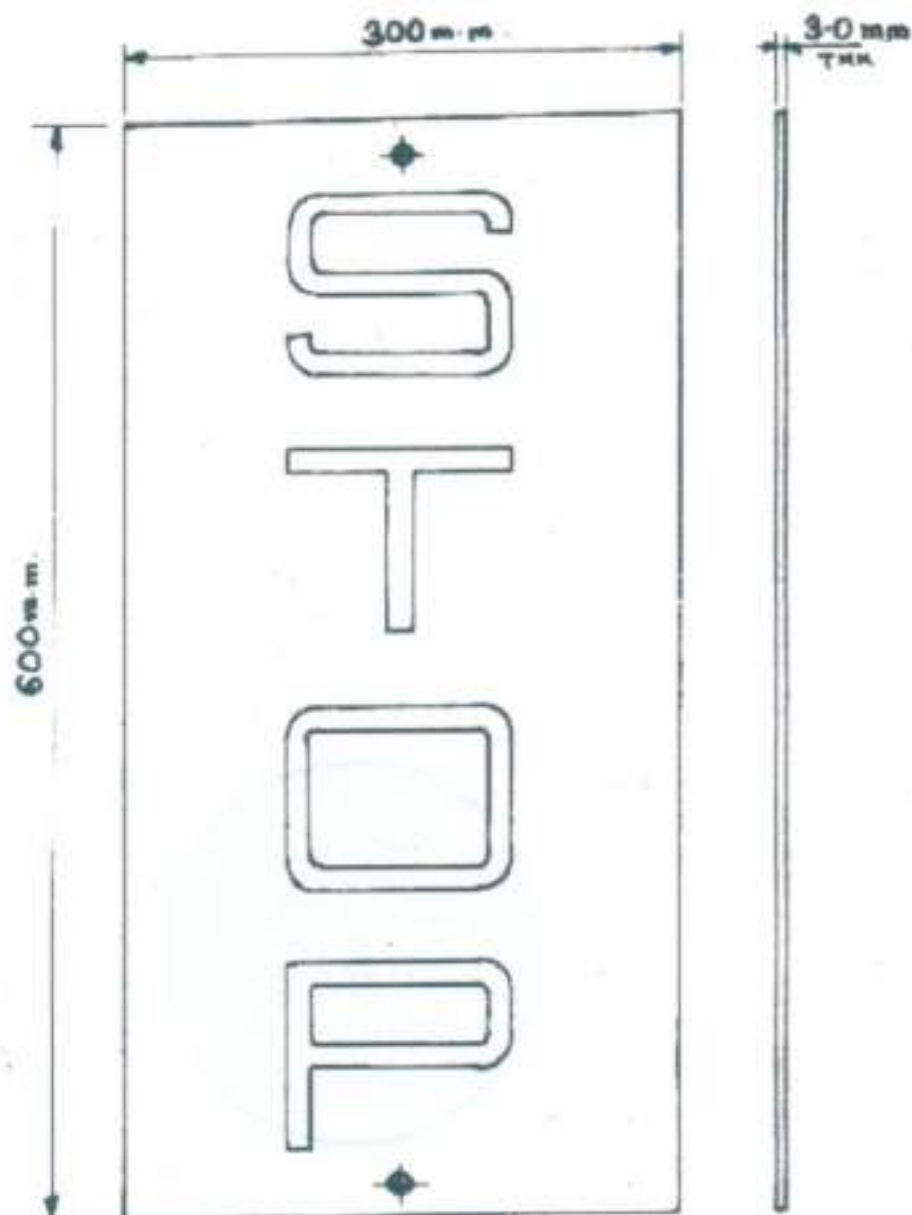
QTY	DESCRIPTION	NO.
2	SPRING WASHER PG. 8115, 50X13	1
2	WASHER PG. 8115, 50X13	1
2	WASHER PG. 8115, 50X13	1

R. D. S. O.

G' MARKER

SCALE	DATE	BY	CHKD
1:1	10/10/85	10/10/85	10/10/85

1. ALL DIMENSIONS IN MILLIMETRES.
2. DISC SHALL BE REMOVED
TO DIS-510 AFTER WELDING
STRAP (S. 23454).

**NOTE:-**

- 1) MATERIAL :- M.S. SHEET PLATE, I.S. 2062, THK 3 mm.
- 2) BACK SIDE POWDER COATING OF BLACK COLOUR FOR STEEL PLATE.
- 3) BACKGROUND YELLOW BRIGHT RETROREFLECTIVE ENGINEERING GRADE.
- 4) LETTER :- BLACK DULL RETROREFLECTIVE.

<i>Bipin</i> 02/12/21	<i>A. K. S.</i> 02/12/21	<i>S. S.</i> 03/03/21	<i>W. P.</i> 5/12/21
SSE/DO	AESTE/HQ	ESTE/HQ	DY.CSTE/HQ

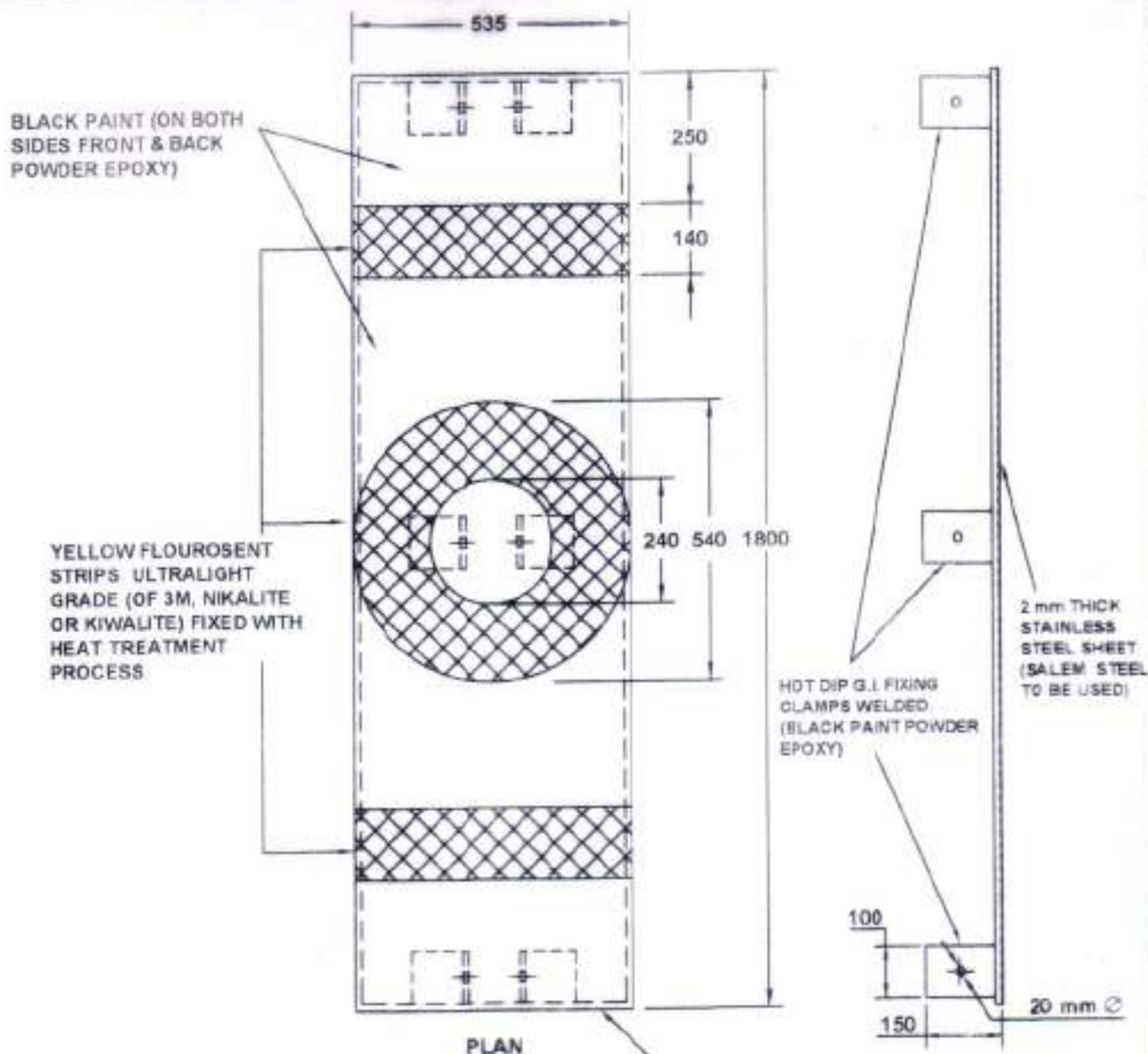
'STOP' BOARD

DATE

C.RLY-CSTM (S&T)

DRAWING NO.

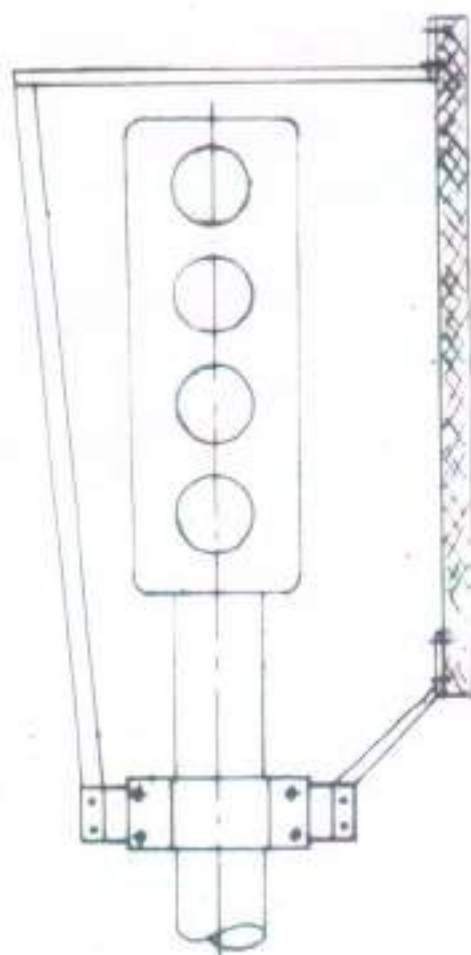
R-ST-11791

**NOTES:-**

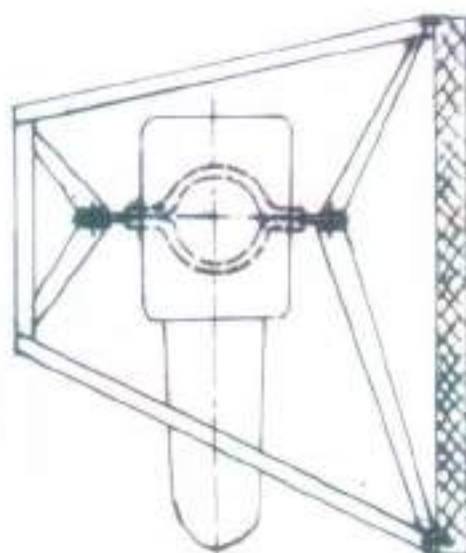
1. ALL DIMENSIONS ARE IN mm.
2. TYPE OF FILM : ULTRALIGHT GRADE, 0.25 TO 0.3mm THICK. PRESSURE SENSITIVE (P.S. TYPE)
3. SHOULD BE ABLE TO WITHSTAND FOLLOWING CLIMATIC TESTS AS PER ISO:9006
 - (a) DRY HEAT TEST AT $70^{\circ}\text{C} \pm 2^{\circ}\text{C}$ FOR 2 HRS.
 - (b) COLD TEST AT $-10^{\circ}\text{C} \pm 3^{\circ}\text{C}$ FOR 16 HRS.
 - (c) DAMP HEAT CYCLE TEST : THREE CYCLES (12+12 HRS).
 - (d) DUST TEST FOR ONE HOUR.
 - (e) DRIVING RAIN TEST FOR TWO HOURS.
 AFTER THESE TEST THERE SHOULD NOT BE MORE THAN 5% DETERIORATION IN THE REFLECTIVITY.
4. GRADE : ULTRALIGHT INTENSITY WITH MICROSIZED GLASS BEADS ENCAPSULATED UNIFORMLY ALL OVER.
5. GUARANTEED LIFE : SEVEN YEARS (MINIMUM).
6. CERTIFICATION : FIRM SHOULD HAVE ISO 9002 CERTIFIED FOR CONSISTENT QUALITY.
7. TEST CERTIFICATES FROM MANUFACTURER OR AUTHORISED DISTRIBUTOR TO BE SUBMITTED.
8. SAMPLE TO BE APPROVED BEFORE BULK SUPPLY.
9. COMPLETE BACK SIDE OF BOARD TO BE PAINTED BLACK POWDER EPOXY.

DRAWING REDRAWN FROM DRG. NO. BPL/S&TM/47/B

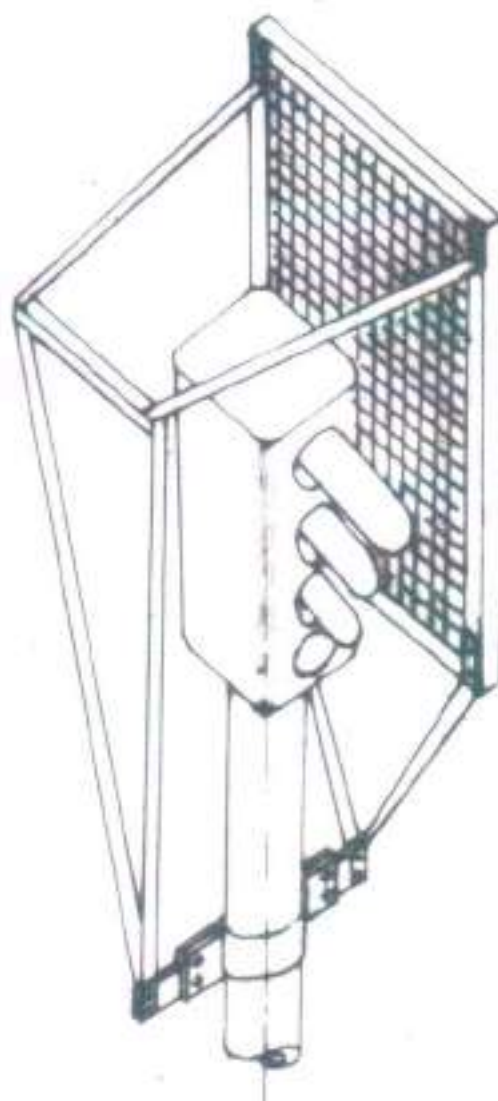
28/09/2020	DY. CSTE	SIGNAL & TELECOMMUNICATIONS
28/09/2020	AESTE	
28/09/2020	S.E.(D)	
NOT TO SCALE		GOODS WARNING BOARD
CENTRAL RLY. DRG. NO. SK - 784		



ELEVATION



PLAN



2/3/21
S.S.P. (01)

2/3/21
AESTE

2/3/21
ESTE

2/3/21
DY.CSTE.

PROTECTION SCREEN FOR
SIGNALS WITHOUT ROUTE

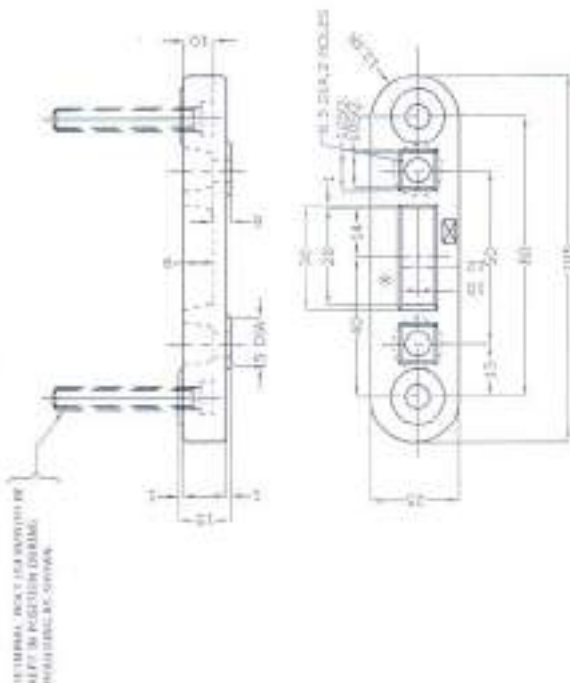
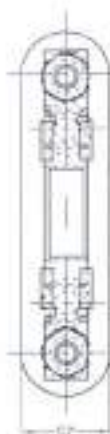
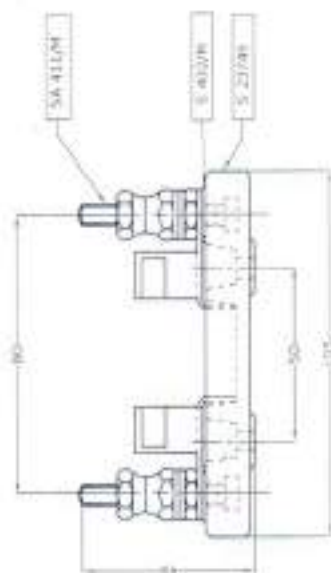
DRG NO:- SK- 844

DRN BY

CKD BY

DSIS/A/CSTM

DR. DSIS/CO/CSTM



ACCEPTED SA 217/M
BY MARKED IDENT.
S. 411/M OR IN THE NAME OF
THE MANUFACTURER
MARKED HERE.

ALL DIMENSIONS SHALL BE WITHIN
A 0.5 UNLESS OTHERWISE
SPECIFIED EXCEPTING UNLESS
NOTED OTHERWISE.

ALL DIMENSIONS IN MILLIMETRES.
SCALE 10 0 10 20
FOR ALL SCALE

NO.	REV.	DESCRIPTION	DATE
1	1	SA 217/M	
2	2	S. 411/M	
3	3	S. 217/M	
4	4	S. 411/M	
5	5	S. 217/M	
6	6	S. 411/M	
7	7	S. 217/M	
8	8	S. 411/M	
9	9	S. 217/M	
10	10	S. 411/M	
11	11	S. 217/M	
12	12	S. 411/M	
13	13	S. 217/M	
14	14	S. 411/M	
15	15	S. 217/M	
16	16	S. 411/M	
17	17	S. 217/M	
18	18	S. 411/M	
19	19	S. 217/M	
20	20	S. 411/M	
21	21	S. 217/M	
22	22	S. 411/M	
23	23	S. 217/M	
24	24	S. 411/M	
25	25	S. 217/M	
26	26	S. 411/M	
27	27	S. 217/M	
28	28	S. 411/M	
29	29	S. 217/M	
30	30	S. 411/M	
31	31	S. 217/M	
32	32	S. 411/M	
33	33	S. 217/M	
34	34	S. 411/M	
35	35	S. 217/M	
36	36	S. 411/M	
37	37	S. 217/M	
38	38	S. 411/M	
39	39	S. 217/M	
40	40	S. 411/M	
41	41	S. 217/M	
42	42	S. 411/M	
43	43	S. 217/M	
44	44	S. 411/M	
45	45	S. 217/M	
46	46	S. 411/M	
47	47	S. 217/M	
48	48	S. 411/M	
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81	81	S. 217/M	
82	82	S. 411/M	
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84	84	S. 411/M	
85	85	S. 217/M	
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88	88	S. 411/M	
89	89	S. 217/M	
90	90	S. 411/M	
91	91	S. 217/M	
92	92	S. 411/M	
93	93	S. 217/M	
94	94	S. 411/M	
95	95	S. 217/M	
96	96	S. 411/M	
97	97	S. 217/M	
98	98	S. 411/M	
99	99	S. 217/M	
100	100	S. 411/M	

R. D. S. O.

PUSH BLOCK

IR5(S)

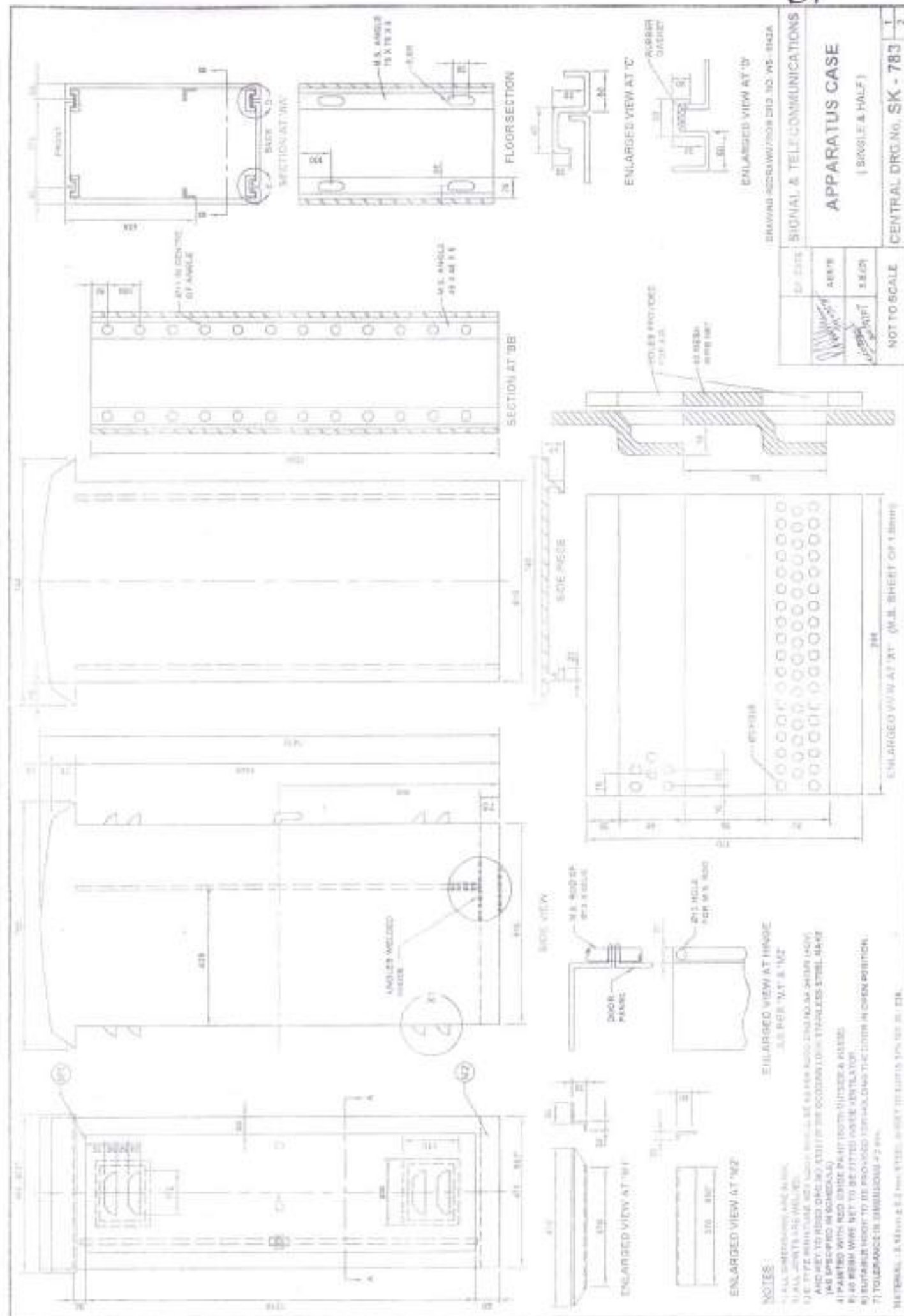
SA 23748

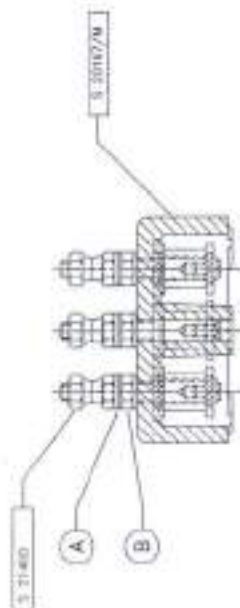
R. D. S. O.

PUSH BLOCK - BASE

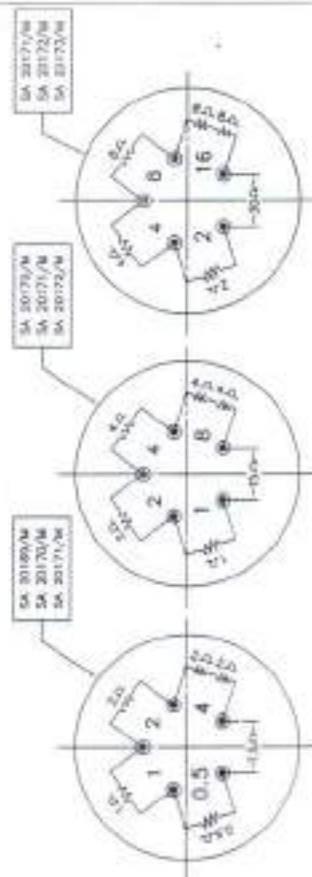
IR5(S)

S 23749



TABLE

DRG. NO	DESCRIPTION	RESISTANCE
SA-20-181/M	TRACE FEED RESISTANCE (WITH PORCELAIN BRGS)	7.5 \pm .4
SA-20-181/M	TRACE FEED RESISTANCE (WITH PORCELAIN BRGS)	1.9 \pm .2
SA-20-181/M	TRACE FEED RESISTANCE (WITH PORCELAIN BRGS)	28 \pm .4



SA 20161/M (7.5) SA 20162/M (15) SA 20163/M (30)

[illegible]

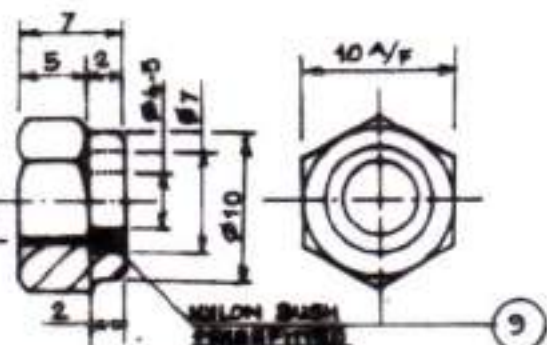
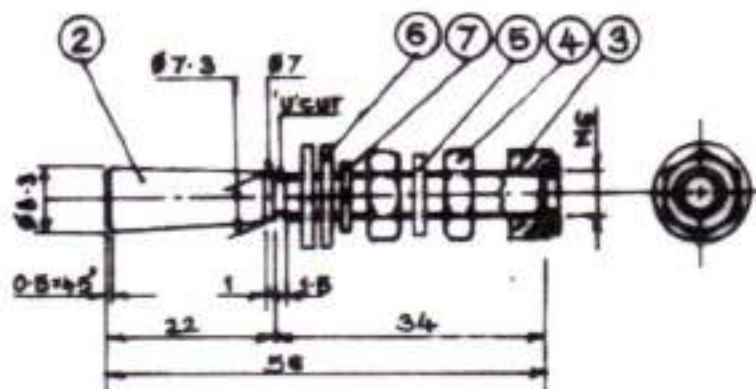
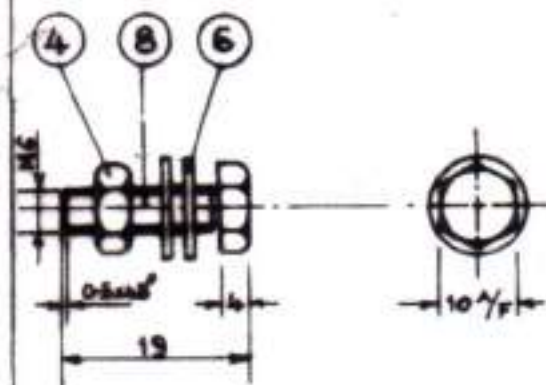
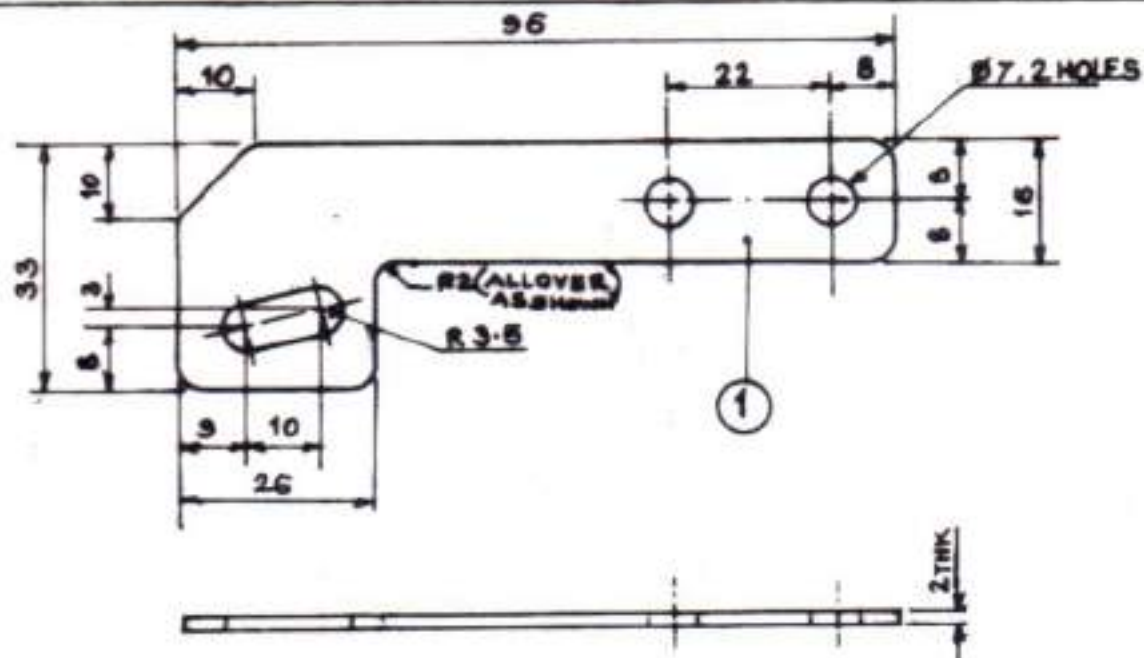
⑧	LOCK NUT, BRASS, HX, M6 (3-204)	3	2	4
⑨	WASHER (ARCHITECT), BRASS M6 (3-204)	12	15	18
	2. STAND (ENDING) SET	10	10	10
	SABOTIN REGIMINE INT (S-10)	-	-	3
	SABOTIN REGIMINE INT (A-10)	-	2	1
	SABOTIN REGIMINE INT (S-10)	3	1	1
	SABOTIN REGIMINE INT (A-10)	1	-	-
	SABOTIN REGIMINE INT (S-10)	1	-	-
	SABOTIN REGIMINE INT (A-10)	1	-	-
	2. STAND (ENDING) BASE	1	1	1
	PART	3	3	3
	RECAPTULIN	3	3	3
	NO. 100	3	3	3

R. D. S. O.

TRACK FEED RESISTANCE
(WITH PORCELAIN BASE)

[illegible]

DECLARATION REGISTERED IN:				
DATE				
PAGE				
CASE NO.	10-107890AUSITC			
TWO	<i>Melanie</i>	SITE/EM/TITLE	NOTIFICATION No.	DRI No. SA 2016/AU-63/M INCLUDES UPTO A7
CHD	<i>Kyle - 10-107890</i>	PAUSED	APPROVED	No. 1 OF THE ORIGINAL



DETAIL OF IT. NO. 3

QTY	DESCRIPTION	QTY	MATL	REMARKS
9	NYLON WASHER	2	NYLON	SEE DETAIL ST. 102-3
8	HEX. BOLT	1	S.S.	AS SHOWN
7	SPRING WASHER	2	310	FOR 1/8" BOLT
6	WASHER $\frac{3}{8} \times \frac{1}{2} \times \frac{1}{4}$	6	SS	
5	WASHER $\frac{3}{8} \times \frac{1}{2} \times \frac{1}{4}$	2	"	
4	NUT - 1/8" x 5 THK	5	"	
3	NUT WITH COLLAR	2	"	SEE DETAIL
2	PIN	2	"	AS SHOWN
1	PLATE	1	S.S.	AS SHOWN
QTY	DESCRIPTION	QTY	MATL	REMARKS

DRAWN BY	Mukesh
CHECKED BY	_____
EXAM'D BY	

ABB' APTC
TRACK CONNECTION

DATE
4-10-04

CENTRAL FILE (524)

DRAWING NO. 10

R-ST-11630

ANNEXURE -VI**ITEM No. A-199 MSDAC (SOR-2021)**

**MSDAC MONITORING CONSOLE FOR MONITORING ALL THE DPs AT A TIME
INSTALLED AT A STATION/RH/IBH etc.**

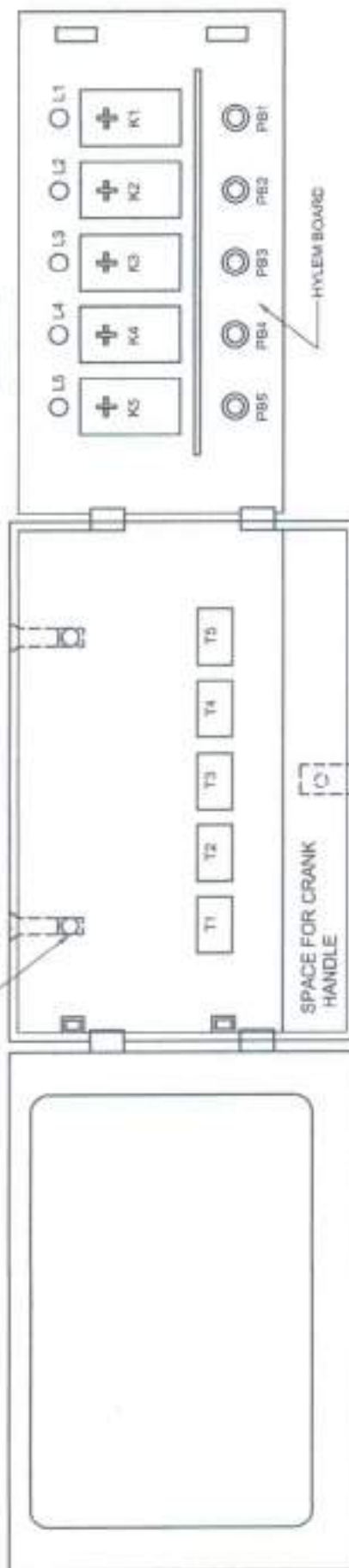
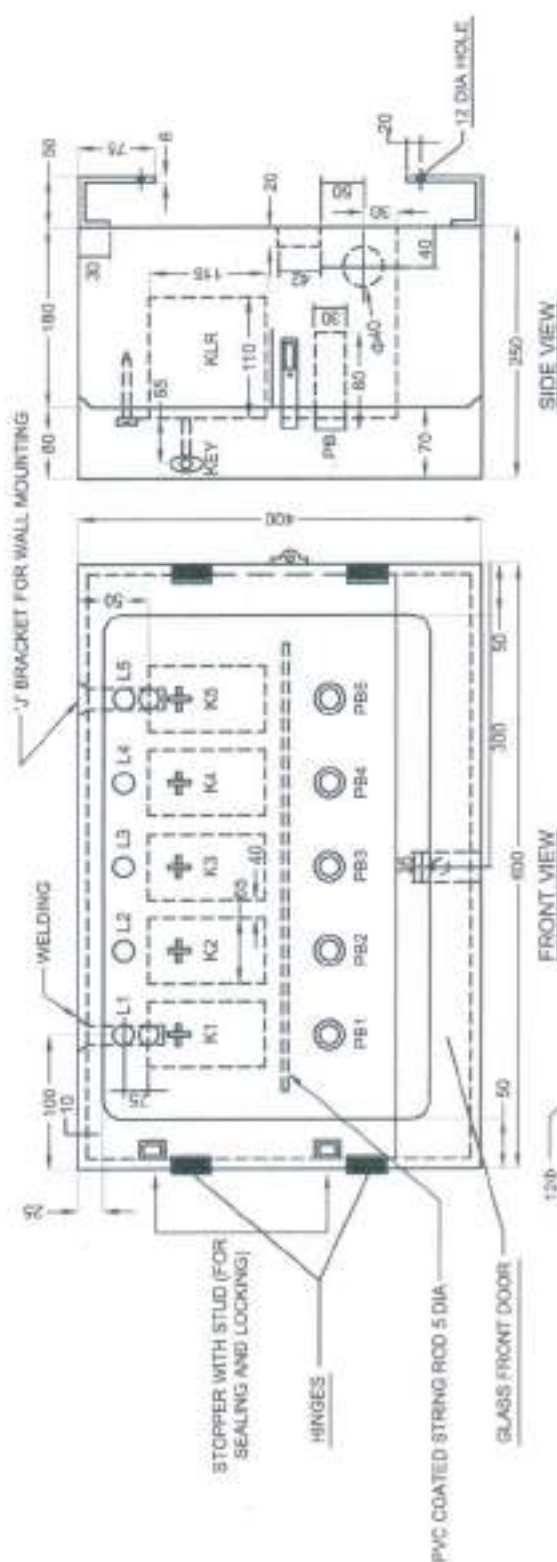
MONITORING CONSOLE ONE SET for MONITORING ALL THE DPs AT A TIME INSTALLED AT A STATION/RH/IBH etc.			
1	PROCESSOR & MOTHER BOARD	Intel Core i7 4770, 3.4 Ghz, 8 MB Cache or higher. Intel Q67 or higher on OEM motherboard.	1 SET.
2	HARD DISK DRIVE	1TB	1 NO.
3	DVD DRIVE	52X/24X/52X DVD-RW drive	1 NO.
4	KEY BOARD & Mouse	Wireless	1 NO.
5	PRINTER	Brother MFC-T100W or higher equivalent as per consignee.	1 NO.
6	MONITOR	21" LED colour monitor.	1 NO.
7	MAIN MEMORY	8 GB DDR3 RAM or higher.	1 NO.
8	SOUND CARD	Built-in Standard along with 2 nos.	1 SET.
9	POWER SUPPLY UPS	UPS 1KVA (with 2 hrs backup for 5 Amps	1 NO.
10	VIDEO CARD	1 GB Graphic Processor	1 NO.
11	CABINET	Mini ATX power cabinet	1 NO.
12	MODEM	56 KBPS INTERNAL	1 NO.
13	PORTS	6 USB ports, 1 RS-232 serial port, Audio	1 NO.
14	MULTICARD READER	Standard in front panel	1 NO.
15	SOFTWARE	Licensed WINDOWS 10 (64BIT), MS Office	1 NO.
16	WORK STATION	a. Composite computer table of Godrej make no. T-102.	1 NO.
		b. Chair Godrej make PCH-7002.	1 NO.

[Signature]
2/3/21
SSEED

[Signature]
02/3/21
AGSTE/VR

[Signature]
03/03/21

[Signature]
2/3/21



LEGENDS:-

- (1). K1-5 : SIEMENS KEY LOCK RELAY.
- (2). L1-5 : JUMBO LED (RED) WITH SUITABLE RESISTANCE OF 10 W CAPACITY FOR 60 V DC/24V DC OPERATION.
- (3). PB1-5 : PUSH BUTTON (TERMINAL MAKE) OF 5A CAPACITY HAVING 2 NO AND 2 NC CONTACTS.
- (4). T1-5 : TERMINAL BLOCKS 8 WAY, ISOLATING BARRIER TYPE MADE OF PBT.

NOTES:-

- (1). ENTIRE BODY OF THE BOX SHALL BE FABRICATED USING 16 SWG M.S. SHEET AND SHALL BE POWDER COATED.
- (2). HYLEM SHEET SHALL BE 10 MM THICK, RESIN BLENDED GRADE P-3.
- (3). FRONT DOOR GLASS SHALL BE 6 MM THICK WITH RUBBER GASKET.
- (4). DOWELL'S BOLT, FOR GROUTING THE BOX ON WALL, 3 NOS OF 12MM DIA.
- (5). THE FRONT SIDE OF HYLEM BOARD SHALL BE PROVIDED WITH 1.5 MM THICK WHITE FORMICA.

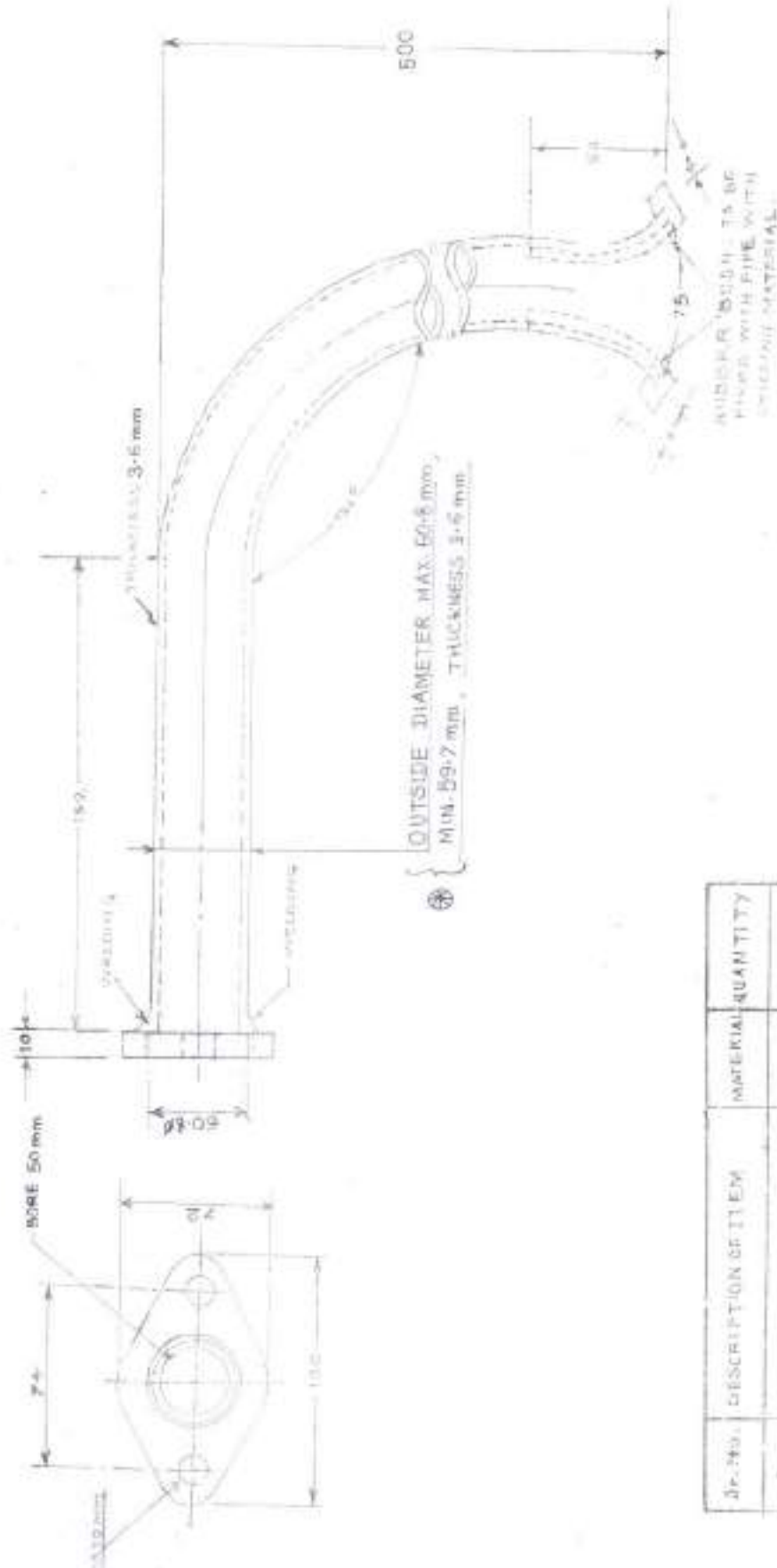
SS/DO	AE/STE/HQ	ESTE/HQ	DY.CSTE/HQ
20/01/21	20/01/21	20/01/21	20/01/21

CENTRAL RAILWAY (S & T)
CRANK HANDLE BOX WITH
KLRS & ACCESSORIES.

NOT TO SCALE
ALL DIMENSIONS IN mm.
RETRACTED FROM EXISTING DRG. NO.-R.ST/C/11/A
DRAWING IN ONE SHEETS.

DRG. NO.- R.S.T-C-114

01/01

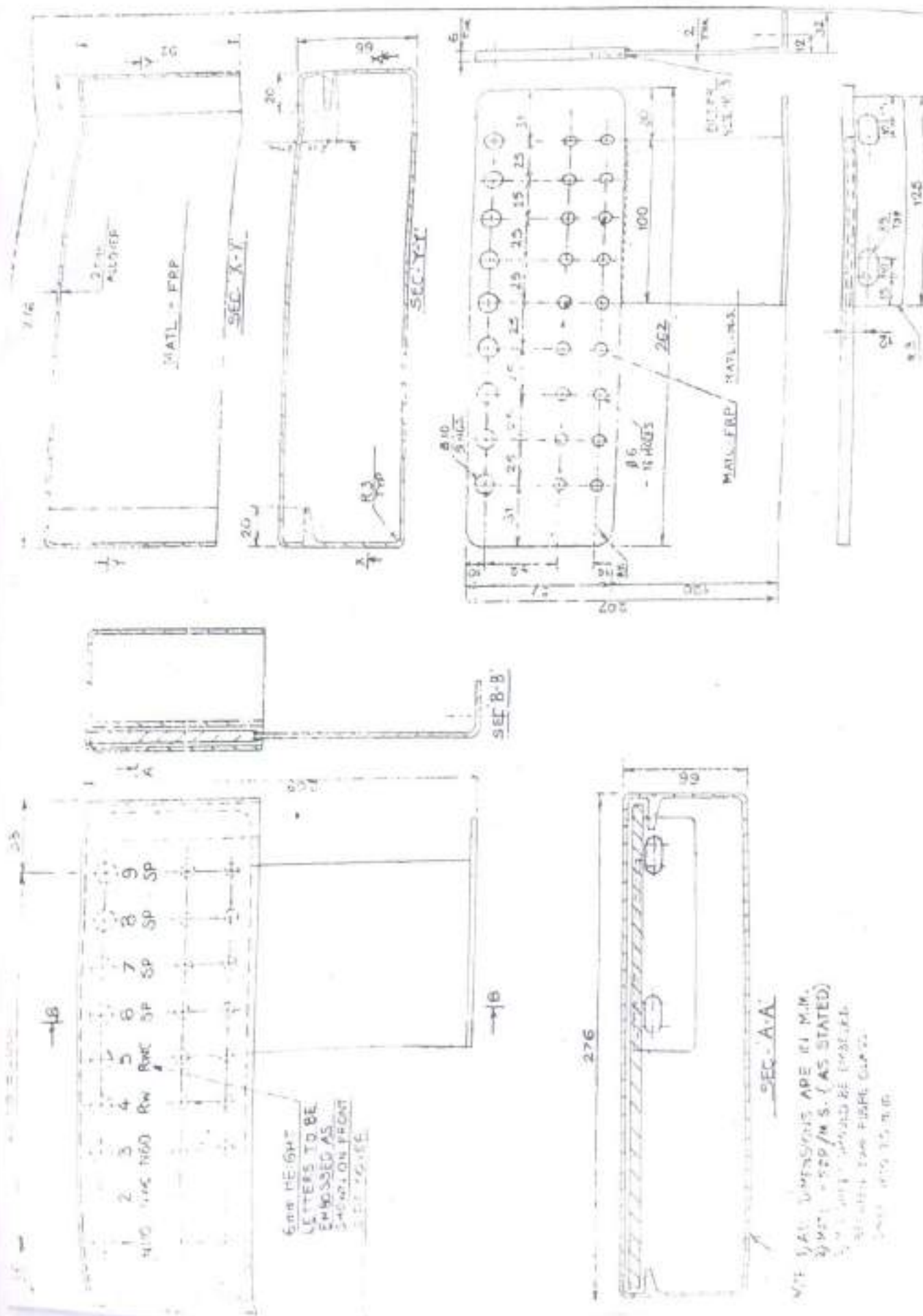


NOTES :- 1) ALL DIMENSIONS ARE IN mm.
 2) DRAWING NOT TO SCALE
 3) BLAND PIPE SHOULD BE MADE OF G.I. PIPE OF IS-1239
 (PART 1) 1990 OF MEDIUM (B'CLASS) HAVING NOMINAL
 BORE 50 mm (Ø)

Sl. No.	DESCRIPTION OF ITEM	MATERIAL	QUANTITY
1	FLANGE PIPE		1 No.
2	WELDING MATERIAL		2 Nos.
3	WELDING MACHINE		1 No.

GLANDE PIPE WITH FLANGE FOR POINT MACHINE

DATE	CENTRAL RLY (S&T) CSTM	DRAWING NO.
28/12/21	28/12/21	R-ST. 11835
SSE/DO	AEST/NO	EST/NO
		DY CSTE/HQ

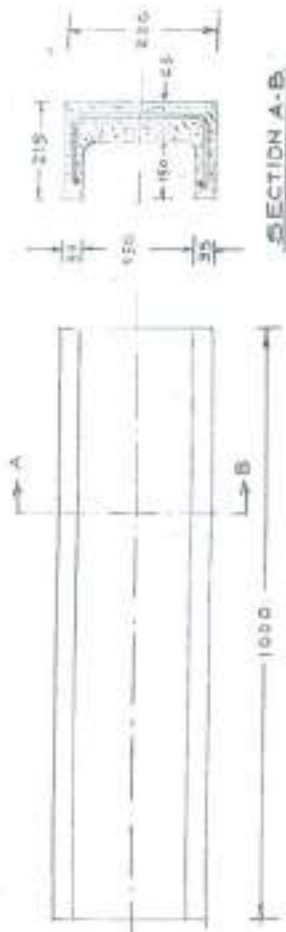


FRP POINT RAISED TERMINAL BRACKET

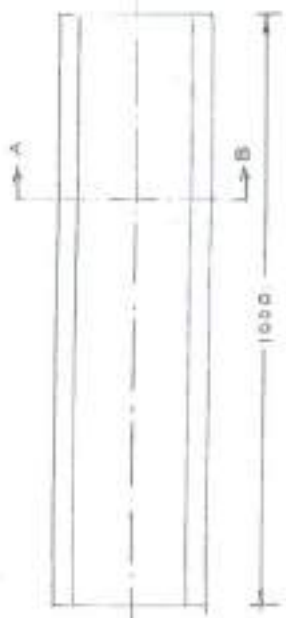
DRG-140

SK-846

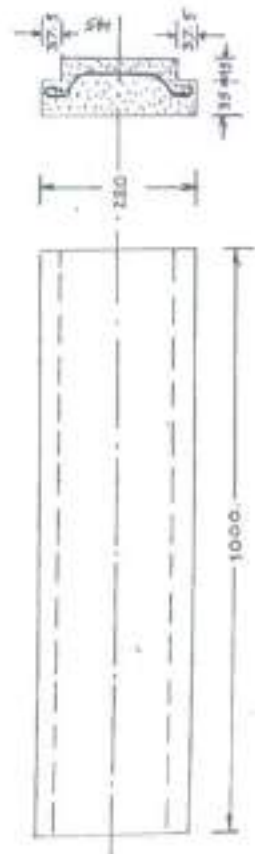
SSUDO	AE/TEHQ	ESTE/HQ	DY/STE/HQ
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>



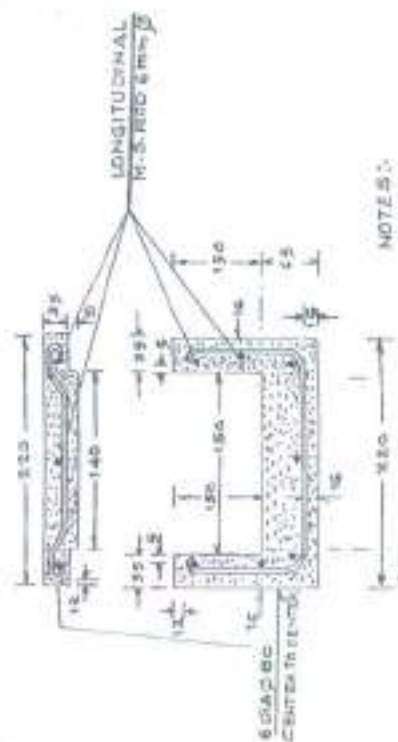
SECTION A-B



TRUNKING



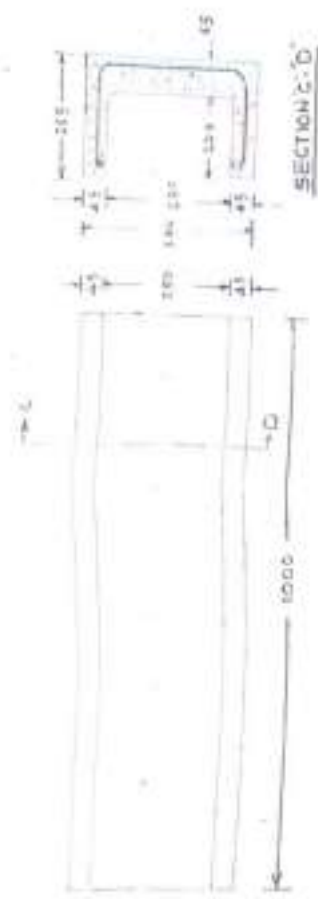
CAPPING



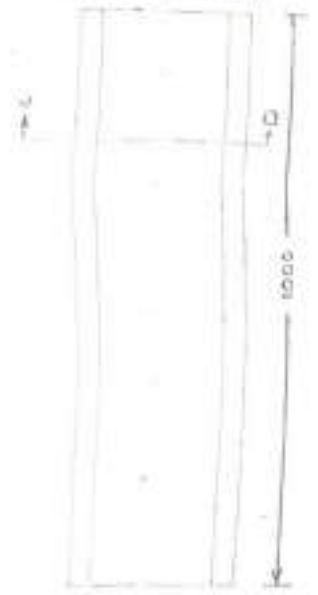
NOTES:

1. CONCRETE MIX. 1:2:4 WITH 12mm STONE CHIPS.
2. ALL REIN FOR CEMENT TO BE OF 6 DIA M.S.
3. ALL DIMENSIONS ARE SHOWN IN MM.

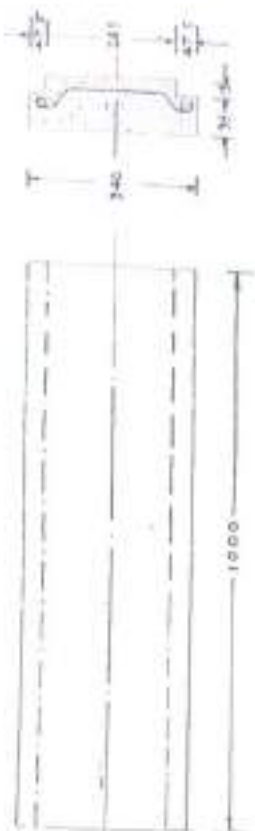
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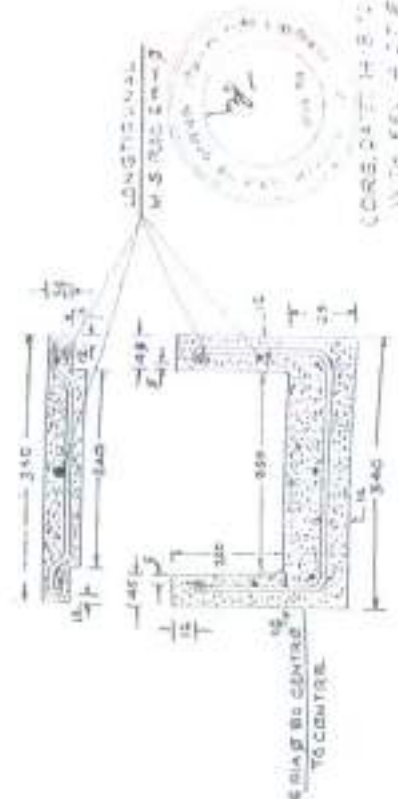
SECTION C-D



TRUNKING

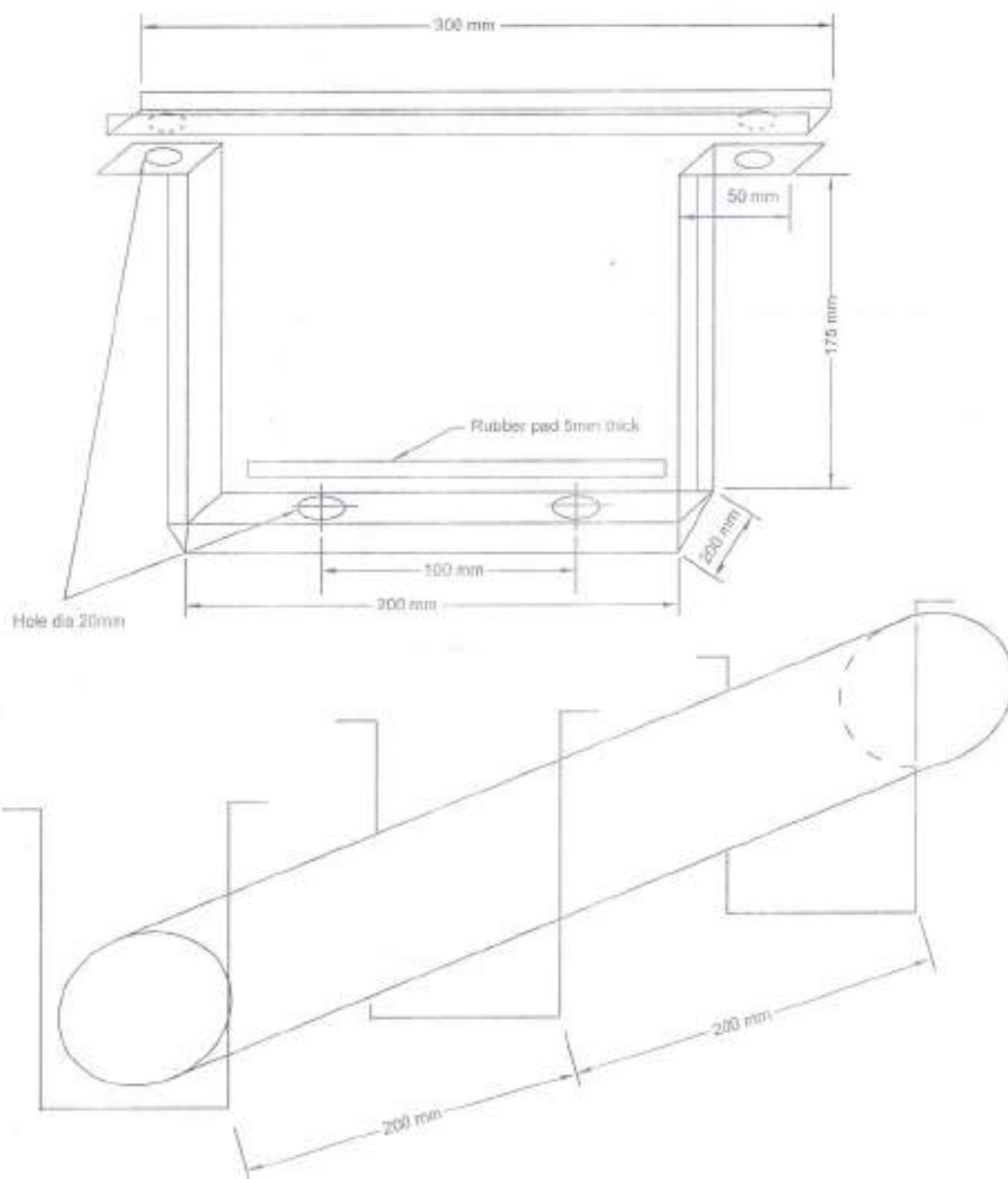


CAPPING



CORR. DATE 14.05.2024
BY THE C.E. & T.E. P.E.

SCALE	DATE	CENTRAL NO.	DRAWING NO.
NOT TO SCALE			
TRUNKING AND CAPPING			R.SI/C/291/A



NOTES -

1. ALL DIMENSIONS ARE IN MM.
2. C-CHANNEL DIMENTION USED IS 200mm X 50mm X 6mm.
3. FIRM HAS TO ARRANGE ALL REQUIRED FASTENERS, TOOLS (SIZE OF FASTENER NUT, BOLTS DEPENDS UPON THE SIZE OF GIRDER PLATES/FIXURES AVAILABLE AT SITE
(APPROX 16mmX75mm GI NUT,BOLT WITH FLAT & SPRING WASHER)
4. FOR TDP CHANNEL FIXING 16mmX25mm GI NUT,BOLT WITH FLAT & SPRING WASHER SHALL BE USED

SCALE - N.T.S

S. SE (D)	AESTE	ESTE	DY.CSTE(HQ)

CENTRAL RAILWAY

SIGNAL & TELECOMMUNICATIONS

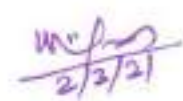
C-CHANNEL FOR FIXING PIPE ON
BRIDGES/ROCKS

CRG. NO. SK 900

ANNEXURE -VII**ITEM No. A-228 (SOR-2021)****OPERATING TOOL FOR MODULAR TERMINAL BLOCK.**

SR.NO.	DESCRIPTIONS	QTY.	MAKE
1	Crimping Tools (Varic crimp) 0.25-4 sqmm	1	Wago part No 206-204
2	Crimping Tool UPTO 25 sqmm	1	Taparia Or Similar
3	Insulated flat plier 125 mm	1	Taparia / Jhalani
4	Insulated side cutter plier 1.50mm	1	Taparia / Jhalani
5	Combination plier 200 mm (insulated)	1	Taparia / Jhalani
6	Wire stripper (0.02-10 sqmm)	4	Wago part No 206-124
7	Insulated nose plier 4 to 12 inch	1 Each	Taparia / Jhalani
8	Hexa Black Frame Small with Blade 6 inch	2	Superior Quality
9	Screw driver 1.5 sqmm	1	Wago part No 210-619
10	Screw driver 2.5/4 sqmm	1	Wago part No 210-620
11	Insulated screw driver 150 x 5 mm	1	Taparia / Jhalani
12	Insulated screw driver 150 x 6 mm	1	Taparia / Jhalani
13	Insulated screw driver 150 x 8 mm	1	Taparia / Jhalani
14	Insulated screw driver 250 x 8 mm	1	Taparia / Jhalani
15	Insulated screw driver 250 x 10 mm	1	Taparia / Jhalani
16	Cable knife 4"	1	Superior Quality
17	Test probe (Red)	1	Wago part No 210-136
18	Cotton measuring tape 15 Mtr	2	Superior Quality
19	Adjustable screw wrench 6" (155mm)	1	Taparia / Jhalani
20	Adjustable screw wrench 8" (205mm)	1	Taparia / Jhalani
21	Adjustable screw wrench 10" (255mm)	1	Taparia / Jhalani
22	Soldering Iron 220 V, 25/35/50/65W	3	Soldron Make Or Similar
23	Box Spanner 5mm to 10mm	1each	Max/Tepco/ Taparia / Jhalani
24	Continuity buzzer	10	Max/Tepco/Good Quality
NOTE:-			
1	The Rly. Reserves the right to reject the entire/part tools found to be of inferior quality.		

 2/3/21
 02/3/21
 05/02/21

 2/3/21

ANNEXURE -VIII

ITEM No. A-229 (SOR-2021)

TOOL BAG COMPLETE WITH MEGGER, AC-DC CLAMP METER. (ONE SET)

SR.NO.	DESCRIPTIONS	QT Y.	MAKE
1	Tool bag	1	FATMAX BACK PACK or similar- Stanley make
2	Crimping Tools (Varic crimp) 0.25-4 sqmm	1	Wago part No 206-204
3	Insulated flat plier 125 mm	1	Taparia / Jhalani
4	Insulated side cutter plier 1.50mm	1	Taparia / Jhalani
5	Insulated screw driver 150 x 5 mm	1	Taparia / Jhalani
6	Insulated screw driver 150 x 6 mm	1	Taparia / Jhalani
7	Insulated screw driver 150 x 8 mm	1	Taparia / Jhalani
8	Continuity buzzer	2	Max/Tepco/Good Quality
9	Digital multimeter 4½ Digits 20000 Counts 9 Functions; 32 Ranges	2	FLUKE OR Rishabh make
10	Megger standard make 100 V & 500 V One each	2	RISHABH/ MECO/ MEGGAR/MOTWANI OR Superior make
11	Cotton measuring tape 15 Mtr	2	Superior Quality
NOTE:-			
1	All tools shall be of the best manufacturer. The Rly. Reserves the right to reject the entire/part tools found to be of inferior quality.		

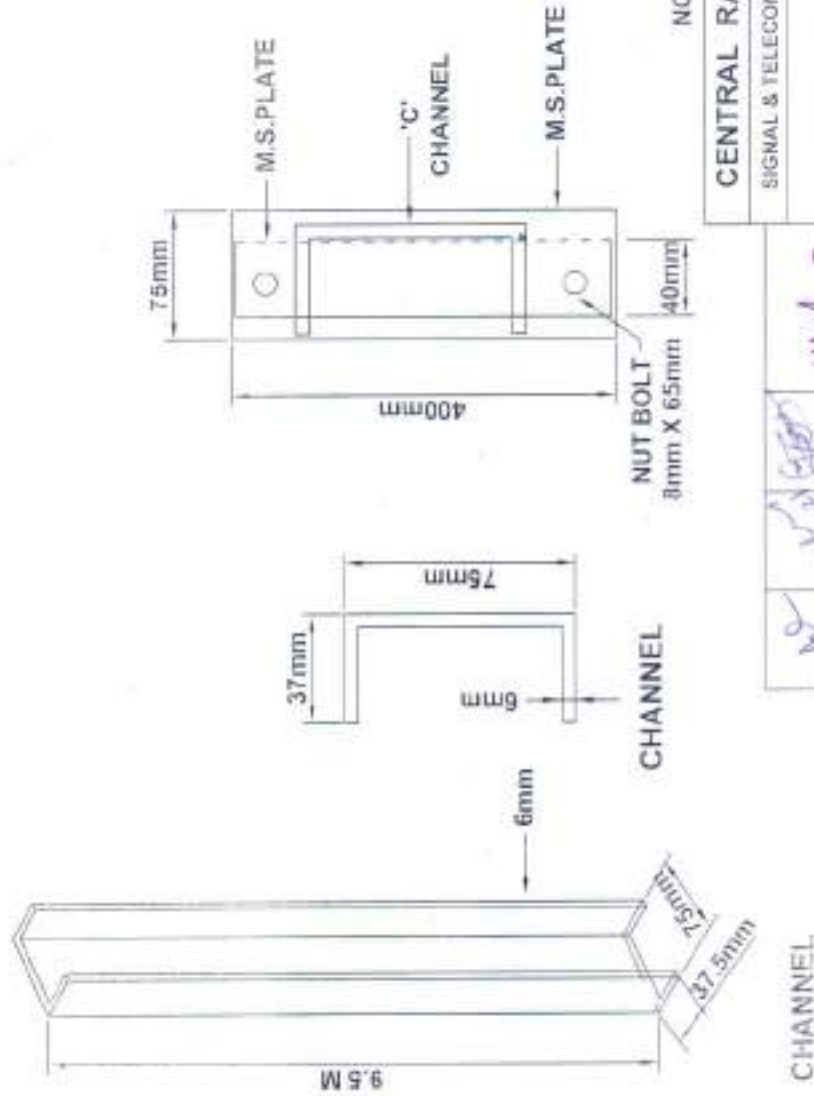
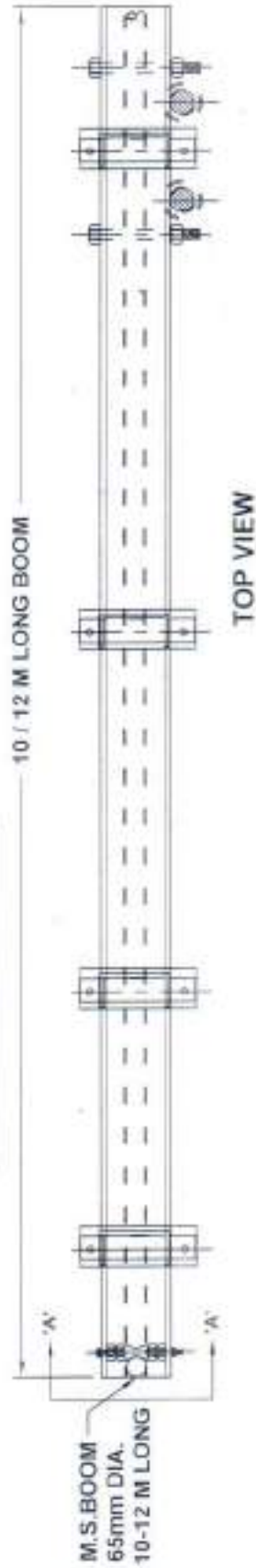
[Signature]
2/3/21
SS/ED/1

[Signature]
02/3/21
NESTED/HR

[Signature]
02/3/21

[Signature]
2/3/21

SLIDING BOOM



NOT TO SCALE

CENTRAL RAILWAY

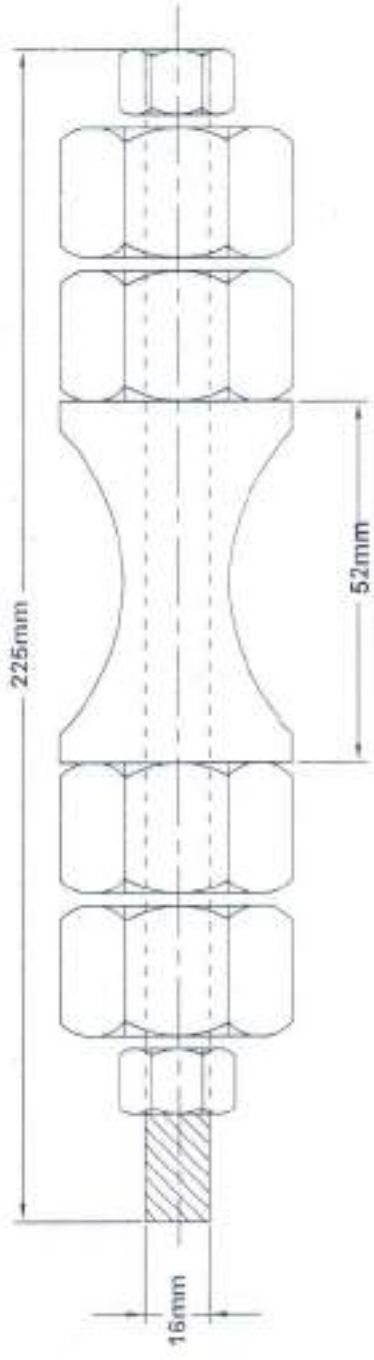
SIGNAL & TELECOMMUNICATIONS

SLIDING BOOM

DRG. NO. SK-860 (1/6)

S.S.E.(D)	AESTE	ESTE	DY.CSTE(HQ.)	W.C. 2/2/21
-----------	-------	------	--------------	-------------

SINGLE ROLLER ASSEMBLY



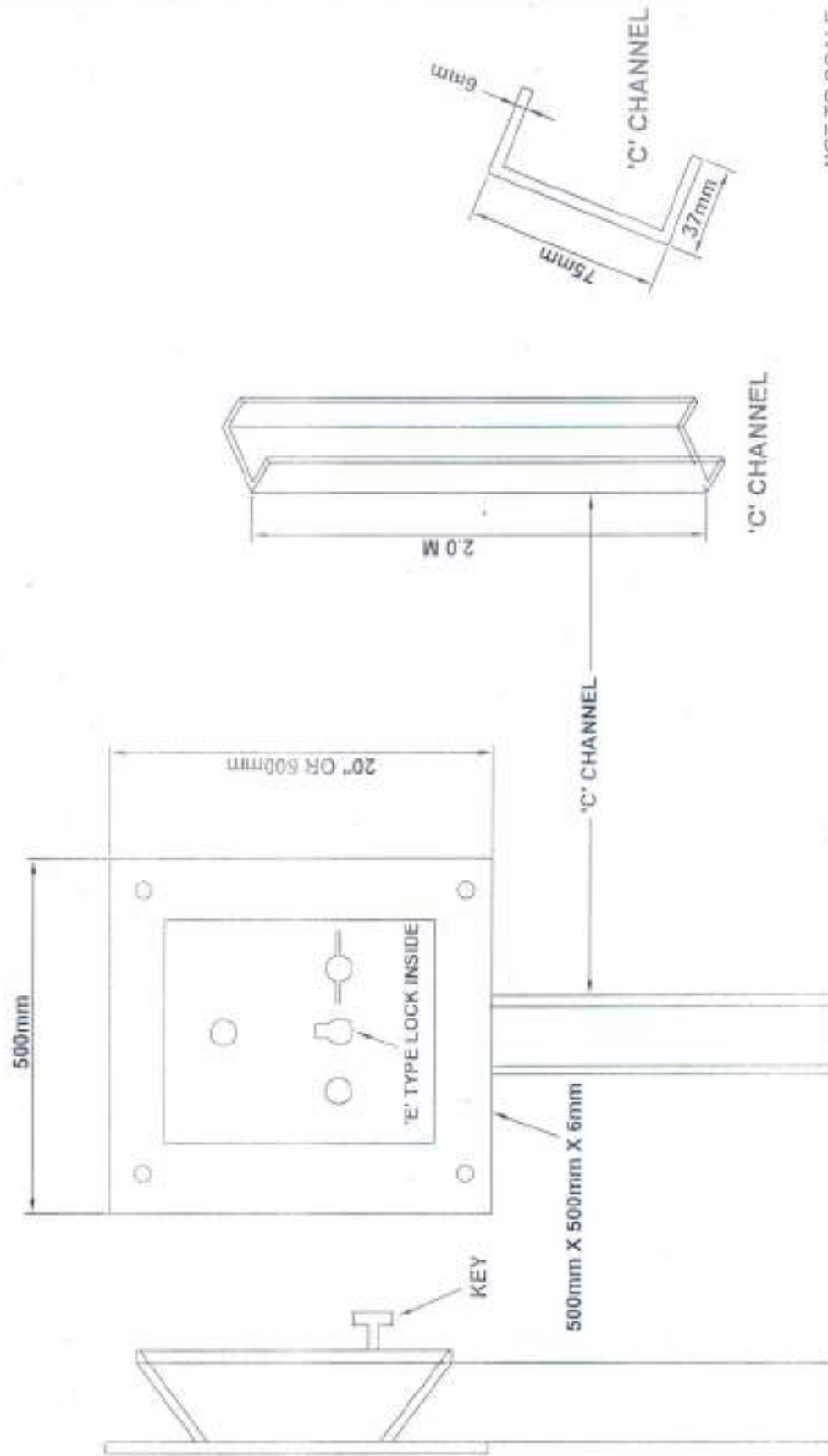
FRONT VIEW SIDE VIEW FRONT VIEW SIDE VIEW

NOT TO SCALE
CENTRAL RAILWAY
SIGNAL & TELECOMMUNICATIONS
SLIDING ROLLER ASSEMBLY
DRG. NO. SK - 860 (2/6)

BALL BEARING

S.S.E.(D)	AESTE	ESTE	DY.CSTE(HQ.)	27/3/20

SLIDING BOOM LOCK POST



NOT TO SCALE

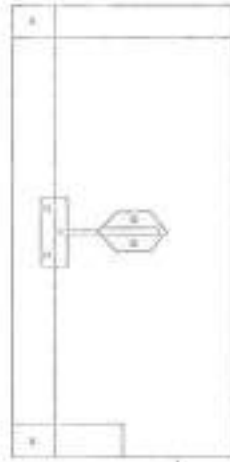
CENTRAL RAILWAY

SIGNAL & TELECOMMUNICATIONS

SLIDING BOOM
LOCK POST

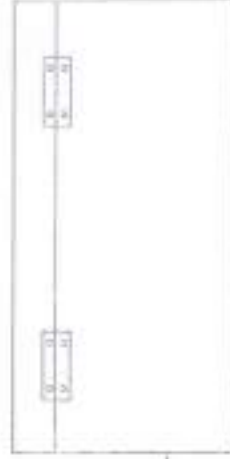
DRG. NO. SK - 860 (3/6)

S.S.E.(D)	A.E.S.T.E	E.S.T.E	D.V.C.S.T.E(HQ.)
1/1/17	1/1/17	1/1/17	1/1/17
1/1/17	1/1/17	1/1/17	1/1/17
1/1/17	1/1/17	1/1/17	1/1/17
1/1/17	1/1/17	1/1/17	1/1/17
1/1/17	1/1/17	1/1/17	1/1/17



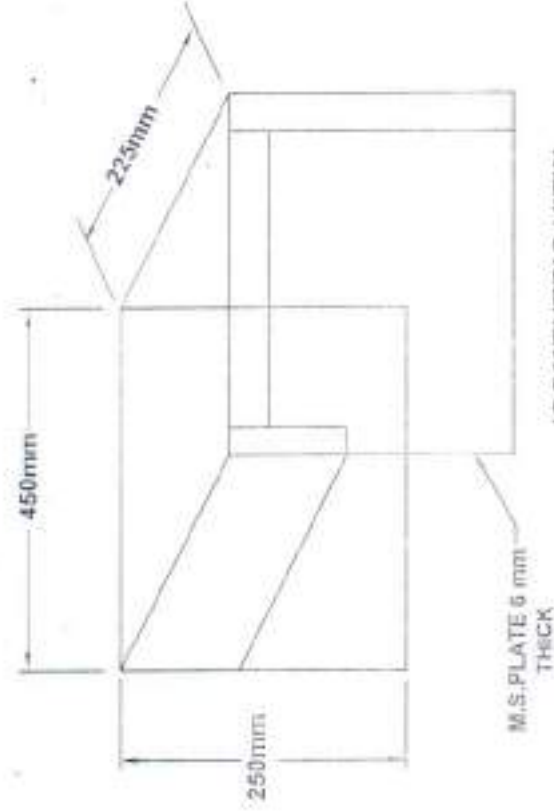
COVER BOX

SECTION ON 'A-A'



COVER BOX

SECTION ON 'A-A'



ISOMETRIC VIEW

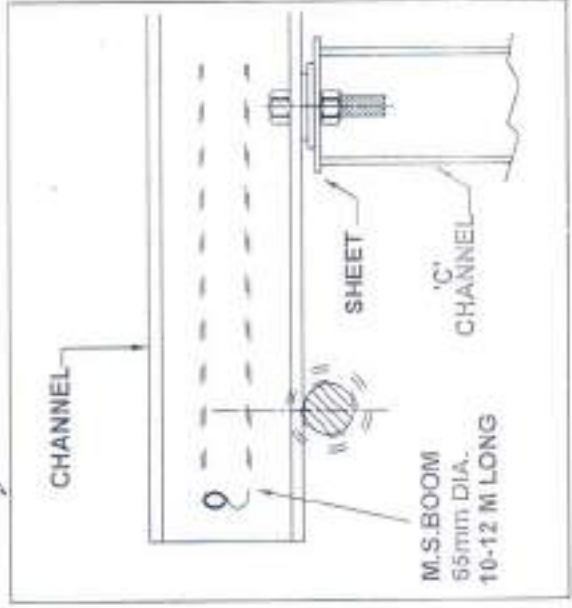
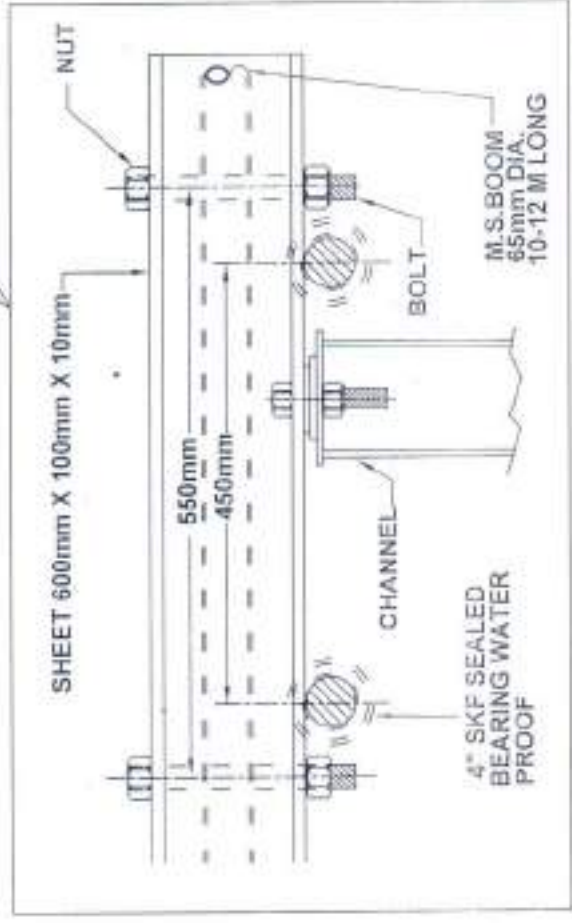
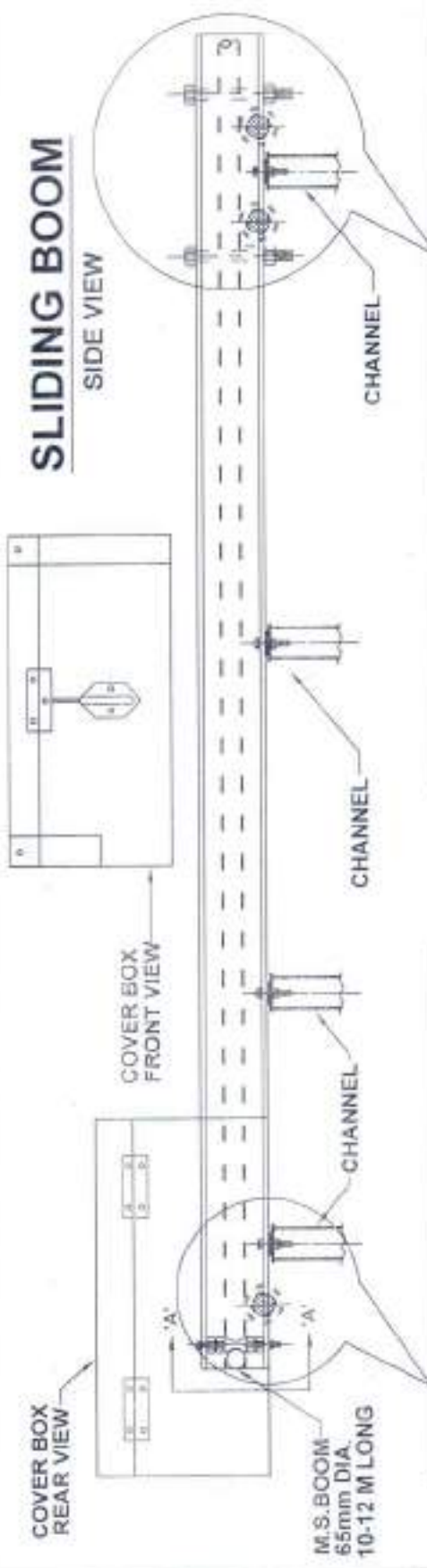
NOT TO SCALE

CENTRAL RAILWAY			
SIGNAL & TELECOMMUNICATIONS			
SLIDING BOOM COVER BOX			
DRG. NO. SK - 860 (4/6)			
S.S.E.(D)	AESTE	ESTE	DY.CSTE(HQ.)
S.H. / RS			

Handwritten signatures and initials in the table cells.

SLIDING BOOM

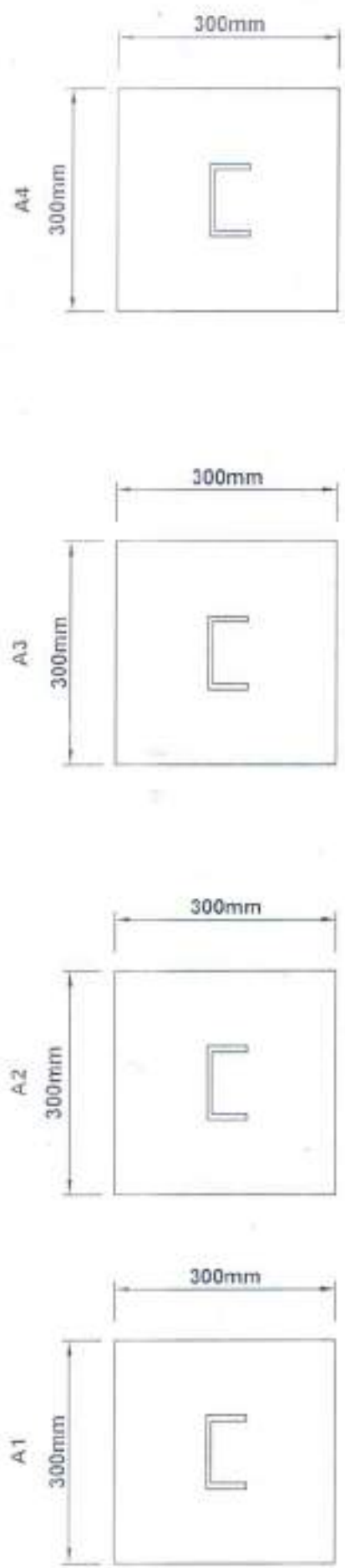
SIDE VIEW



NOT TO SCALE

CENTRAL RAILWAY
SIGNAL & TELECOMMUNICATIONS
SLIDING BOOM
DRG. NO. SK 860 (5/6)

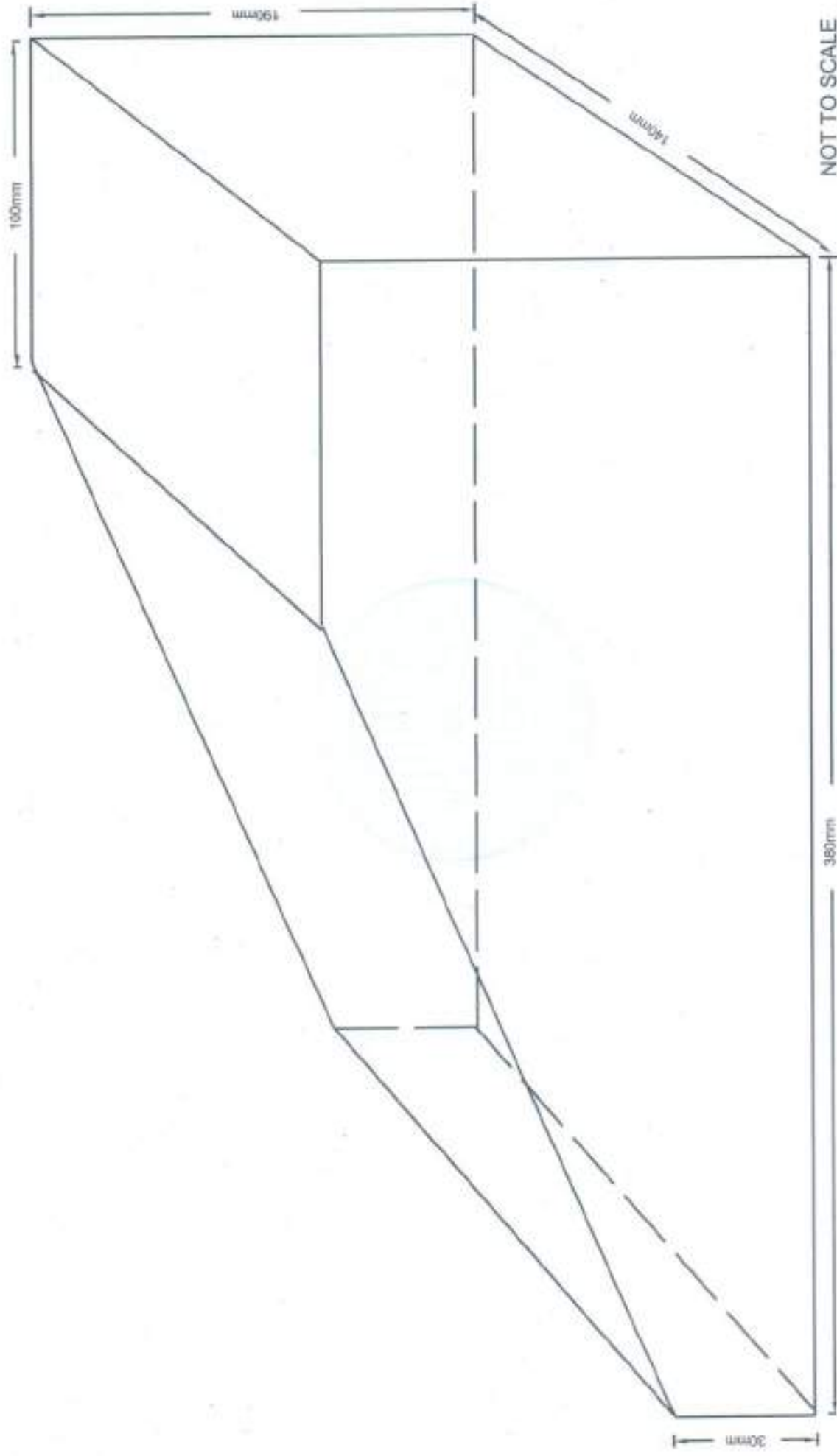
S.S.E (D)	AESTE	ESTE	DY. CSTE (HQ)
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>



NOT TO SCALE

CENTRAL RAILWAY
SIGNAL & TELECOMMUNICATIONS
FOUNDATION FOR SLIDING BOOM
DRG. NO. SK 860 (6/6)

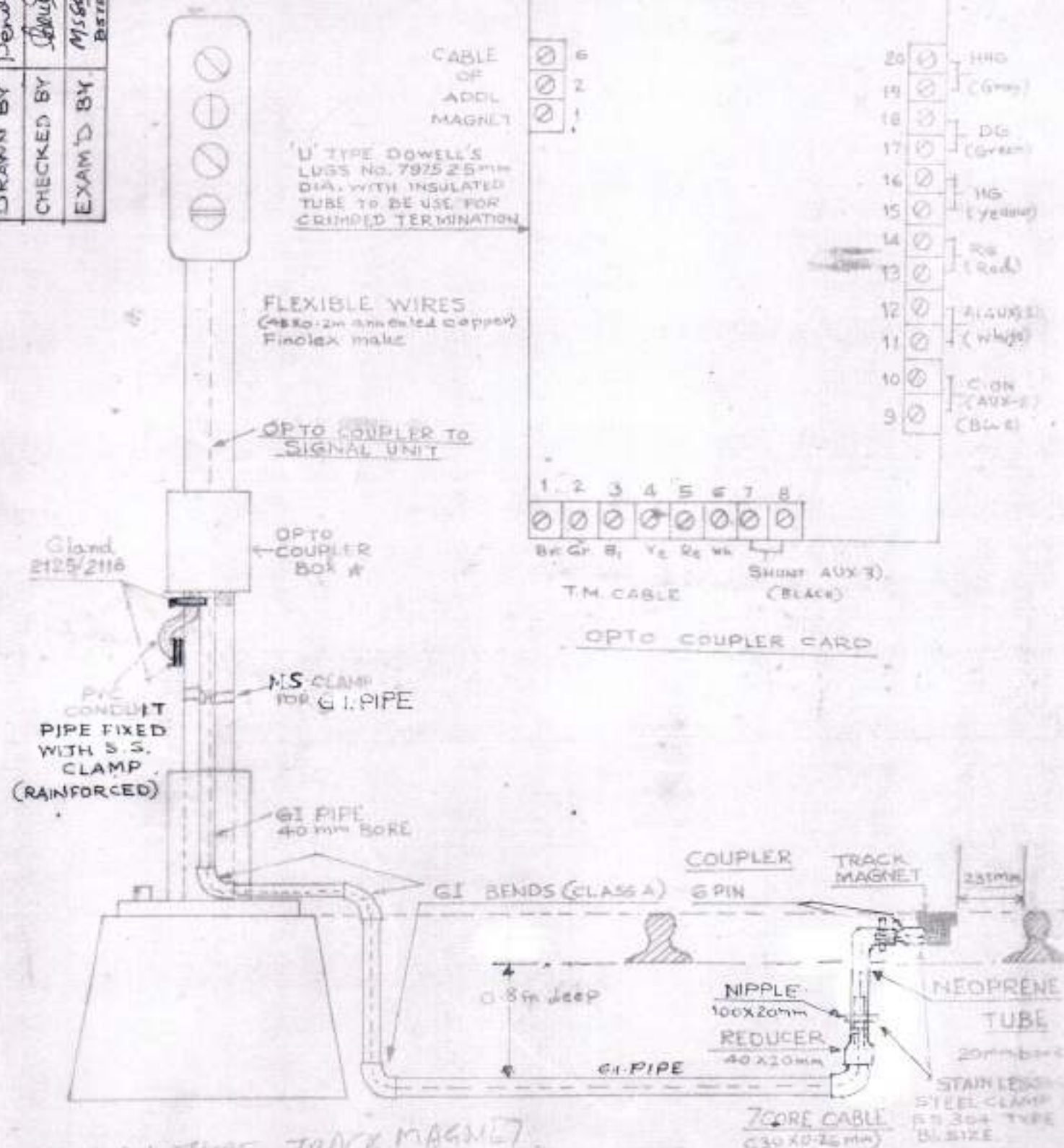
S.S.E. (DI)	AESTE	ESTE	DY.CSTE(HQ.)



MATERIAL:-
JUNGLE WOOD
(POONI OR COMPUSOR KALPAIN)

RAIL DEFLECTOR		CENTRAL RAILWAY(S&T)		DRAWING NO.	
SSE/DO	AESTER/HQ	ESTE/HQ	DY.CSTE/HQ	BB/SK/C/09	
08/02/21	05/12/21	04/03/21	04/03/21		

DRAWN BY	Penlge
CHECKED BY	Penlge
EXAM'D BY	MSB/gmm BSTR/HIS



FOR A1 TYPE TRACK MAGNET

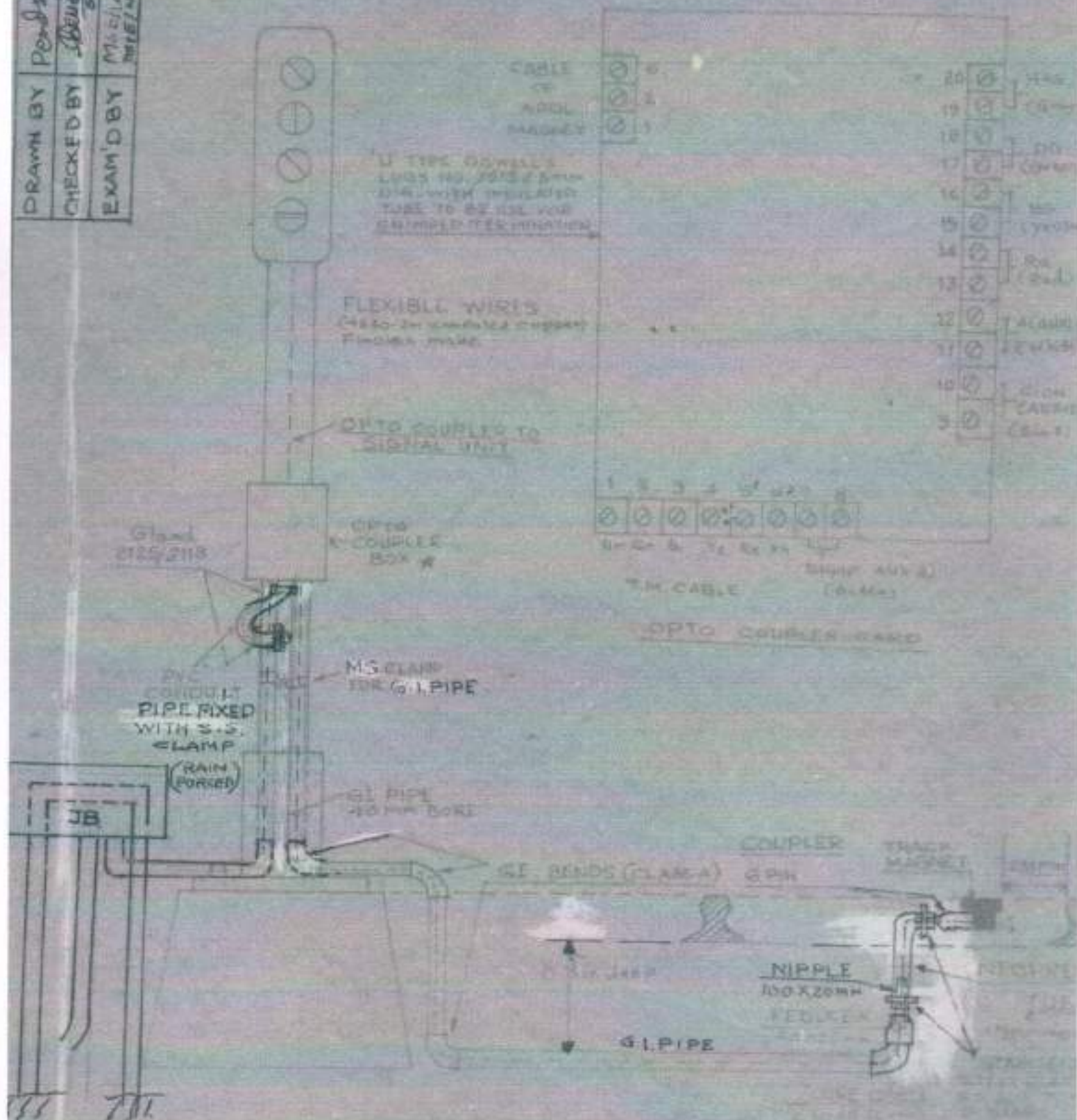
TRACK DEVICE

INSTALLATION DETAILS FOR A1 TYPE TRACK MAGNET

DATE	CENTRAL RLY(S&T)CST	IDR	FIG NO.
23/05/00	<i>[Signature]</i>		R-ST-11545
	SR.DSTF (W&A) STM		(1435 HEE IS) 1/3

* C/T SHOULD BE AT EYE LEVEL WHEN A MAINTAINER STANDS AT THE FOOT OF THE SIGNAL

DRAWN BY	Pendy
CHECKED BY	Deven
EXAM'D BY	M. C. L. / M. N. S.

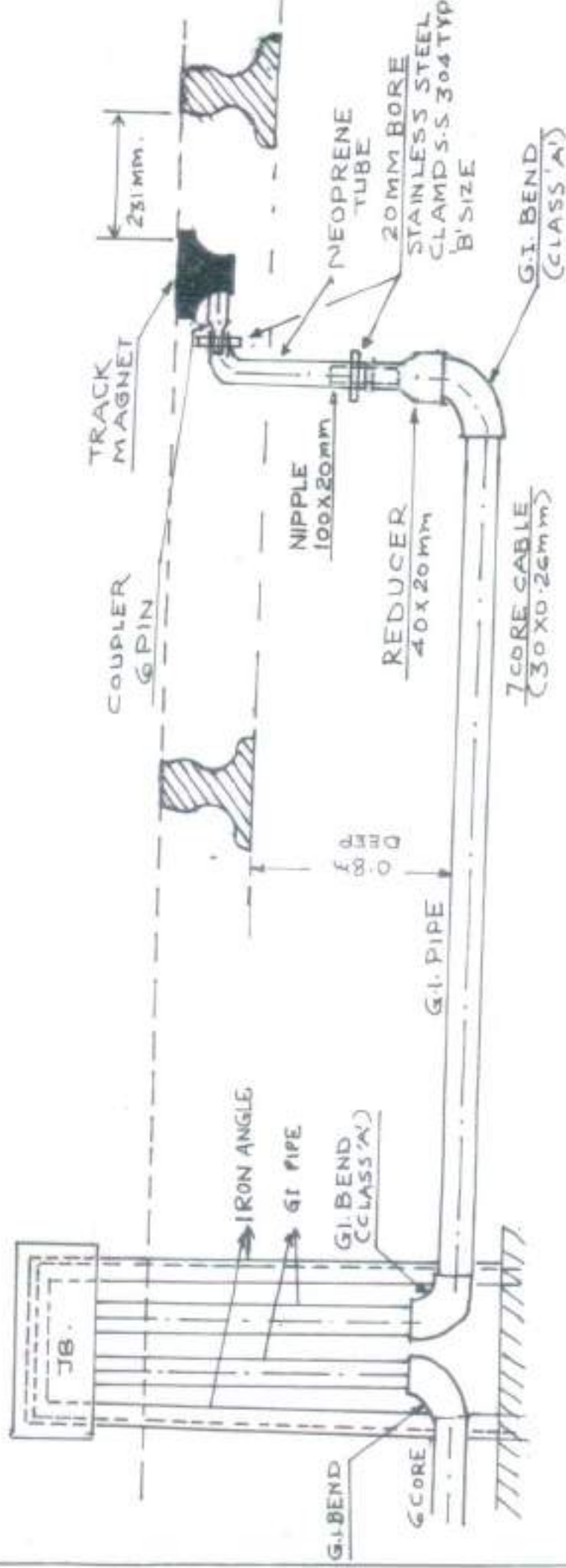


TRACK DEVICE

INSTALLATION DETAILS FOR AI EA2 TYPE TRACK MAGNET.

DATE	CENTRAL RLY (SRDSTE)	DRAWING NO
23/05/00	SRDSTE (WKS) CSTM	R-ST-11545
		(IN 3 SHEETS) 2/3

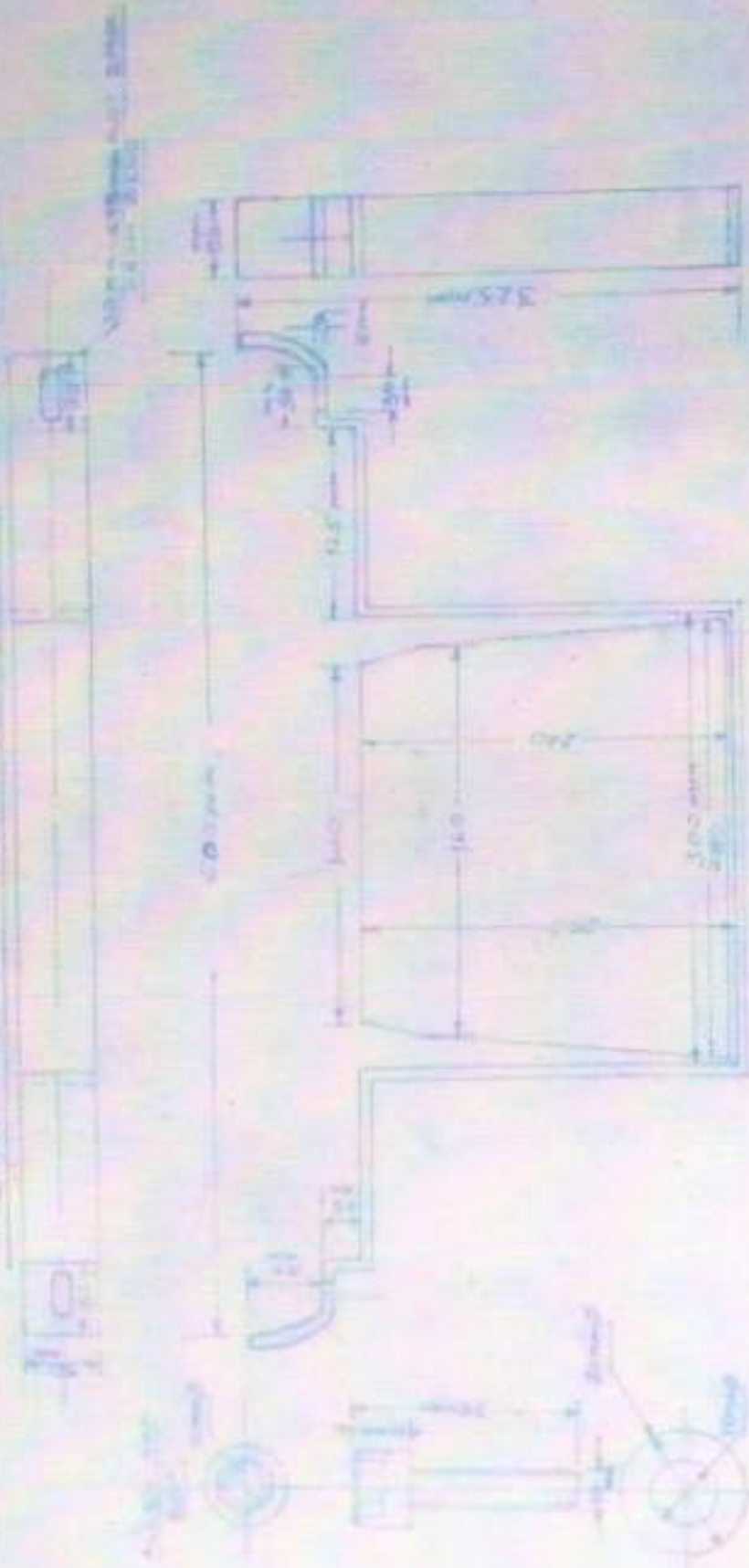
* C.T. SHOULD BE AT EYE LEVEL
WITH A MAINTAINER STANDING
AT THE FOOT OF THE SIGNAL



TRACK DEVICE		CENTRAL RLY (SR) CSTM		DRAWING NO.	
INSTALLATION DETAILS		DATE		R-ST/11545	
(AT 400 METERS IN REAR OF SIGNAL)		23 ⁰⁵ / ₀₀		(IN 3 SHEETS) 3/3	
		SR DSTE (W) CSTM			

DRAWN BY	Pendse
CHECKED BY	
EXAM'D BY	MSSA

ANTI THEFT CLAMP FOR AWS TRACK MAGNET INSTALLATION INSTRUCTION OF TRACK COIL

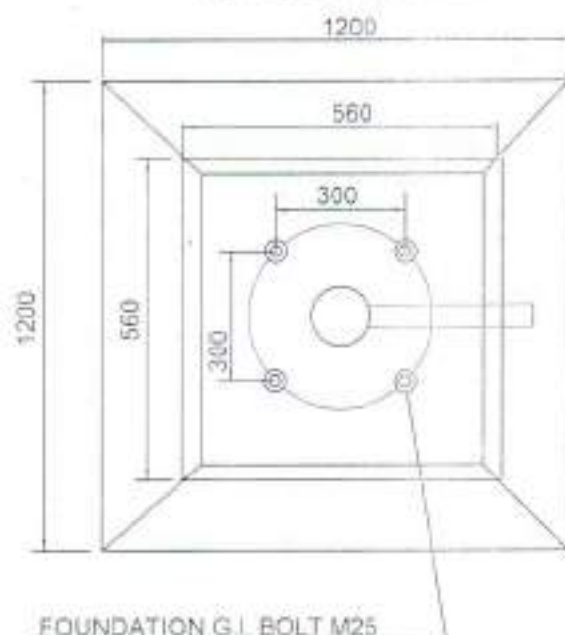
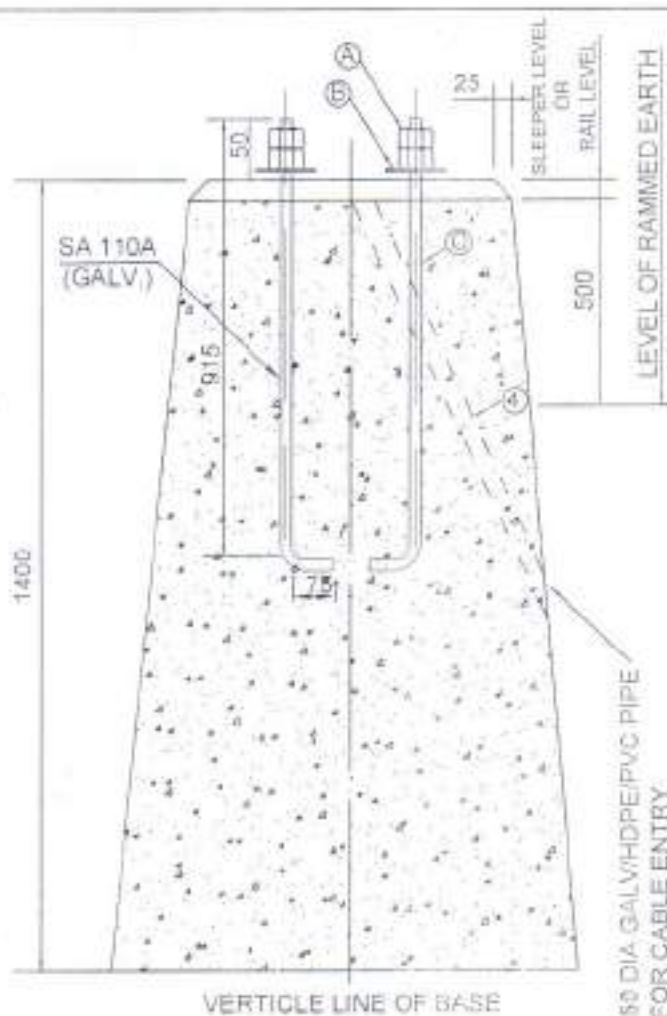


ALL DIMENSIONS ARE IN MM
MATERIAL: 1.5mm

NO.	ITEMS	QUANTITY	UNIT	DATE	CHECKED BY	DRAWING NO.
1	BOLTS	2	PCS	8-12-05	Chen	R-5T-11472/1
2	WASHERS	2	PCS			
3	NUTS	2	PCS			
4	WASHERS	2	PCS			
5	WASHERS	2	PCS			
6	WASHERS	2	PCS			
7	WASHERS	2	PCS			
8	WASHERS	2	PCS			
9	WASHERS	2	PCS			
10	WASHERS	2	PCS			
11	WASHERS	2	PCS			
12	WASHERS	2	PCS			
13	WASHERS	2	PCS			
14	WASHERS	2	PCS			
15	WASHERS	2	PCS			
16	WASHERS	2	PCS			
17	WASHERS	2	PCS			
18	WASHERS	2	PCS			
19	WASHERS	2	PCS			
20	WASHERS	2	PCS			

300 x 150mm

SCHEDULE-B



NOTES:-

1. CASTING OF BOLTS TO BE DONE IN THE CONCRETE BASE DULY TAKING THE MEASUREMENTS OF THE SURFACE BASE AND CIRCLE ALSO ALIGNING THE FOUR HOLES OF THE SURFACE BASE WITH THE BOLT LOCATION 1,2,3 & 4 BY PROVIDING TEMPLATE.
2. ENTIRE FOUNDATION SHOULD BE CAST IN ONE STRETCH AND WITH BOLT ONLY.
3. THERE SHALL BE ENOUGH SLOPE ON THE SURFACE OF FOUNDATION FOR DRAINING OUT ANY WATER.
4. 50 DIA. G.I./HDPE/PVC PIPE FOR CABLE ENTRY TO BE EMBEDDED DURING CASTING ITSELF (AND NOT LATER ON).
5. AFTER CASTING OF BASE AND CURING OF THE SAME IS OVER THE FOUR SIDES OF THE BASE TO BE CLEARED FOR ALL LEFTOVER CONCRETE AND SIDES DULY RAMMED WITH EARTH UPTO 500 BELOW THE TOP OF THE BASE.
6. WHERE REQUIRED PITCHING ON THE RELEVANT SIDES OF THE RAMMED SURFACE WITH 225 TO 300 SIZE BOULDERS SHALL BE DONE AND FILLING THE CREVICES WITH 1:6:12 CONCRETE WITH FINE 15-22 STONE CHIPS PITCHING WILL BE TO THE FULL HEIGHT OF THE RAMMED EARTH.
7. OUTER SURFACE SHOULD BE PLASTERED FROM TOP OF FOUNDATION WITH 1:4 CEMENT, SAND UPTO LEVEL OF 100mm BELOW GROUND LEVEL.
8. FOUNDATION SHALL BE CASTED WITH MIXTURE OF CEMENT, SAND AND STONE CHIPS OF SIZE - 15 TO 22mm IN THE RATIO OF 1:3:6.
9. G.I. FOUNDATION ANCHOR BOLTS WITH NUT, CHECK NUT & WASHER
A) M24 (IS-1365) - 8 NOS
B) M24 (IS-2016) - 4 NOS.
C) GI 24 DIA (IS-228) 4 NOS.
10. FOR FOUNDATION BOLTS, FIRM WILL SUBMIT CERTIFICATE FOR 'IS' SPECIFICATION.
11. ALL DIMENSIONS ARE IN MM.

NOT TO SCALE

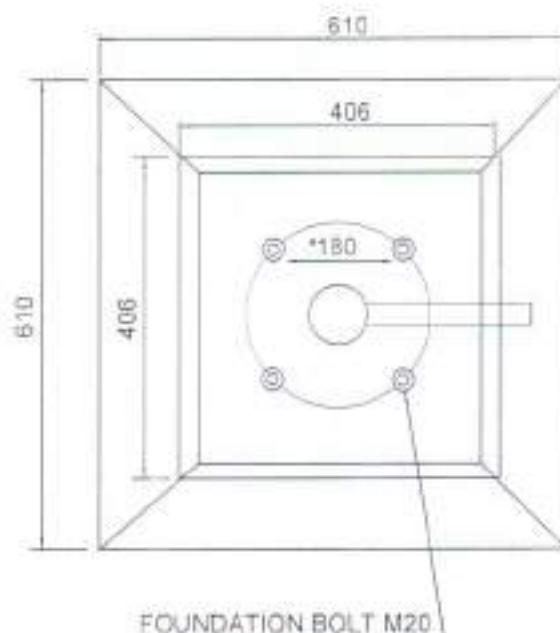
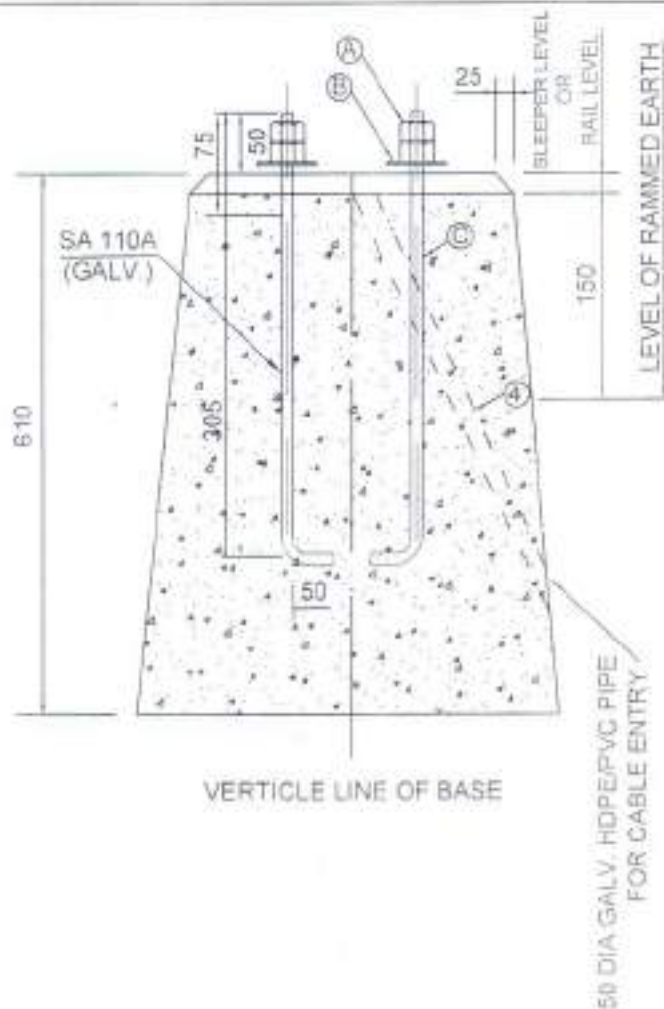
CENTRAL RAILWAY

SIGNAL & TELECOMMUNICATIONS

MAIN SIGNAL
FOUNDATION

DRG. NO. SK 801

S.S.E (D)	AESTE	ESTE	OY.CSTE(HQ)



NOTES:-

1. CASTING OF BOLTS TO BE DONE IN THE CONCRETE BASE DULY TAKING THE MEASUREMENTS OF THE SURFACE BASE AND CIRCLE ALSO ALIGNING THE FOUR HOLES OF THE SURFACE BASE WITH THE BOLT LOCATION 1,2,3 & 4 BY PROVIDING TEMPLATE
2. ENTIRE FOUNDATION SHOULD BE CASTED IN ONE STRETCH AND WITH BOLT ONLY.
3. THERE SHALL BE ENOUGH SLOPE ON THE SURFACE OF FOUNDATION FOR DRAINING OUT ANY WATER.
4. 50 DIA. G.I./HDPE/PVC PIPE FOR CABLE ENTRY TO BE EMBEDDED DURING CASTING ITSELF (AND NOT LATER ON.)
5. AFTER CASTING OF BASE AND CURING OF THE SAME IS OVER THE FOUR SIDES OF THE BASE TO BE CLEARED FOR ALL LEFT OVER CONCRETE AND SIDES DULY RAMMED WITH EARTH UPTO 150mm BELOW THE TOP OF THE BASE.
6. WHERE REQUIRED PITCHING ON THE RELEVANT SIDES OF THE RAMMED SURFACE WITH 225 TO 300 SIZE BOULDERS SHALL BE DONE AND FILLING THE CREVICES WITH 1:6:12 CONCRETE WITH FINE 15-22 STONE CHIPS PITCHING WILL BE TO THE FULL HEIGHT OF THE RAMMED EARTH.
7. OUTER SURFACE SHOULD BE PLASTERED FROM TOP OF FOUNDATION WITH 1:4 CEMENT SAND UPTO LEVEL OF 150mm BELOW GROUND LEVEL.
8. FOUNDATION SHALL BE CASTED WITH MIXTURE OF CEMENT, SAND AND STONE CHIPS OF SIZE - 15 TO 22mm IN THE RATIO OF 1:3:6.
9. G.I. FOUNDATION ANCHOR BOLTS WITH NUT, CHECK NUT & WASHER.
A) M20 (IS-1385) - 8 NOS
B) M20 (IS-2016) - 4 NOS.
C) G.I 20 DIA (IS-226) 4 NOS.
10. FOR FOUNDATION BOLTS, FIRM WILL SUBMIT CERTIFICATE FOR 'IS' SPECIFICATION
11. ALL DIMENSIONS ARE IN MM.

NOT TO SCALE

CENTRAL RAILWAY

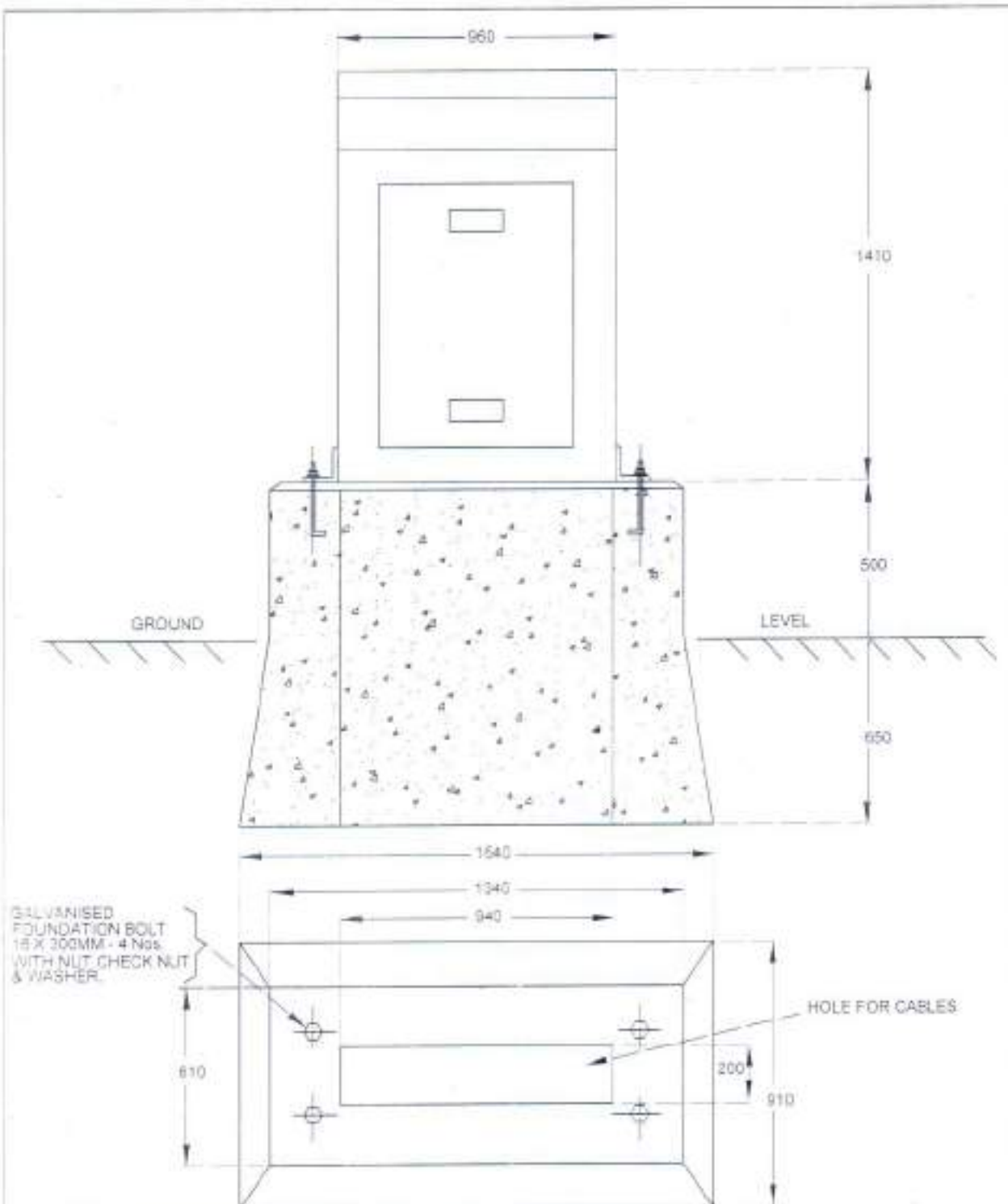
SIGNAL & TELECOMMUNICATIONS

SHUNT SIGNAL
FOUNDATION

DRG. NO. SK 802

S.S.E.(D)	AESTE	ESTE	DY.CSTE(HQ)

SICR/42



NOTES:-

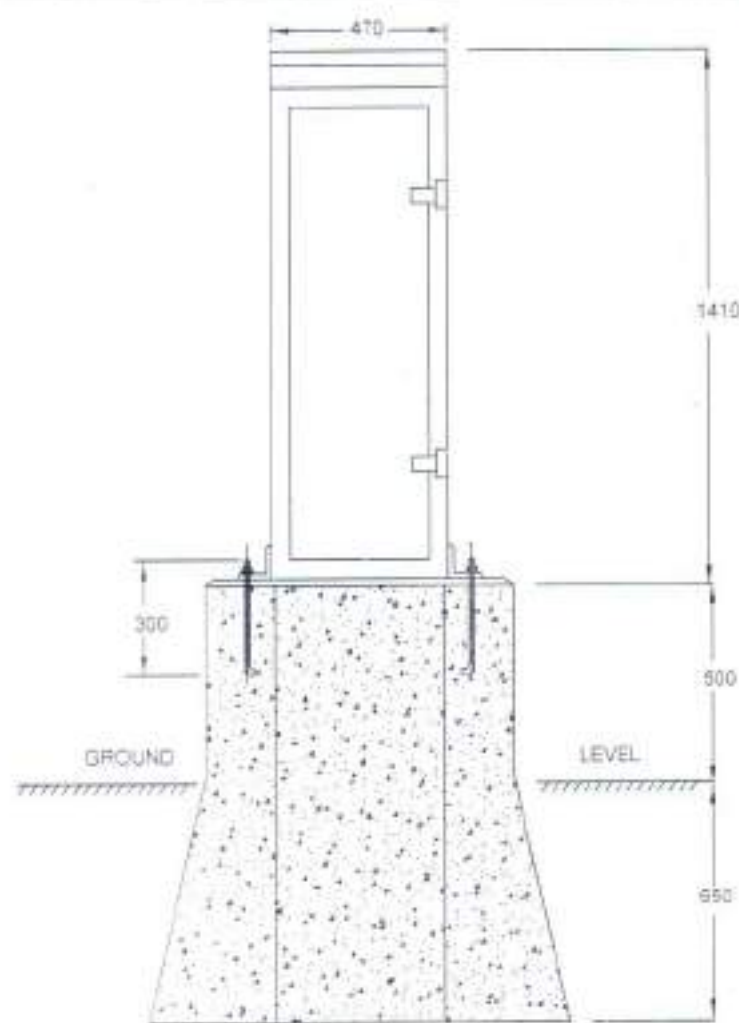
1. ALL DIMENSIONS ARE IN MM.
2. FOUNDATION SHOULD BE CAST AFTER PREPARING TEMPLATE FOR THE FOUNDATION BOLTS.
3. OUTER SURFACE SHOULD BE PLASTERED WITH 1:4 CEMENT SAND UP TO 550MM FROM THE TOP OF THE SURFACE.
4. ON ALL SIDES EARTH SHOULD BE RAMMED UP TO THE LEVEL.
5. FOUNDATION WITH MIXTURE OF CEMENT, SAND AND STONE CHIPS SIZE 15 TO 22 (1:3:6).
6. THE LOCATION OF THE APPARATUS CASE WILL BE GIVEN BY THE INSPECTOR AT SITE.
7. WHERE REQUIRED PITCHING ON THE RELEVANT SIDES OF THE RAMMED SURFACE WITH 225 TO 300 SIZE BOULDERS SHALL BE DONE AND FILLING THE CREVICES WITH 1:6:12 CONCRETE WITH FINE 20 STONE CHIPS. PITCHING WILL BE TO THE FULL HEIGHT OF THE RAMMED EARTH.
8. HOLE CENTRE FOR ANCHOR BOLTS DEPENDS UPON THE AVAILABILITY OF LOCATION BOX WHETHER, THE HOLES ARE INSIDE THE LOCATION BOX OR OUTSIDE.
9. FOR FOUNDATION BOLTS, FIRM WILL SUBMIT CERTIFICATE FOR "BIS" SPECIFICATIONS.

SCALE: 1 N.T.S.

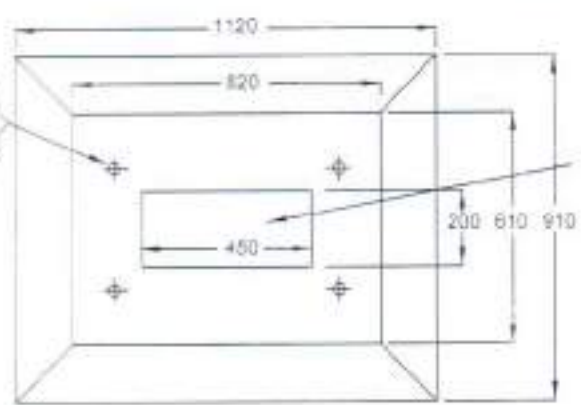
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S.S.E.(D)	AESTE	ESTE	DY.CSTE(HQ)

5728/10

CENTRAL RAILWAY
SIGNAL & TELECOMMUNICATIONS
FOUNDATION FOR APPRATUS CASE (SINGLE)
DRG. NO. SK 803



GALVANISED FOUNDATION BOLT
16 X 300MM - 4 Nos.
WITH NUT CHECK NUT & WASHER



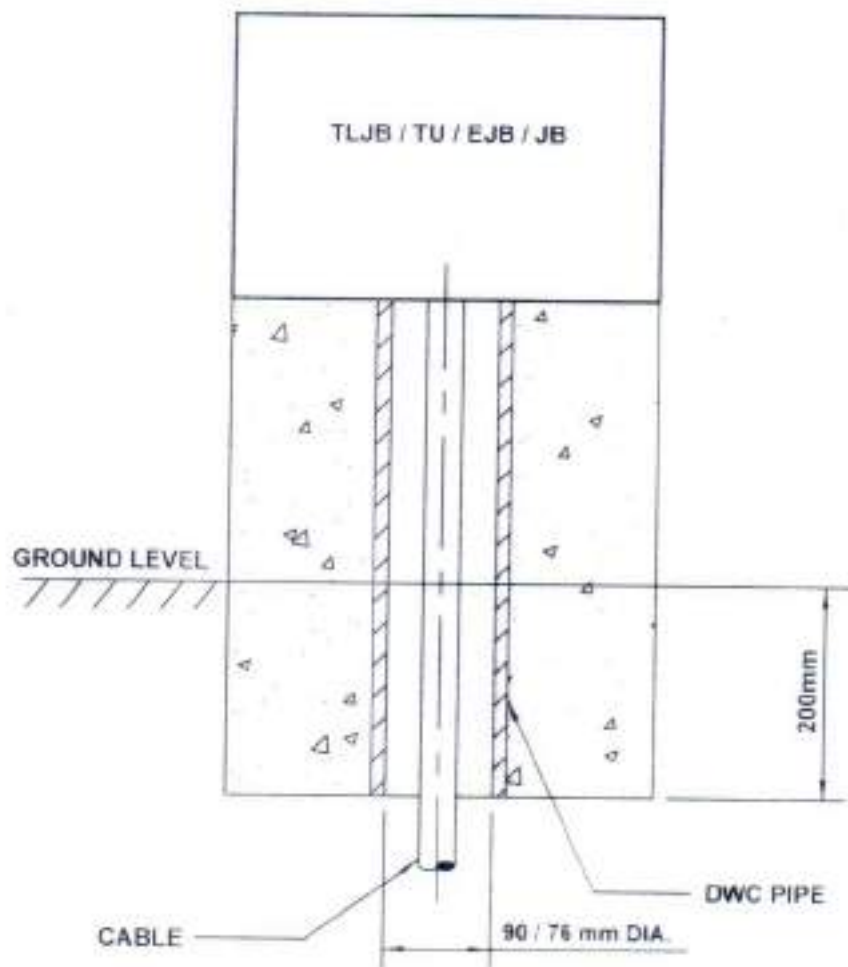
NOTES:-

1. ALL DIMENSIONS ARE IN MM
2. FOUNDATION SHOULD BE CAST AFTER PREPARING TEMPLATE FOR THE FOUNDATION BOLTS
3. OUTER SURFACE SHOULD BE PLASTERED WITH 1:4 CEMENT SAND UPTO 550MM FROM THE TOP OF THE SURFACE
4. ON ALL SIDES EARTH SHOULD BE RAMMED UPTO THE LEVEL
5. FOUNDATION WITH MIXTURE OF CEMENT, SAND AND STONE CHIPS SIZE 15 TO 22 (1:3:6)
6. THE LOCATION OF THE APPARATUS CASE WILL BE GIVEN BY THE INSPECTOR AT SITE
7. WHERE REQUIRED PITCHING ON THE RELEVANT SIDES OF THE RAMMED SURFACE WITH 225 TO 300 SIZE BOULDERS SHALL BE DONE AND FILLING THE CREVICES WITH 1:6:12 CONCRETE WITH FINE 20 STONE CHIPS. PITCHING WILL BE TO THE FULL HEIGHT OF THE RAMMED EARTH.
8. HOLE CENTRE FOR ANCHOR BOLTS DEPENDS UPON THE AVAILABILITY OF LOCATION BOX WHETHER THE HOLES ARE INSIDE THE LOCATION BOX OR OUTSIDE
9. FOR FOUNDATION BOLTS, FIRM WILL SUBMIT CERTIFICATE FOR 'BIS' SPECIFICATIONS.

SCALE - N.T.S.

<i>[Signature]</i> S.S.E (D)	<i>[Signature]</i> A.E.S.T.E	<i>[Signature]</i> E.S.T.E	<i>[Signature]</i> BY C.S.T.E (H.O.)
2/3/24			

CENTRAL RAILWAY
SIGNAL & TELECOMMUNICATIONS
FOUNDATION FOR APPRATUS CASE (HALF)
DRG. NO. SK 804



NOTES :-

- 1) ELEVATED SIGNALLING JB's, TLJB's, TU's & EJB's ETC SHALL BE PROVIDED WITH CONCRETING FROM 200 mm BELOW GROUND LEVEL TO BOTTOM SURFACE OF JB's TO PROTECT CABLE FROM GROUND TO JB's ENTRY.
- 2) CABLE TO BE TAKEN THROUGH DWC PIPE.
- 3) TWO MS ANGLES (40x40x5 mm) & LENGTH 1200 mm SHALL BE PROVIDED FOR SUPPORT FOR TLJBs
- 4) TWO ANGLES 50x50x5 mm & LENGTH 1200 mm SHALL BE PROVIDED FOR TU's (ALSTHOM, ABB & US&S)
- 5) C CHANNEL 50x100x50 mm (5 mm THICK) & LENGTH 1200 mm SHALL BE PROVIDED FOR SIEMENS TU's & SIEMENS DAC.

SIGNAL & TELECOMMUNICATIONS

ERECTION DRAWING FOR ELEVATED TRACK SIDE SIGNAL FITTINGS

CENTRAL RLY. DRG.No. SK - 845

<i>A.S. Kulkarni</i> 4/12/11	<i>Rajesh</i> 9/12/11	<i>Jay</i> 08/12/11	<i>Chiranjiv</i> 8/12
DRAWN BY	AESTE/D0	ESTE/HQ	f CSTE

DIAGRAM OF CONNECTION FOR TU/ETU WITH RAIL

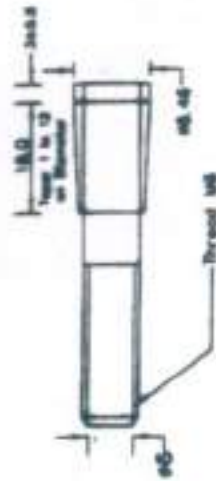
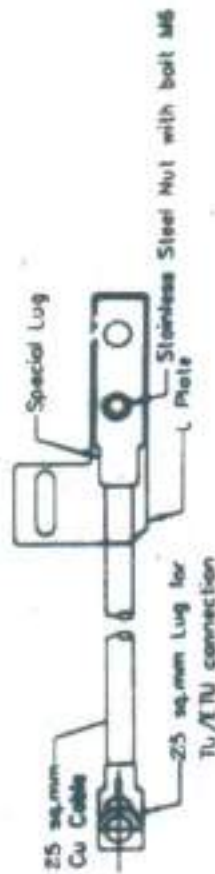
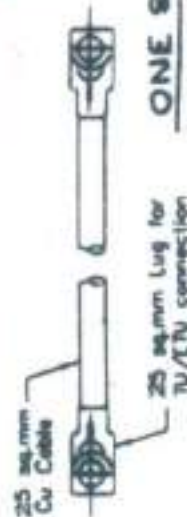


DIAGRAM OF CONNECTION FOR ETU WITH IMPEDANCE BONDS



ONE SET BOND PLATE

- 1) METAL TAPER PIN - 4 NOS
- 2) WIDE NUT - 16 NOS
- 3) WIDE PLAIN WASHER - 16 NOS
- 4) SPRING WASHER - 4 NOS
- 5) NYLON WASHER - 4 NOS
- 6) HEX. BOLT - 2 NOS
- 7) TAPER PIN - 2 NOS
- 8) CABLE PLATE

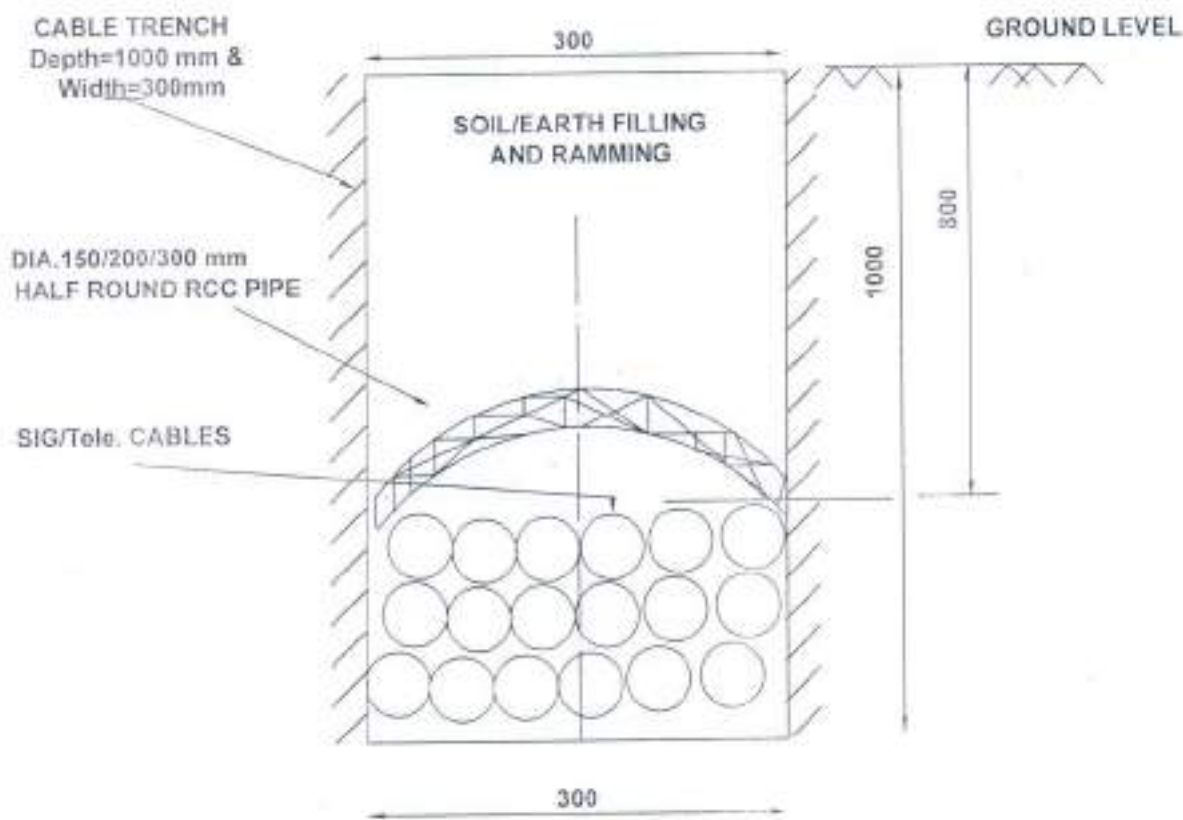
TU-Tuning Unit
ETU-End Termination Unit

BOND PLATE CONNECTION FOR
TU/ETU WITH RAIL OF AFTC.

DATE: 01-11-03
DRAW BY: [Signature]
CENTRAL RLY (S&M) CSTM

DSTE 'S' CSTM.
W.A. 1/11/03

DRAWING NO.
R-ST.11700

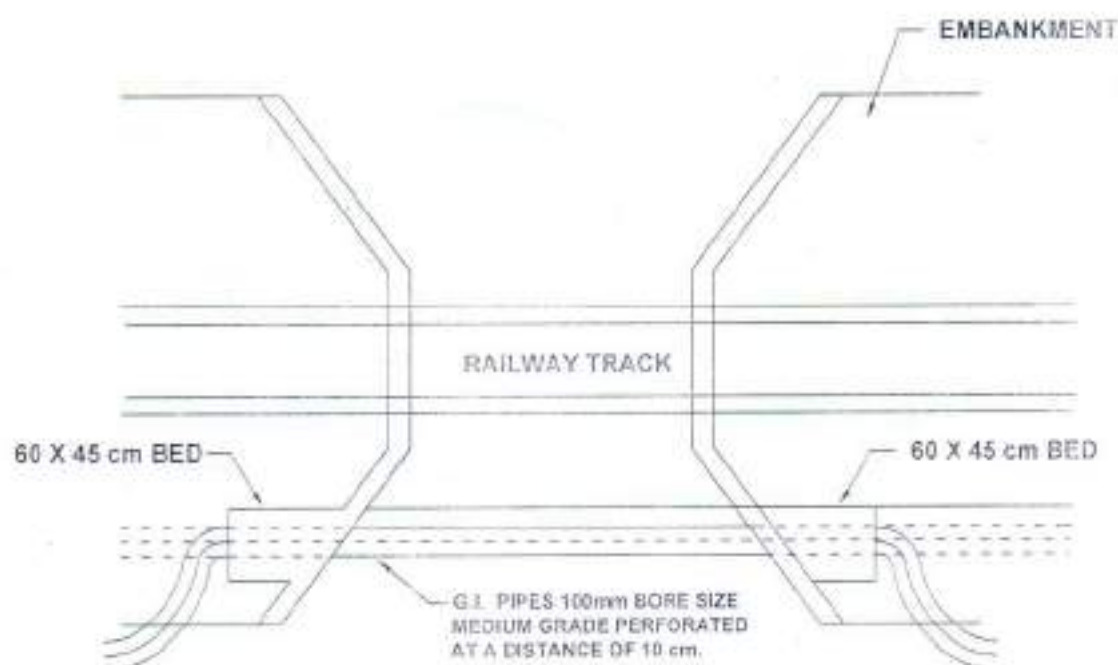
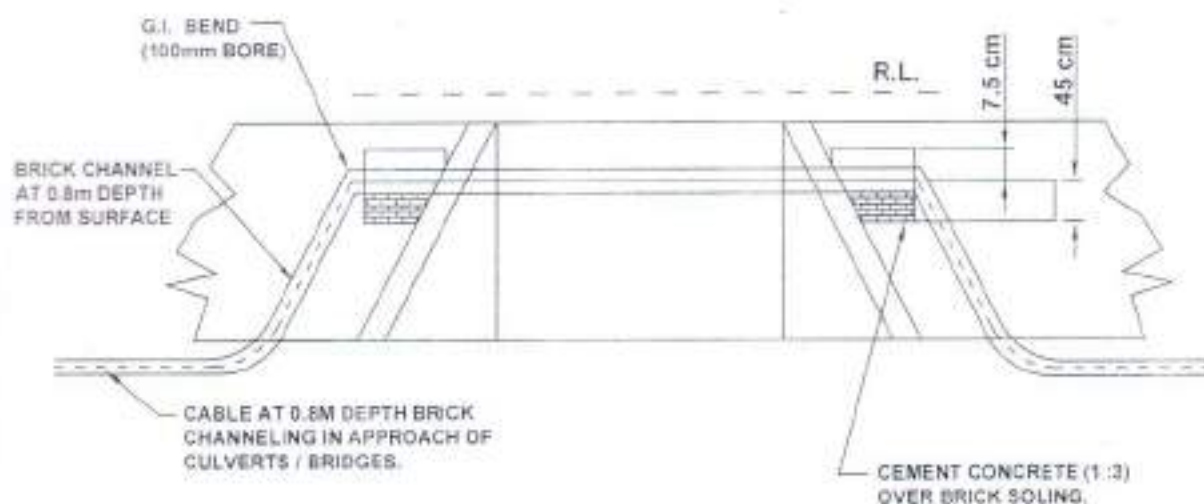


NOTES -

1. ALL DIMENSIONS ARE IN mm.
2. RCC HALF ROUND PIPE
150/200/300 mm Dia. as per site requirement
3. RCC half round pipes shall be matching to IS: 458/2003 Amd.-1 with Rev.-4
4. Cable markers shall be buried along the centre line of trench at every 30 meters and also on diversions & crossings.
5. Length of marker shall be 1000 mm and as per approved drawing

NOT TO SCALE

				CENTRAL RAILWAY
				SIGNAL & TELECOMMUNICATIONS
				CABLES LAYING IN NORMAL/HARD SOIL
				DRG. NO. SK 805
S.S.E.(D)	AESTE	ESTE	DY.CSTE(HQ)	



NOT TO SCALE

CENTRAL RAILWAY

SIGNAL & TELECOMMUNICATIONS

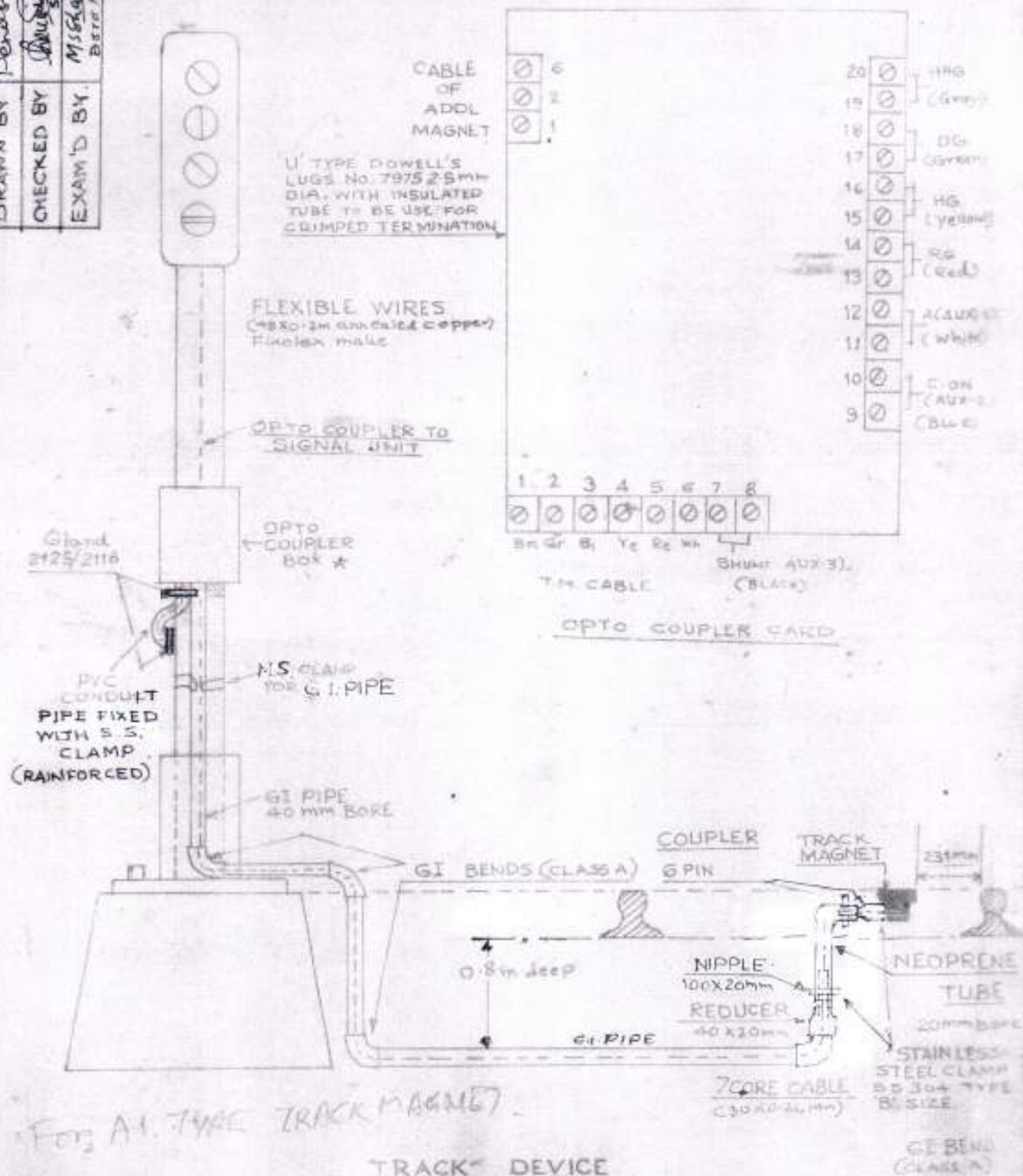
G.I. PIPE ON CULVERTS & BRICK CHANNELING IN APPROACH OF CULVERTS / BRIDGES.

DRG. NO. SK 808

S.S.E.(D) AESTE ESTE DY.CSTE(HQ)

5/08/03

DRAWN BY	Don't
CHECKED BY	Don't
EXAM'D BY	Mishra
	BSTG N/3



FOR A1 TYPE TRACK MAGNET

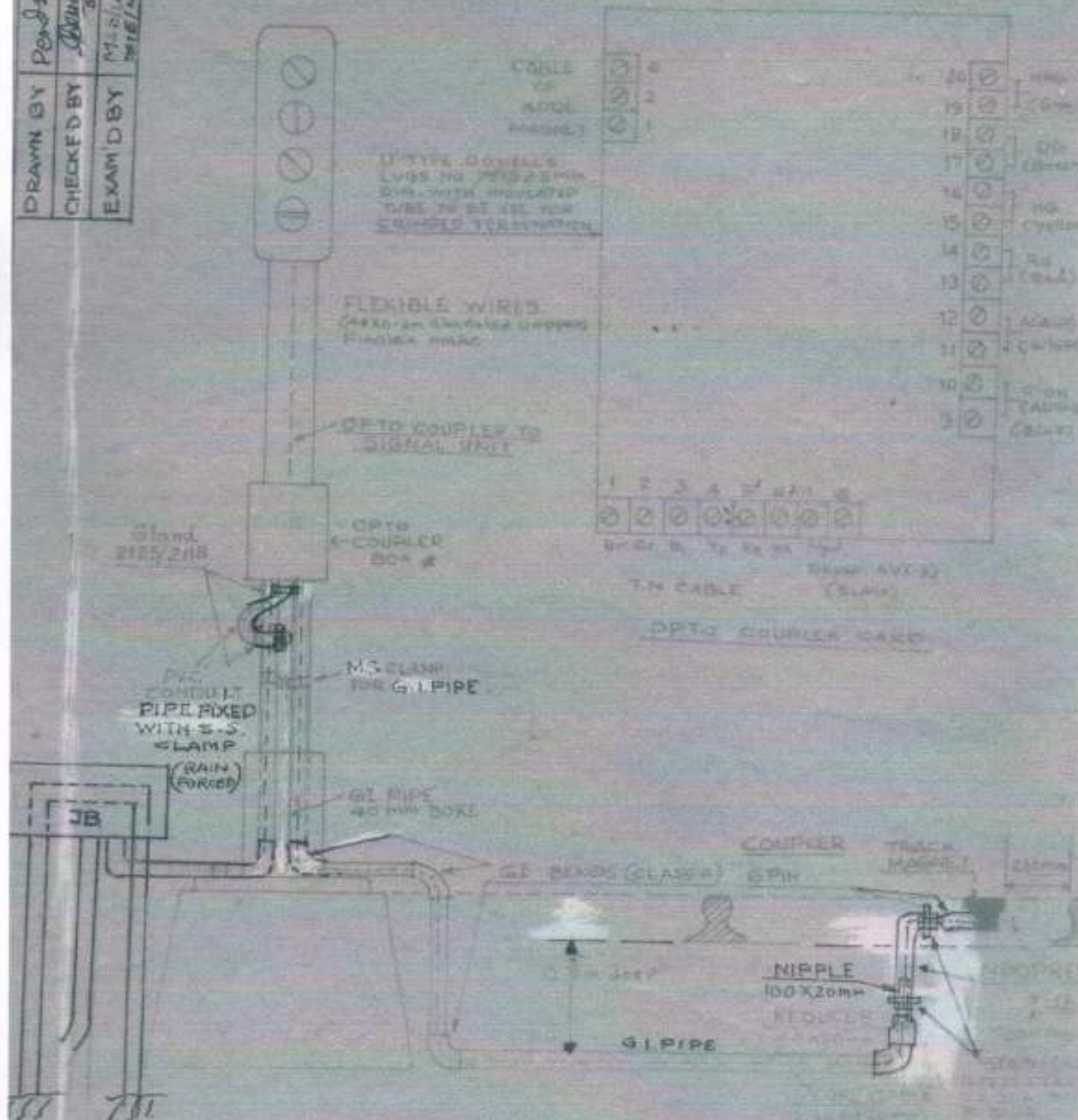
TRACK DEVICE

INSTALLATION DETAILS FOR A1 TYPE TRACK MAGNET

DATE	CENTRAL RLY(S&D)CST	ISF	WG. NO.
23/05/00	<i>[Signature]</i>		R-ST-11545
	SRDSTE(WK)STM	(1435 SHEETS)	1/3

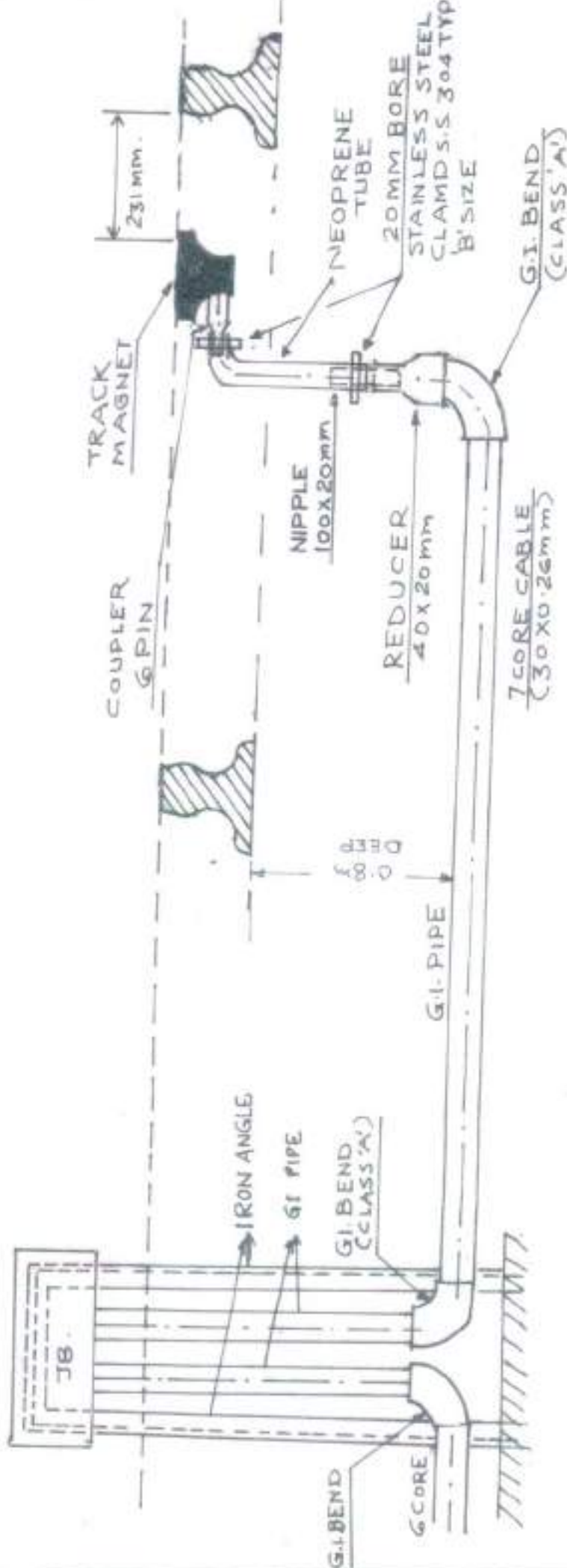
* IT SHOULD BE AT EYE LEVEL WHEN A MAINTAINER STANDS AT THE FOOT OF THE SIGNAL

DRAWN BY	Pendse
CHECKED BY	Shinde
EXAM'D BY	M. S. Jadhav



* C.T. SHOULD BE AT EYE LEVEL
WHEN A MAINTAINER STANDS
AT THE FOOT OF THE SIGNAL

DATE	CENTRAL RY (S&D) CST	DRAWING NO
23 ⁰⁵ / ₀₀	<i>Shinde</i> 23/5/2000	R-ST-11545
SRDSTE (WKS) GSTIM		(IN 3 SHEETS) 2/3



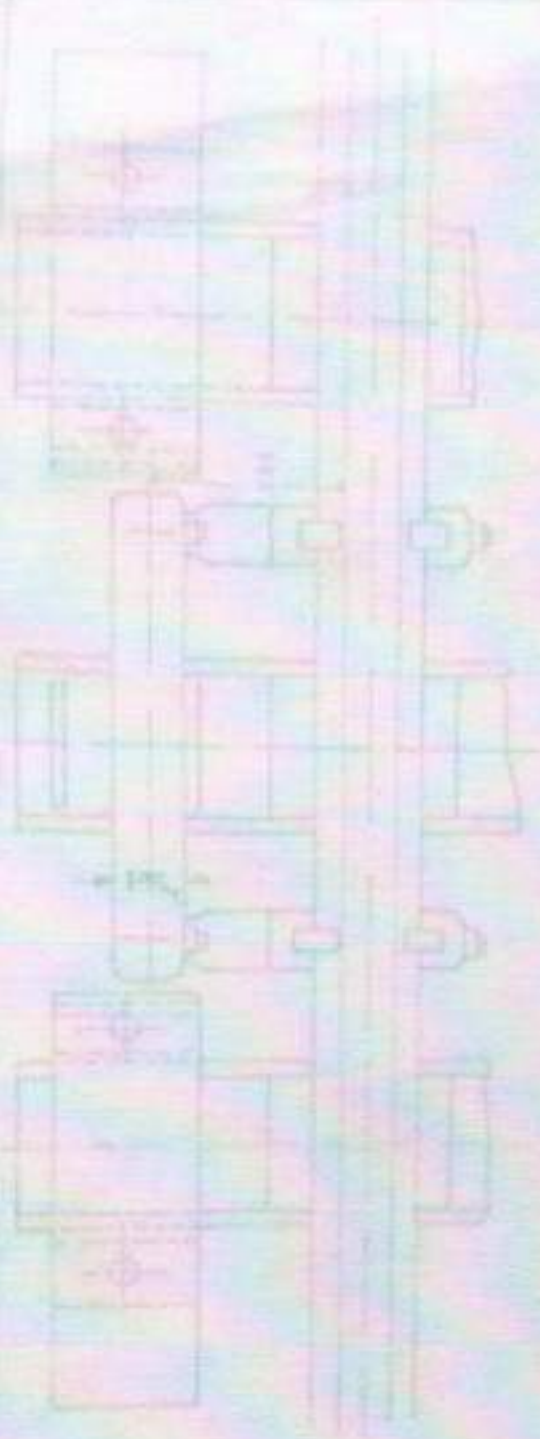
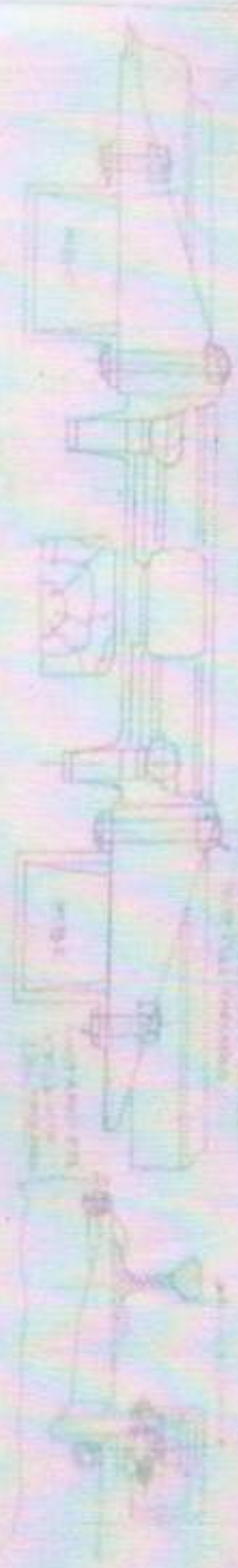
12

TRACK DEVICE		CENTRAL RLY (SRT) CSTM		DRAWING NO.	
INSTALLATION DETAILS		DATE		R-ST/11545	
(AT 400 METERS IN REAR OF SIGNAL)		23 ⁰⁵ ₀₀		(IN 3 SHEETS) 3/3	
		SR.DS.TE (W) CSTM.			

DRAWN BY	Pendga
CHECKED BY	
EXAM'D BY	MSSAAN
	ASTG/in

INSTALLATION INSTRUCTION DEFLECTOR TRACK COIL (A.M.M.)

See K-1000 for details
on all dimensions



DATE	CENTRAL RECORDS	MEMORANDUM	NO.
8-1-72	8-1-72	R-ST 1472	
P-8152			

