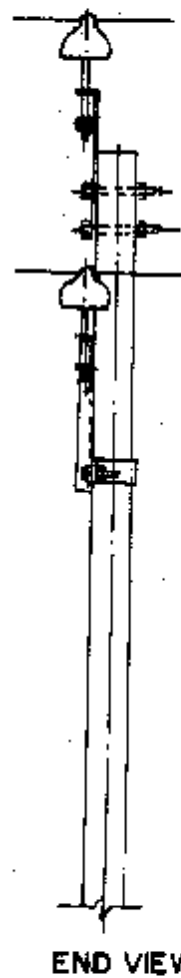
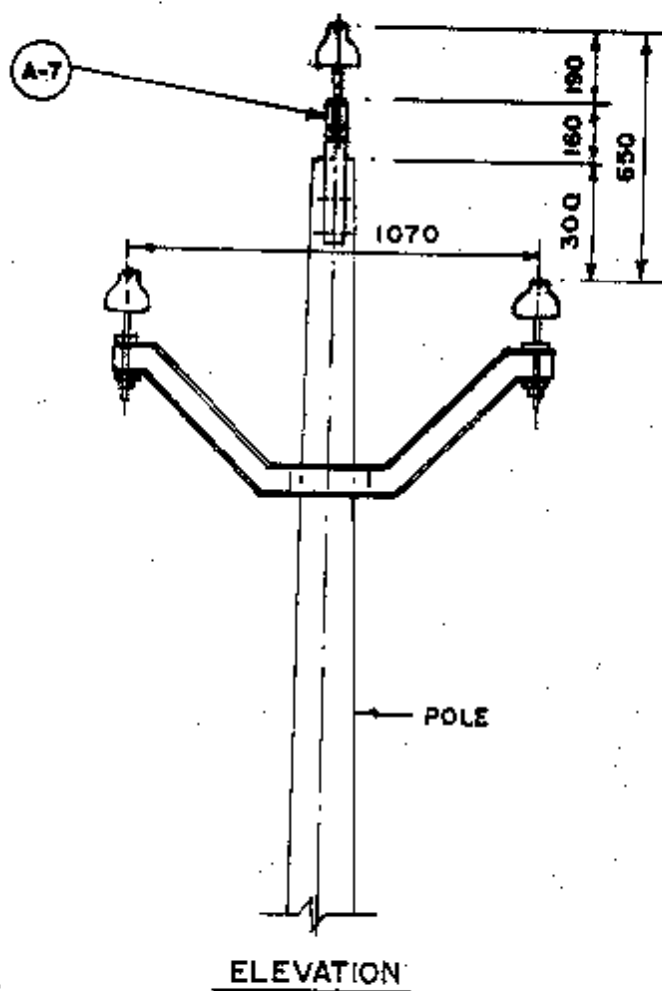


REC CONSTRUCTION STANDARD A-2



**TANGENT LOCATION
MAXIMUM SPAN-107 METRES**

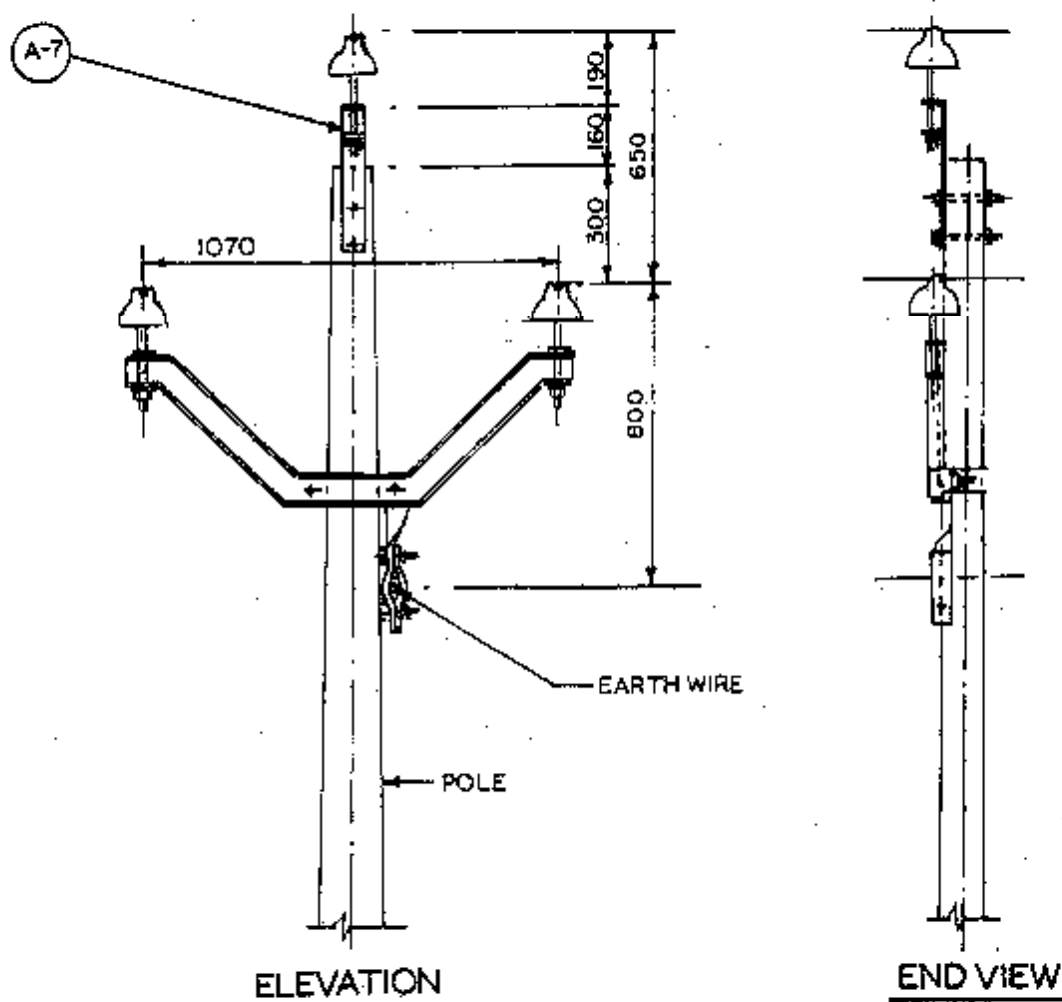
ALL DIMENSIONS ARE IN mm

११ के. वी. लाईनें
भूतल के बिना कन्डक्टर खना व अन्तराल
11 KV LINES
CONDUCTOR FORMATION AND
CLEARANCES
WITHOUT EARTH WIRE

SCALE: - N.T.S

SEPT.-1972

REC CONSTRUCTION STANDARD A-3



TANGENT LOCATION
MAXIMUM SPAN-107 METRES

NOTE:- 11KV-CONSTRUCTION WITHOUT CONTINUOUS
EARTH WIRE VIDE A-2 IS PREFERRED.

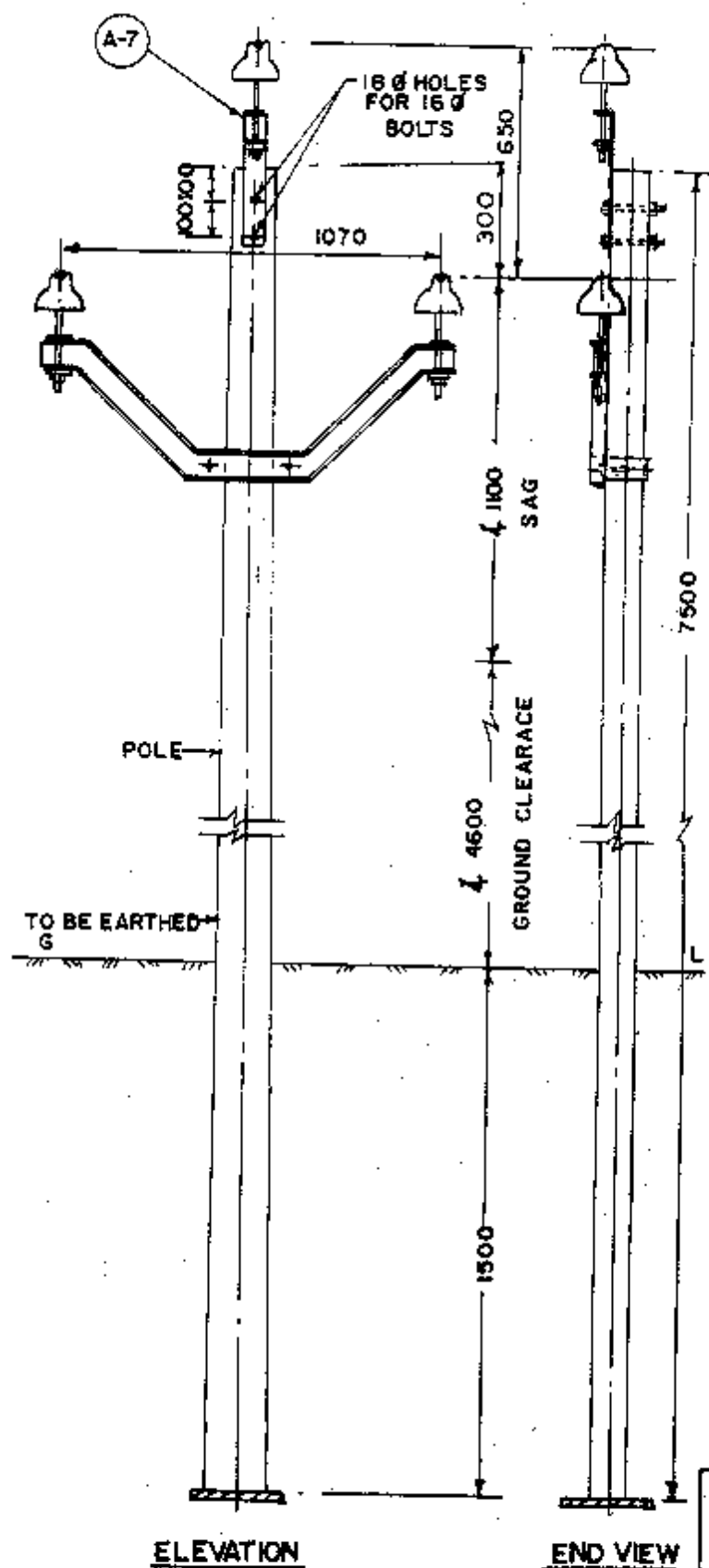
ALL DIMENSIONS ARE IN mm.

११ के. वी. लाईन
भू तार सहित कन्डक्टर-खाना व अन्तराल
11 KV LINES
CONDUCTOR FORMATION AND
CLEARANCES
WITH EARTH WIRE

SCALE:- N.T.S

SEPT. - 1972

REC CONSTRUCTION STANDARD A-4



BILL OF MATERIAL

7.5 M SUPPORT	1
POLE TOP BRACKET	1
V-CROSS ARM	1
BACK CLAMP	1
BOLTS - 16 Ø	4
11 KV PIN INSULATORS	3
11 KV PINS	3
EARTHING COMPLETE	1

TANGENT LOCATION
MAXIMUM SPAN-107 METRES

CROSS COUNTRY

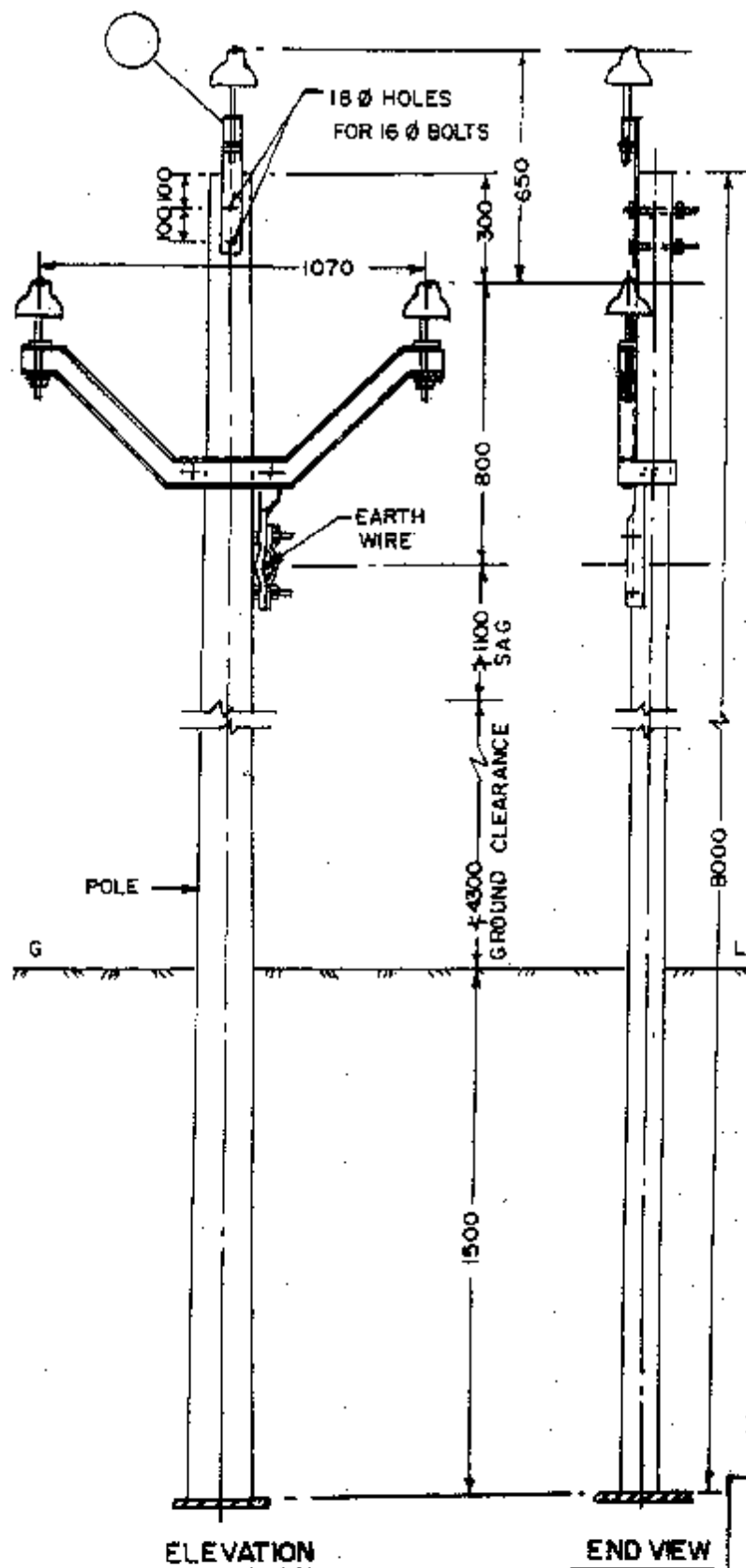
ALL DIMENSIONS ARE IN mm.

११ के. वी. लाईन
भु तार के बिना समर्थ
11 KV LINES
SUPPORTS
WITHOUT EARTH WIRE

SCALE:- N.T.S

SEPT. - 1972.

REC CONSTRUCTION STANDARD A-5



BILL OF MATERIAL

SM - SUPPORT	1
POLE TOP BRACKET	1
V-CROSS ARM	1
BACK CLAMP	1
BOLTS 16 Ø	4
11 KV PIN INSULATORS	3
11 KV PINS	3
POLE EARTHING	AS REQD.
EARTH WIRE CLAMP WITH BOLTS & NUTS	1

TANGENT LOCATION
MAXIMUM SPAN 107 METRES
CROSS COUNTRY
ALL DIMENSIONS ARE IN mm.

११ के. वी. लाईन
भूतल सहित समर्थ

11 KV LINES
SUPPORTS
WITH EARTH WIRE

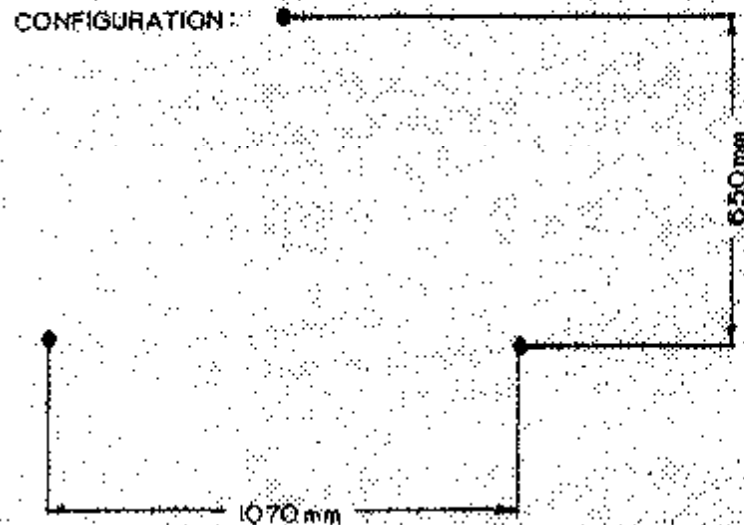
NOTE: - 11 KV CONSTRUCTION WITHOUT CONTINUOUS EARTH WIRE
VIDE A-4 IS PREFERRED.

SCALE: - N.T.S

SEPT. - 1972

R.E.C.
CONSTRUCTION STANDARD
A-9
(R-MAY, 1993)

KW - KM FOR 11KV 3 - PHASE LINES FOR 1% VOLTAGE DROP



CONDUCTOR	KW-KM FOR 1% VOLTAGE DROP *			
	1.0 p.f.	0.9 p.f.	0.8 p.f.	0.7 p.f.
7/2-11mm ACSR	727	652	617	585
7/2-59mm ACSR	1048	902	838	782
7/3-95mm ACSR	1703	1356	1219	1106

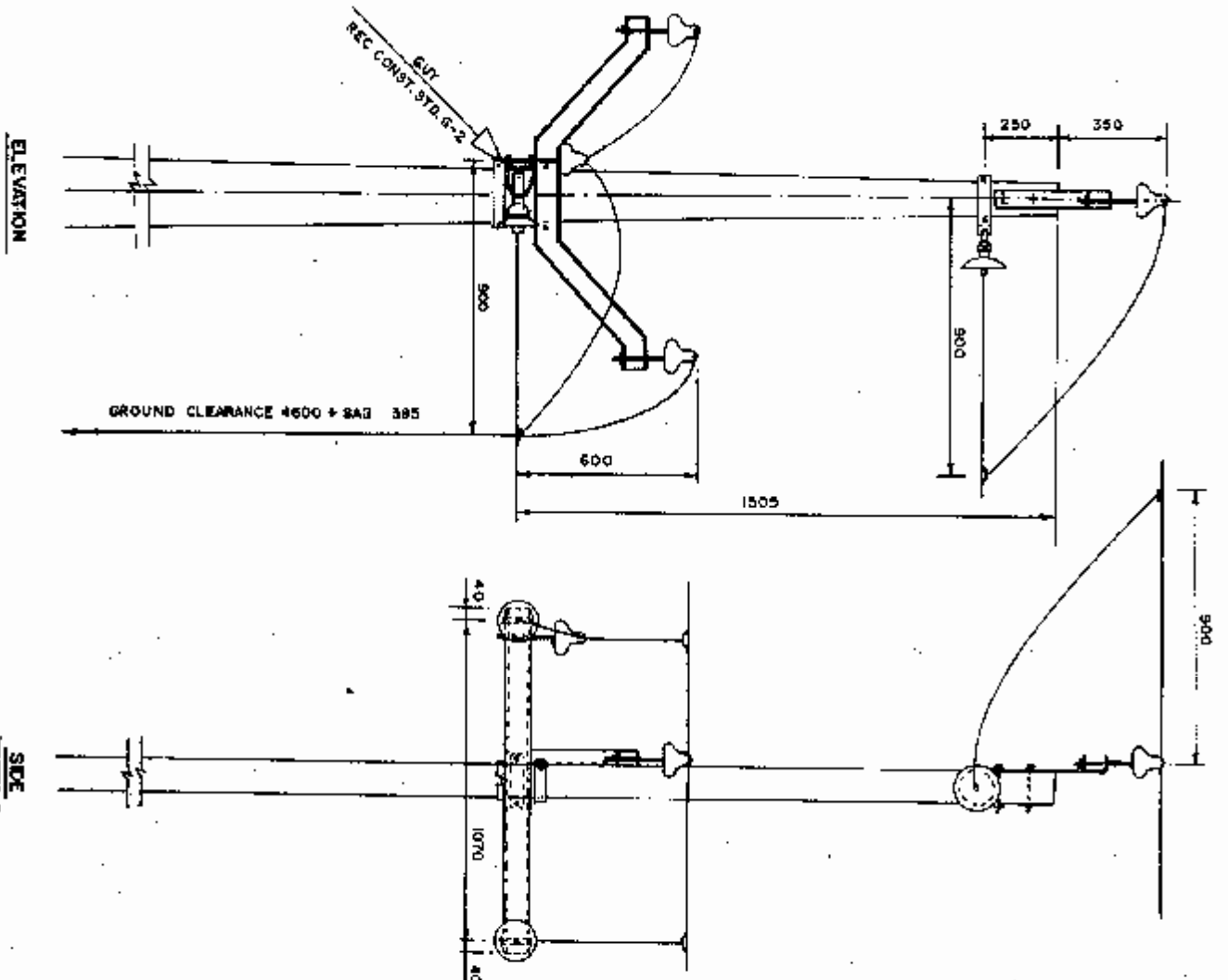
* FOR A CONDUCTOR TEMPERATURE 60°C, FOR A CONDUCTOR TEMPERATURE OF 50°C THE ABOVE FIGURES WOULD BE 3% HIGHER, AND FOR A TEMPERATURE OF 70°C, ABOUT 3% LOWER

ALL DIMENSIONS ARE IN mm.

र. क. वी. लाईन
कम्पनी फर आर कन्सल्टर
केन्द्रीय नियमन यारणी
11KV LINES
A.C.S.R CONDUCTOR
VOLTAGE REGULATION TABLE

SCALE: N.T.S. | SEPT 1973 | R-MAY, 1993

REC
CONSTRUCTION STANDARD
A-II



BILL OF MATERIAL

P.C.C. SUPPORT	8M LONG	1No.
CHANNEL I FOR V - CROSS ARM I	REFER REC CONST STD. A-0	1No.
CHANNEL I FOR HORIZONTAL CROSS ARM I	75X40 - 1120 (APPROX. I)	1No.
11KV STRAIN INSULATORS WITH HARDWARE	—	3 Nos.
11KV PIN INSULATORS WITH PINS	—	4 Nos.
POLE TOP BRACKET	REFER REC CONST STD. A-7	1No.
GOV SET	REFER REC CONST STD. G-2	1No.
BASE PLATE	REFER REC CONST STD. K-1	1No.
PIPE / ROD EARTHING	REFER REC CONST STD. J-2	1No.
BACK CLAMP (FOR V-CROSS ARM I)	REFER REC CONST STD. K-2	1No.
EARTHING MATERIAL, NUTS, BOLTS, CLAMPS ETC.	—	AS REQUIRED

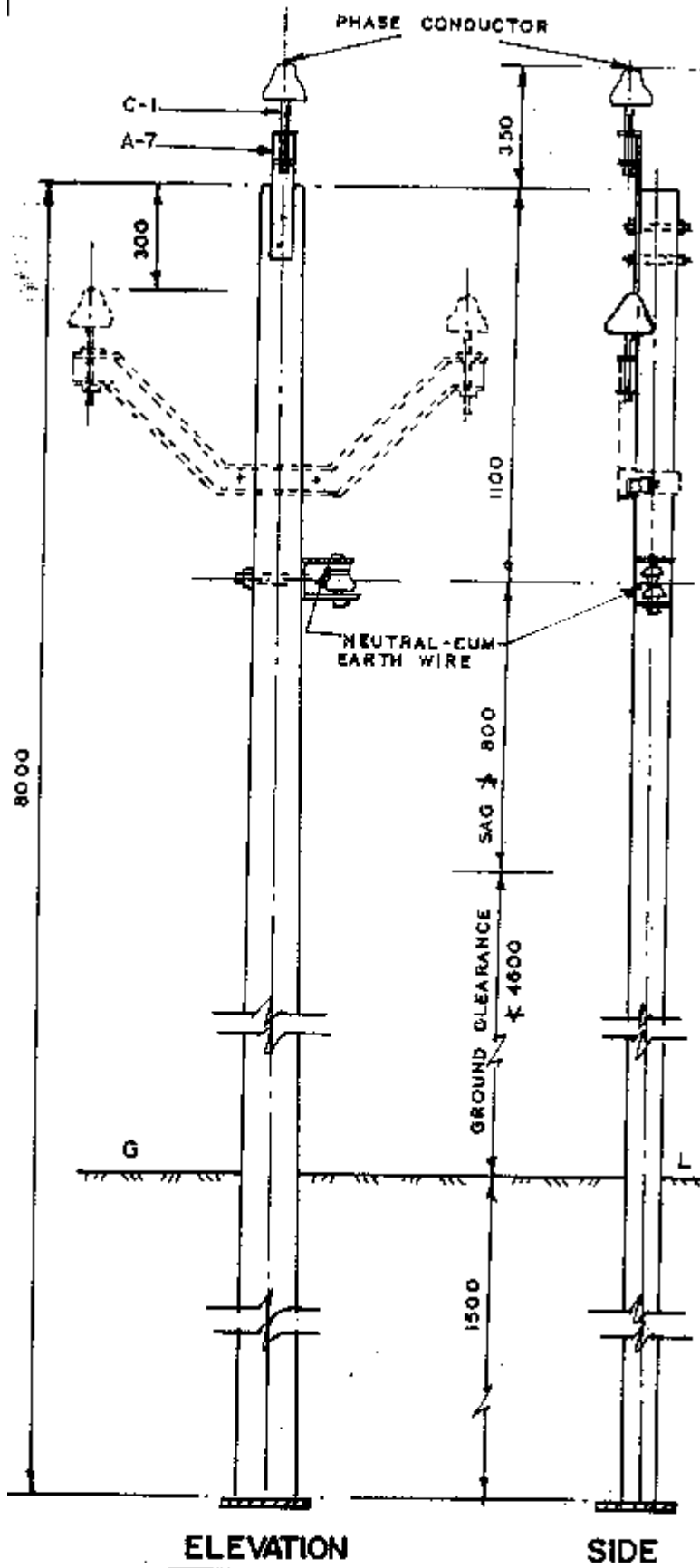
NOTE: MAXIMUM SPAN BETWEEN THE TAPPING POLE AND ADJACENT POLE OF THE BRANCH LINE = 50 METRES

ALL DIMENSIONS ARE IN MM.

11 KV LINE
TAPPING ARRANGEMENT
SINGLE POLE TAPPING

SCALE: NTS 1 FEB - 1979

REC CONSTRUCTION STANDARD A-17



BILL OF MATERIAL

P.C.C SUPPORT 6M	
POLE TOP BRACKET	
11KV PIN INSULATOR WITH PIN	
SHACKLE INSULATOR	
U-CLAMP WITH BOLT	
BOLT 16 #	3
EARTHING MATERIAL, BOLTS, NUTS, CLAMPS ETC.	AS REQD.
BASE PLATE	1

NOTES

1. IF THROUGH BOLT ARRANGEMENT FOR FIXING THE SHACKLE INSULATOR TO THE POLE IS NOT POSSIBLE, SUITABLE POLE CLAMP MAY BE USED.
2. THE LENGTH OF THE POLE AND CLEARANCES IN THIS STANDARD ARE SUCH THAT THE LINE CAN BE CONVERTED TO THREE PHASE LINE AS AND WHEN REQUIRED BY INSERTING A V-CROSS ARM IN THE INTERMEDIATE POSITION (SHOWN DOTTED)

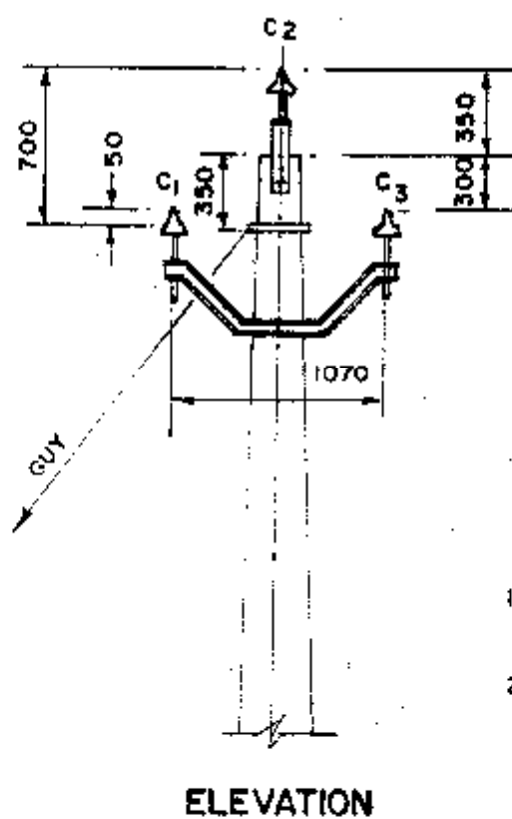
११ के. वी. लाईन. सिंगल फेज लाईन का विन्यास
८ में. ऊपर से नीचे (फेज से न्यूट्रल)

11KV LINES
CONFIGURATION OF SINGLE PHASE LINE
(PHASE — TO — NEUTRAL)
(WITH 8M. POLES)

SCALE:- N.T.S

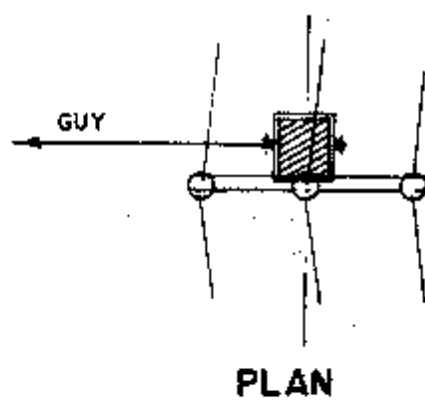
JULY, 1987

REC
CONSTRUCTION STANDARD
A-23



NOTES:-

1. REFER REC CONSTRUCTION STANDARD A-22 FOR TYPE OF POLE TO BE USED.
2. THE DRAWING INDICATES THE POSITION OF GUY CLAMP ON THE POLE. THE DIRECTION OF GUY WIRE SHALL BE SUCH AS TO COUNTERACT THE RESULTANT TENSION OF THE CONDUCTORS.
3. GUY ANGLE SHALL BE 30° TO 45°



NOTATION:-

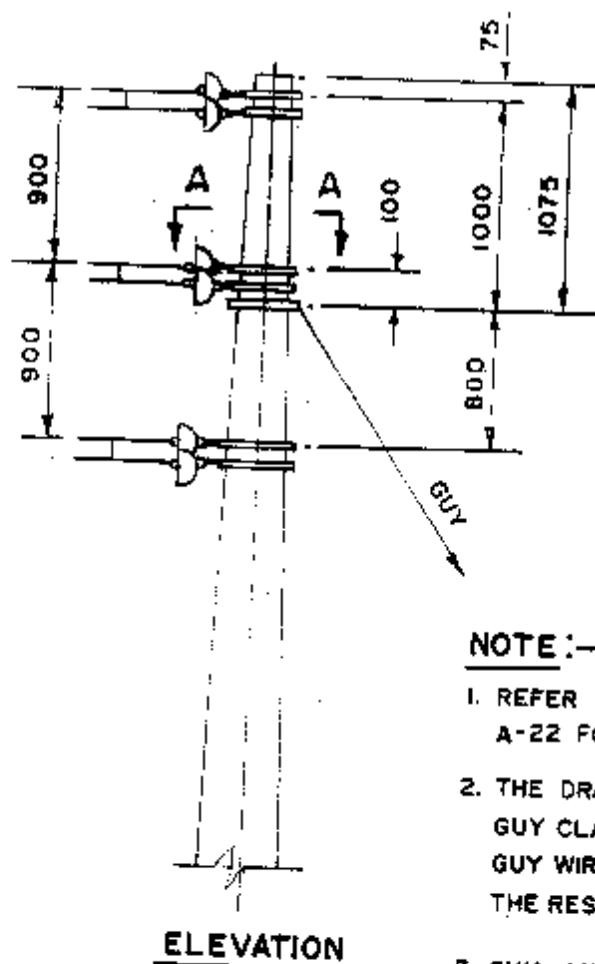
C_1, C_2, C_3 - PHASE CONDUCTORS.

ALL DIMENSIONS ARE IN mm.

ए. ई. को. लाइन
कंडक्टर व्यवस्था और तनाव का विन्यास
0° से 10° कोण स्थान के लिए
11 KV LINES
CONDUCTOR FORMATION
AND
ARRANGEMENT OF GUYS
FOR 0° TO 10° ANGLE LOCATIONS

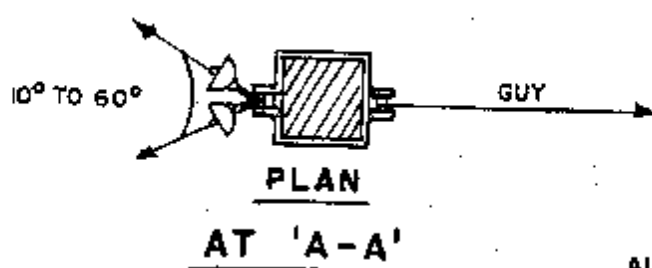
SCALE: N.T.S. | APRIL, 1988

REC
CONSTRUCTION STANDARD
A-24



NOTE:-

1. REFER REC CONSTRUCTION STANDARD A-22 FOR TYPE OF POLE TO BE USED.
2. THE DRAWING INDICATES THE POSITION OF GUY CLAMP ON THE POLE. THE DIRECTION OF GUY WIRE SHALL BE SUCH AS TO COUNTERACT THE RESULTANT TENSION OF THE CONDUCTORS.
3. GUY ANGLE SHALL BE 30° TO 45° .



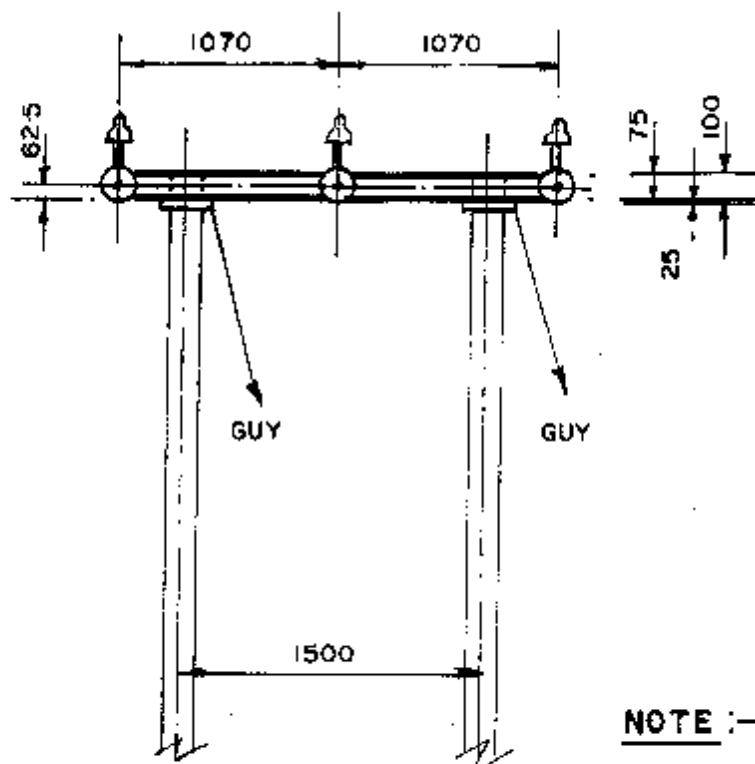
ALL DIMENSIONS ARE IN mm.

११ के.वी. लाइने
केडक्टर व्यवस्था और तनाव का विन्यास
१०° से ६०° कोण स्थान के लिए
(एक खम्बे के सहारे)
11 KV LINES
CONDUCTOR FORMATION
AND
ARRANGEMENT OF GUYS
FOR 10° TO 60° ANGLE LOCATIONS
(SINGLE POLE SUPPORT)

SCALE: N.T.S.

APRIL, 1968.

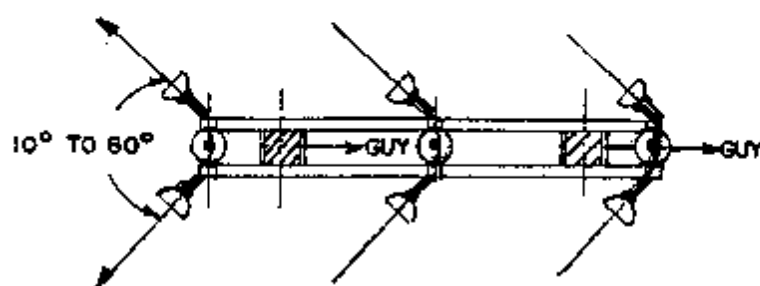
**REC
CONSTRUCTION STANDARD
A-25**



ELEVATION

NOTE :-

1. REFER REC CONSTRUCTION STANDARD A-22 FOR TYPE OF POLE TO BE USED.
2. THE DRAWING INDICATES THE POSITION OF GUY CLAMP ON THE POLE. THE DIRECTION OF GUY WIRE SHALL BE SUCH AS TO COUNTERACT THE RESULTANT TENSION OF THE CONDUCTORS.
3. GUY ANGLE SHALL BE 30° TO 45° .



PLAN

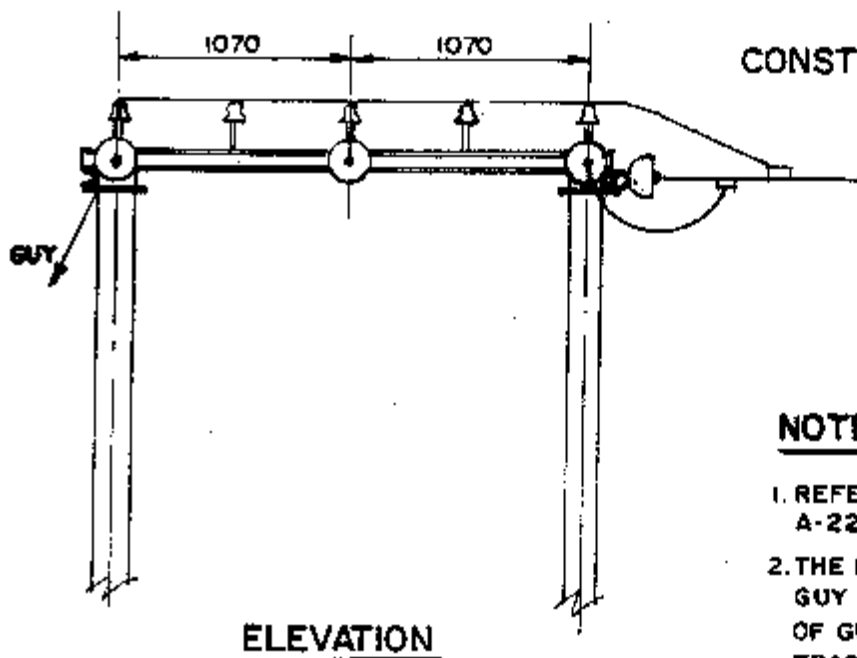
ALL DIMENSIONS ARE IN mm.

११ के. वी. लाइन
कंडक्टर व्यवस्था और तनाव का विन्यास
१०° से ६०° कोण स्थान के लिए
(दो खम्भों के समर्थन)
11 KV LINES
CONDUCTOR FORMATION
AND
ARRANGEMENT OF GUYS
FOR 10° TO 60° ANGLE LOCATIONS
(DOUBLE POLE SUPPORT)

SCALE :- N.T.S

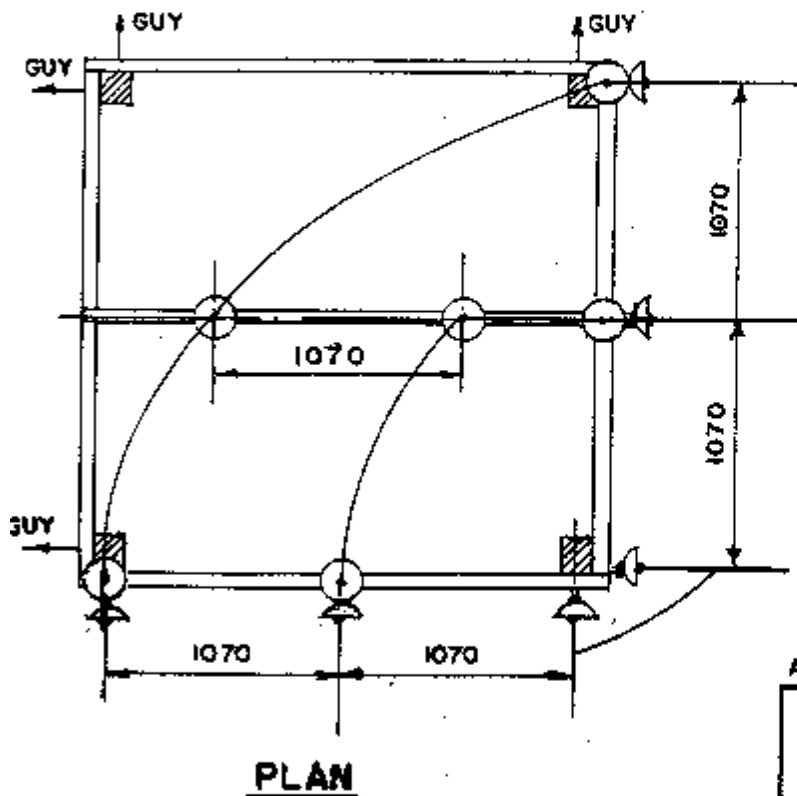
APRIL, 1988

REC
CONSTRUCTION STANDARD
A-26



NOTE :-

1. REFER REC CONSTRUCTION STANDARD A-22 FOR TYPE OF POLE TO BE USED.
2. THE DRAWING INDICATES THE POSITION OF GUY CLAMP ON THE POLE. THE DIRECTION OF GUY WIRE SHALL BE SUCH AS TO COUNTERACT THE RESULTANT TENSIONS OF THE CONDUCTORS.
3. GUY ANGLE SHALL BE 30° TO 45°

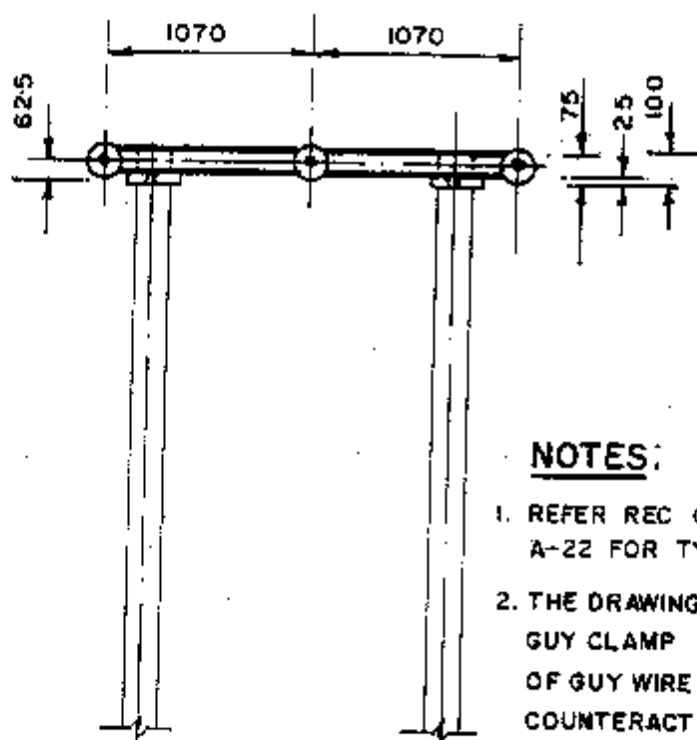


ALL DIMENSIONS ARE IN mm.

११ के. वी. लाइनें
कंडक्टर की व्यवस्था
कीण स्थानी पर चार पोल आधार
(60° से 90° का अंतर)
11 KV LINES
CONDUCTOR FORMATION
AND
ARRANGEMENT OF GUYS
FOR 60° TO 90° ANGLE LOCATIONS
(FOUR POLE SUPPORT)

SCALE :- N.T.S. | APRIL, 1988.

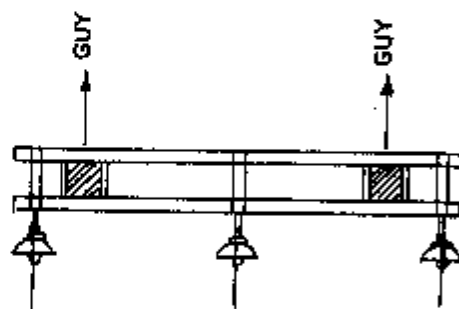
REC
CONSTRUCTION STANDARD
A-27



NOTES:

1. REFER REC CONSTRUCTION STANDARD A-22 FOR TYPE OF POLE TO BE USED.
2. THE DRAWING INDICATES THE POSITION OF GUY CLAMP ON THE POLE. THE DIRECTION OF GUY WIRE SHALL BE SUCH AS TO COUNTERACT THE RESULTANT TENSION OF THE CONDUCTORS.
3. GUY ANGLE SHALL BE 30° TO 45°

ELEVATION



PLAN

ALL DIMENSIONS ARE IN mm.

११ के० वी० लाइन
परमन्त स्थान के लिए
कन्डक्टर व्यवस्था व तनाव का विन्यास
(दो संयंत्रों के समर्थन)
11 KV LINES
CONDUCTOR FORMATION AND
ARRANGEMENT OF GUYS
FOR DEAD-END LOCATIONS
(DOUBLE POLE SUPPORT)

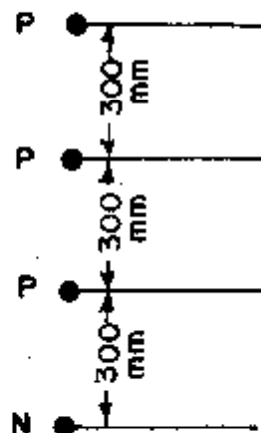
SCALE: N.T.S.

APRIL, 1988

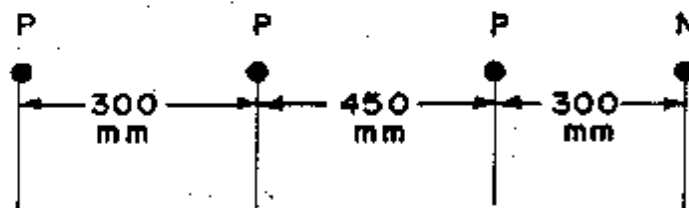
R E C
CONSTRUCTION STANDARD
B-38

KW-KM FOR 415 VOLT 3-PHASE LINES FOR 1% VOLTAGE DROP

VERTICAL CONFIGURATION



HORIZONTAL
COFIGURATION



Conductor	KW-KM for 1% voltage drop *			
	1.0 p.f.	0.9 p.f.	0.8 p.f.	0.7 p.f.
7/2.00 mm AAAC	0.98	0.89	0.85	0.82
7/2.50 mm AAAC	1.52	1.34	1.26	1.18
7/3.15 mm AAAC	2.42	2.00	1.83	1.69

* FOR A CONDUCTOR TEMPERATURE OF 60°C, FOR CONDUCTOR TEMPERATURE OF 50°C, THE ABOVE FIGURES WOULD BE ABOUT 3% HIGHER, AND FOR A TEMPERATURE OF 70°C, ABOUT 3% LOWER.

ALL DIMENSIONS ARE mm.

415 वोल्ट लाइन
ए.ए.ए. कंडक्टर
वोल्टेज नियमन तालिका
415 VOLT LINES
A.A.A. CONDUCTORS
VOLTAGE REGULATION TABLE

SCALE : N.T.S.

MAY - 1993

REC
CONSTRUCTION STANDARD
B-1

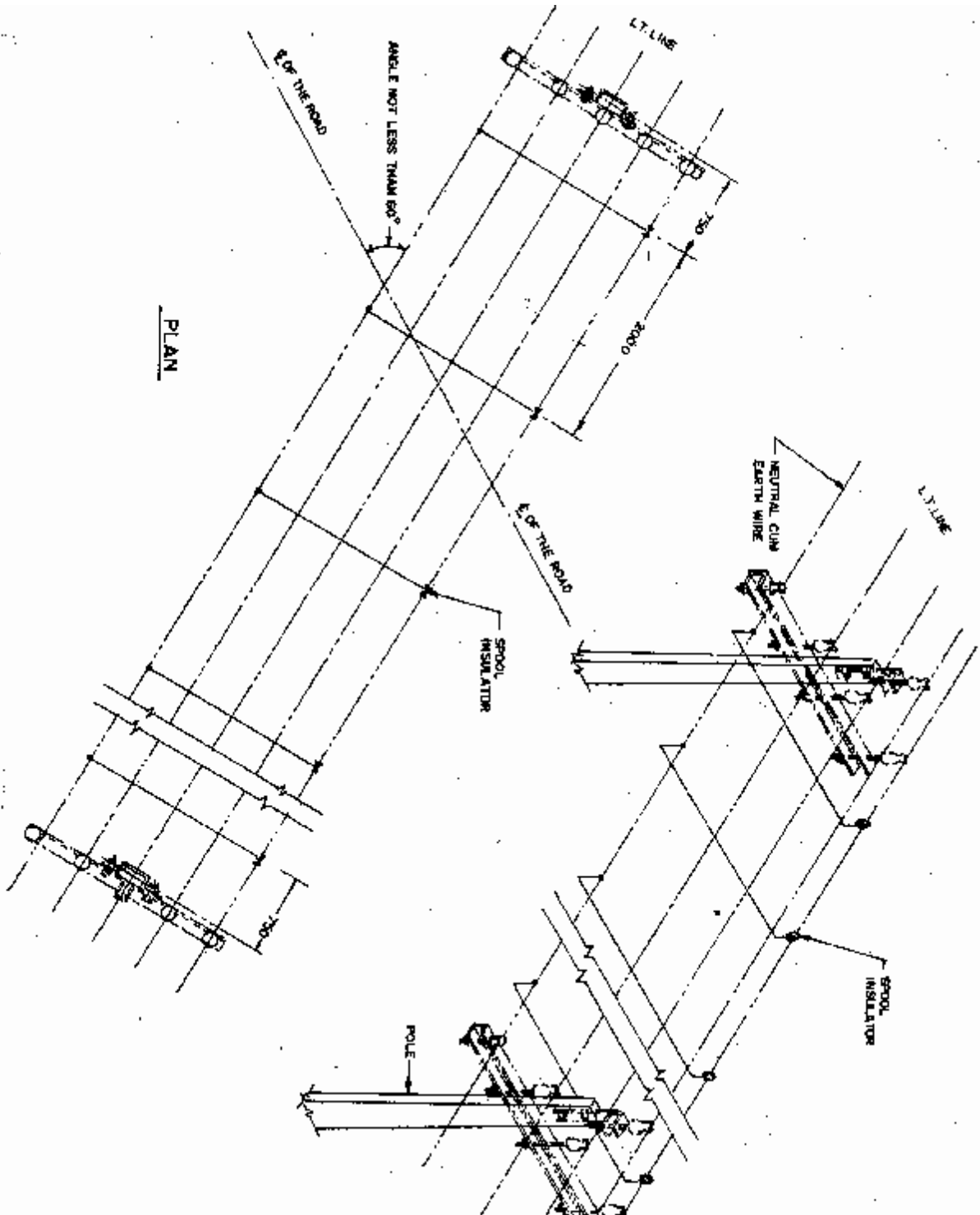
BILL OF MATERIAL

CROSS LINES & SPOOL INSULATORS AS REQD.	
EARTHING COMPLETE	2

NOTES

1. NUMBER OF CROSS LINES TO SAT THE BULKING - HEIGHTS CROSS LINES BE PROVIDED FOR THE WIDTH OF THE ROAD PLUS ONE EACH BEHIND THE SUPPORT.
2. FOR CROSS LINES AND CARRY CONDUCTORS FROM SPAN LENGTHS OR SLINGING SIZE 2" MIN CAN BE USED.
3. STRUCTURES ON EITHER SIDE OF THE ROAD TO BE EXAMINED.
4. THE SHIRT ARRANGEMENT CAN BE USED IN POPULATED LOCALITIES WHENEVER NECESSARY.
5. AS CONDUCTOR IS BEING USED AS SHIRT WIRE, EITHER AAC 7/2-10 OR AAC 7/2-9-10mm SHOULD BE USED AS SHIRT WIRE TO SATISFY I.E. AND I.B.I.S.
6. CROSSING ANGLE SHOULD NOT BE LESS THAN 60°.
7. SPECIAL SUPPORTS MAY BE NEEDED TO ALLOW MINIMUM CLEARANCE FROM GROUND AS PER I.E. FILE NO. 716 3-9-METRES.

PLAN



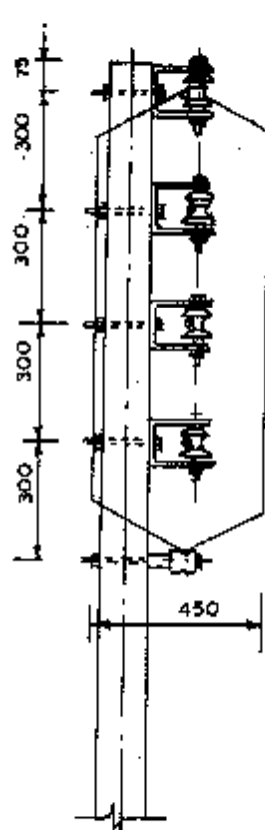
ALL DIMENSIONS ARE IN MM.

BY: RVO & JHT
APPROVED: RVO & JHT
415/240V LINES
PROTECTIVE GUARDING
ACROSS THE ROAD
HORIZONTAL FORMATION

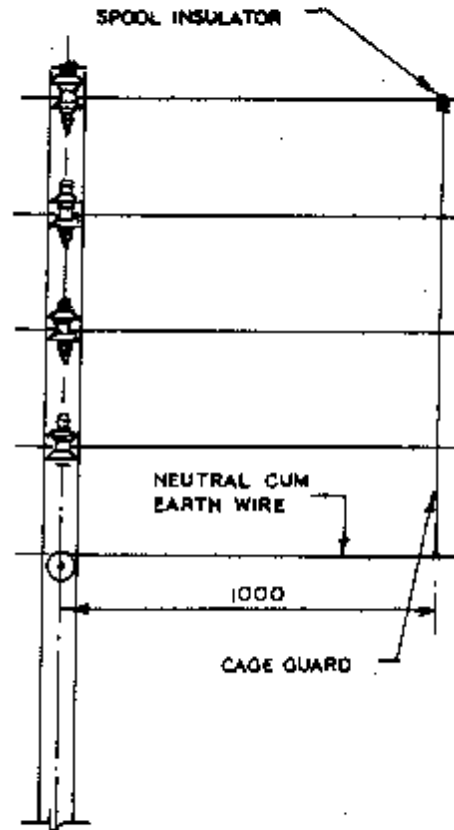
SCALE: N.T.S.

SEPT-1972

REC CONSTRUCTION STANDARD B-2



ELEVATION



END VIEW

BILL OF MATERIAL / SPAN

CROSS LACINGS & SPOOL INSULATORS	2
EARTHING COMPLETE	2

NOTES:-

1. STRUCTURES ON EITHER SIDE OF THE ROAD TO BE EARTHED.
2. THE SAME ARRANGEMENT CAN BE USED IN POPULATED LOCALITIES WHEREVER NECESSARY.
3. AS CONDUCTOR IS BEING USED AS GUARD WIRE EITHER AAC 7/3-10MM OR ACSR 7/2-59MM SHOULD BE USED AS MINIMUM SIZE TO SATISFY I.E. RULE 98(3)
4. CROSSING ANGLE SHOULD NOT BE LESS THAN 60°
5. SPECIAL SUPPORTS MAY BE NEEDED TO ALLOW MINIMUM CLEARANCE FROM GROUND AS PER I.E. RULE NO. 771 & 5.18 METRES.
6. FOR CAGE GUARD G.I. WIRE OF SIZE 4mm MAY BE USED.

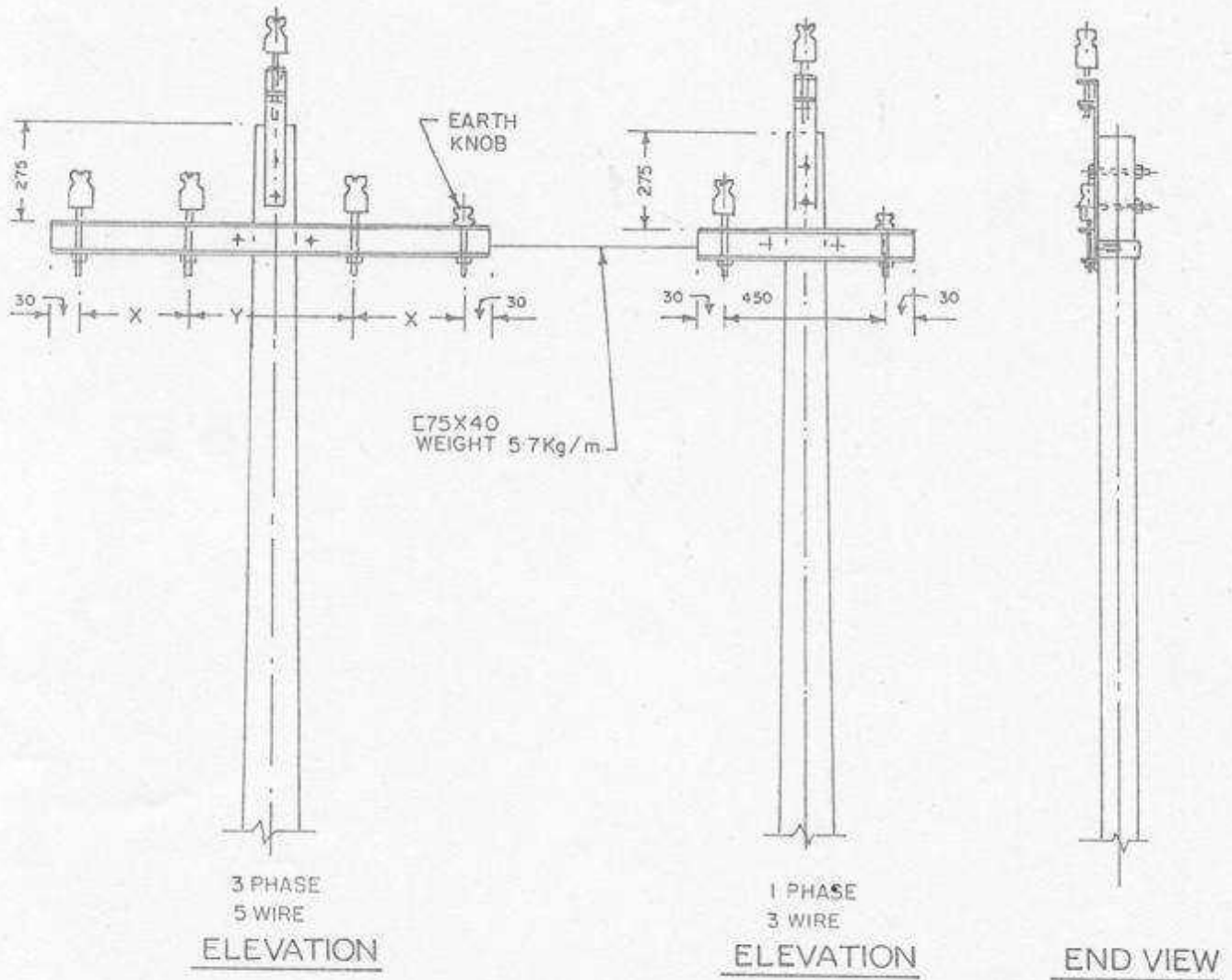
ALL DIMENSIONS ARE IN mm.

४१५/२५० वी. लाईन
प्रकृत पार रस्ती लाईन
उभयपक्ष निर्माण
415/240V LINES
PROTECTIVE GUARDING
ACROSS THE ROAD
VERTICAL FORMATION

SCALE:- N.T.S

SEPT. - 1972

REC CONSTRUCTION STANDARD B-3



TANGENT LOCATION
MAXIMUM SPAN - 67 METRES

SAGS	HORIZONTAL SPACING	
	X	Y
UP TO 750	300	450
750 TO 1200	450	450

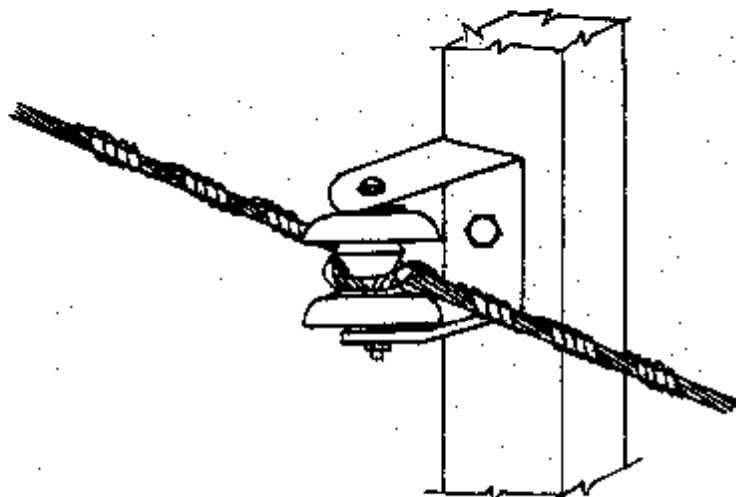
ALL DIMENSIONS ARE IN mm

४१५/२४० वी. लाईन
कन्डक्टर रचना व अंतराल
समस्तर रचना
415/240V LINES
CONDUCTOR FORMATION AND
CLEARANCES
HORIZONTAL FORMATION

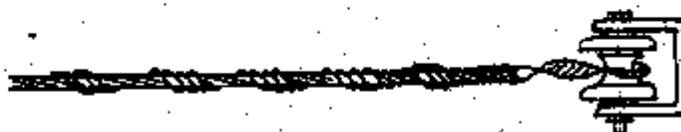
SCALE :- N.T.S.

SEPT. - 1972

RED
CONSTRUCTION STANDARD
D-6



L.T. CONDUCTOR SPOOL TIE ON A SHACKLE - INSULATOR (STRAIGHT - RUN)



L.T. CONDUCTOR DEAD-END

NOTE:- FOR DETAILS OF HELICALLY FORMED FITTING, REFER REC SPECIFICATION NO. 25/1983

एल. टी. कन्डक्टर स्ट्रेट-रन व
अन्तिम छोर का विन्यास
(सर्पिल आकार के फॉर्मडफिटिंग का प्रयोग करना)
L.T. CONDUCTOR STRAIGHT-RUN AND
DEAD-END ARRANGEMENTS
(USING HELICALLY FORMED FITTINGS)

SCALE:- N.T.S

JULY, 1984

R E C
CONSTRUCTION STADARD
E-31

USE OF LASHING RODS TO SECURE THE OVERHEAD BEARER WIRE AND
THE PVC SERVICE CABLE



FIGURE - I

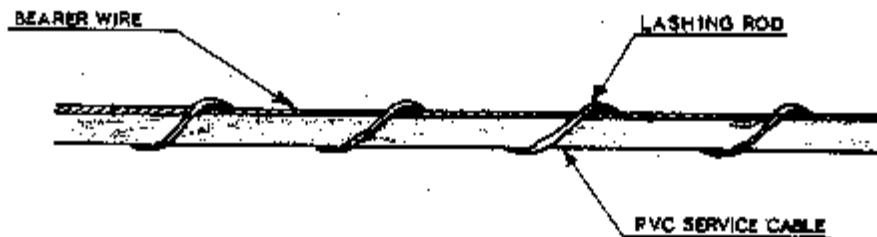


FIGURE - II

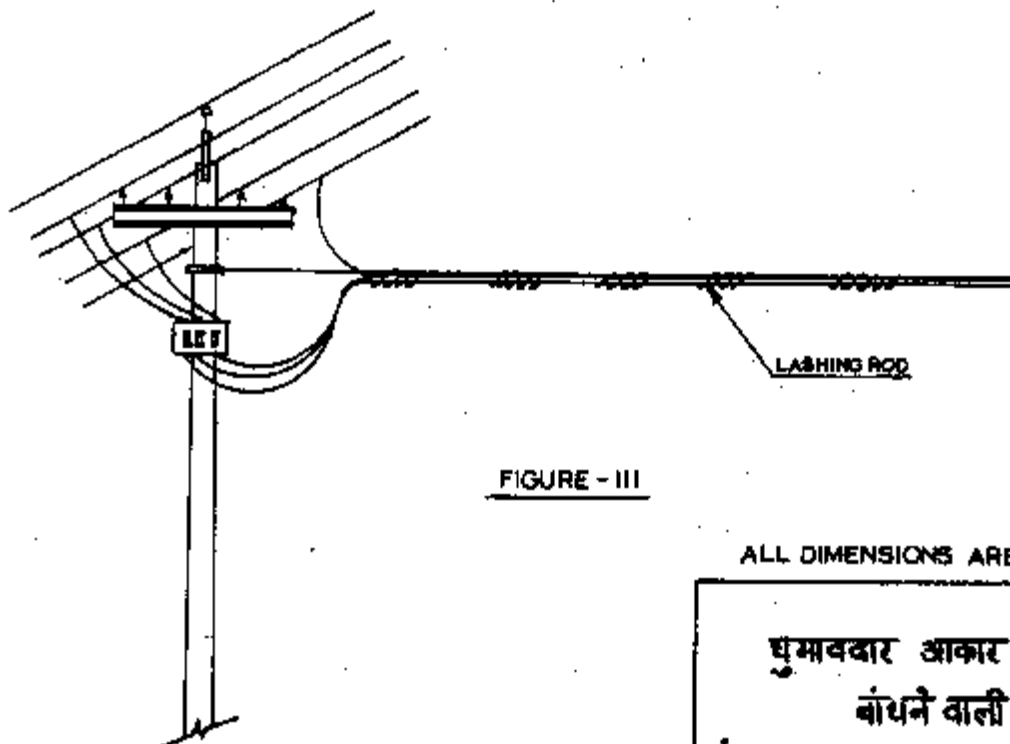


FIGURE - III

ALL DIMENSIONS ARE IN mm.

घुमावदार आकार की फिटिंग
बांधने वाली छड़
HELICALLY FORMED FITTINGS
LASHING RODS

FIG.1 SHOWS THE LASHING ROD.

FIG.2
& 3 } SHOWS THE LASHING RODS IN POSITION.

SCALE:- N.T.S | JULY, 1987

REC
CONSTRUCTION STANDARD
E- 32

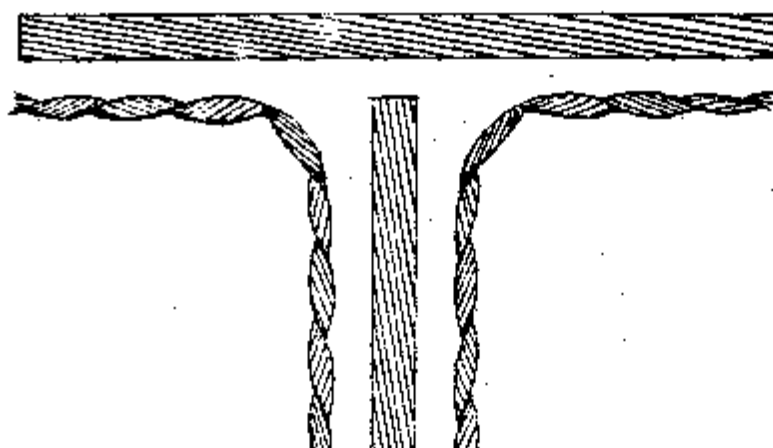


FIGURE - 1

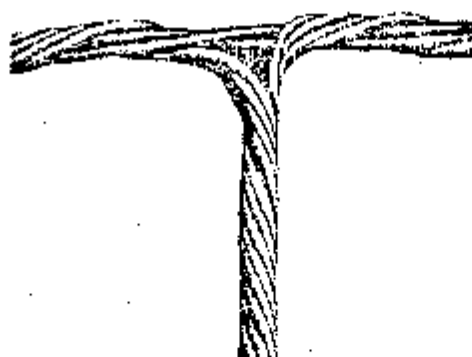
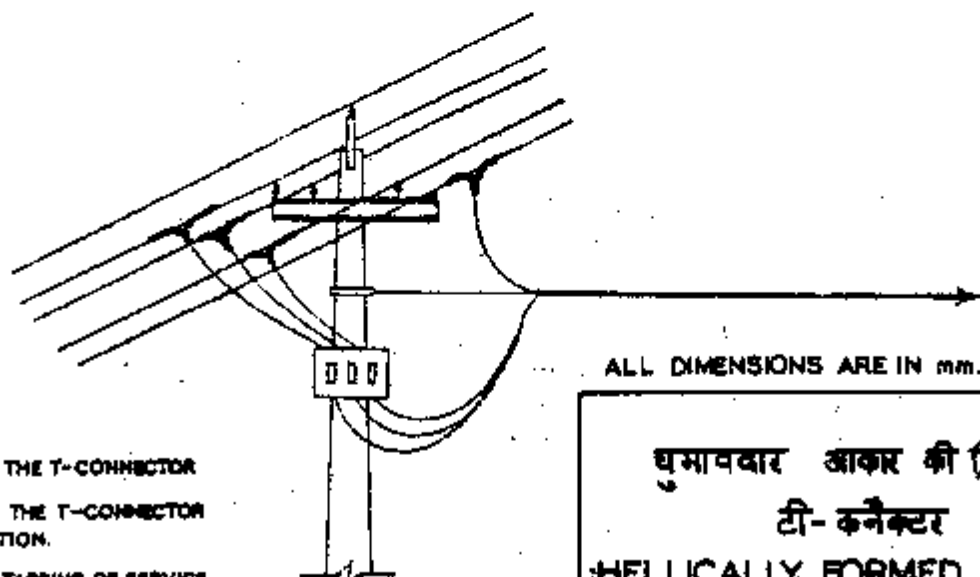


FIGURE - 2

NOTE:-

T-CONNECTOR CAN BE USED
TO TAP SERVICE CONNECTIONS
FROM THE LINE OR FOR
TAPPING A BRANCH LINE
FROM THE MAIN LINE.



- FIG. 1. SHOWS THE T-CONNECTOR
FIG. 2. SHOWS THE T-CONNECTOR
IN POSITION.
FIG. 3. SHOWS TAPPING OF SERVICE
CONNECTIONS USING
T-CONNECTORS

FIGURE - 3.

घुमावदार आकार की फिटिंग
टी- कनेक्टर
HELICALLY FORMED FITTINGS
T-CONNECTOR

SCALE: N.T.S.

JULY-1987

REC
CONSTRUCTION STANDARD
E-33

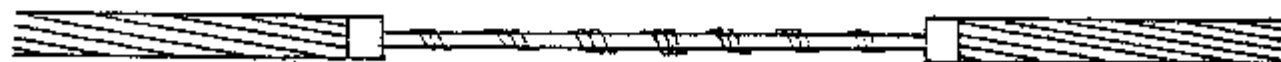
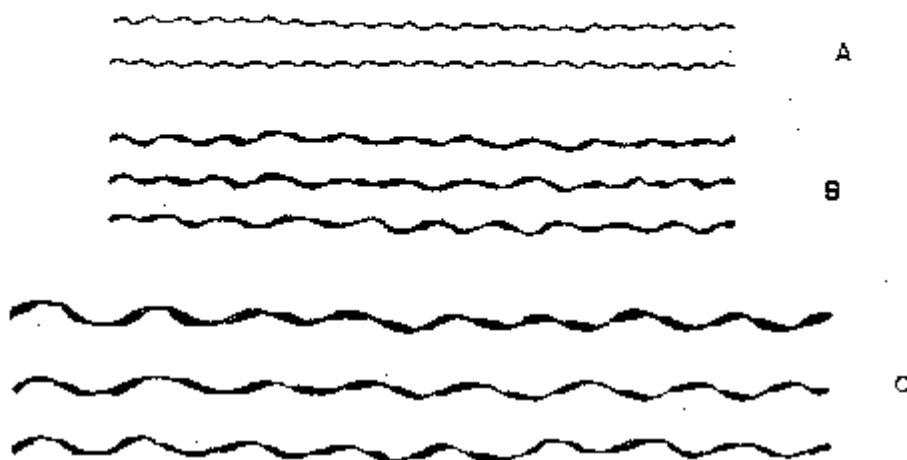


FIGURE - 1.



FIGURE - 2.

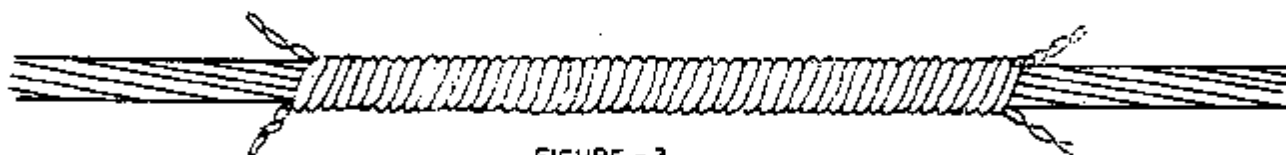


FIGURE - 3.

- A SHOWS THE CORE SPLICE
- B SHOWS THE FILLER RODS
- C SHOWS THE OUTER SPLICE
- FIG. 1 SHOWS THE CORE SPLICE - IN POSITION
- FIG. 2 SHOWS THE CORE SPLICE AND FILLER RODS IN POSITION.
- FIG. 3 SHOWS THE COMPLETE JOINT AND THE OUTER SPLICE IN POSITION.

ALL DIMENSIONS ARE IN mm.

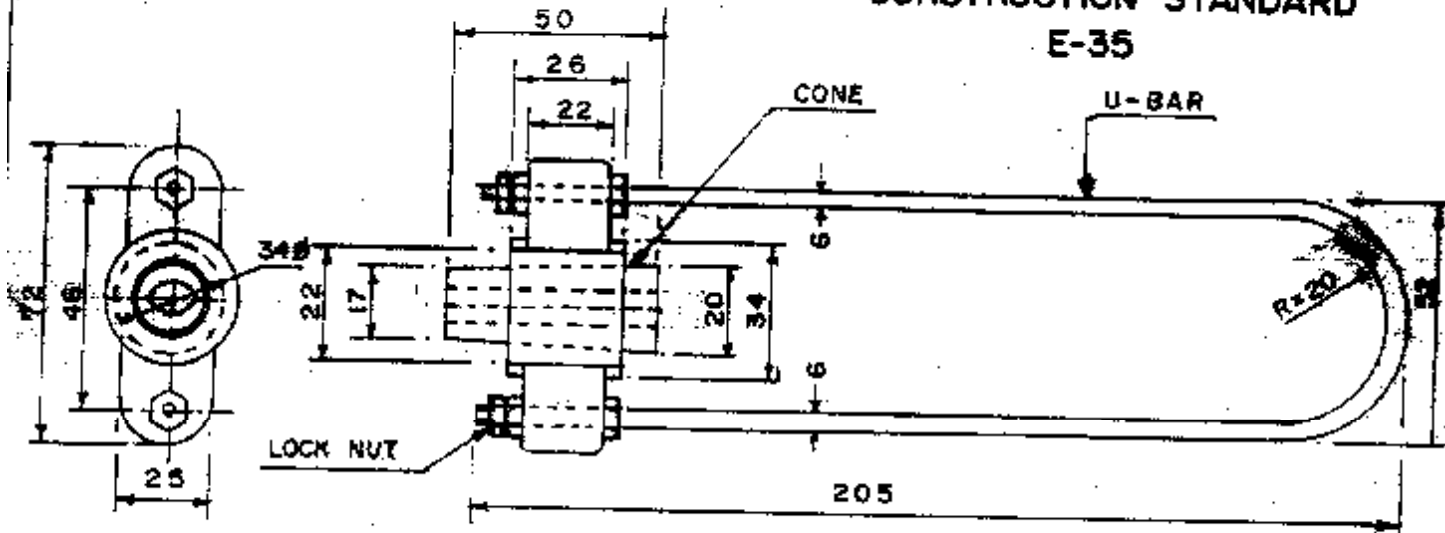
घुमावदार आकार की फिटिंग
इ. सी. एस. आर. के लिए स्पल्टर्स

HELICALLY FORMED FITTINGS
SPlice FOR ACSR JOINT

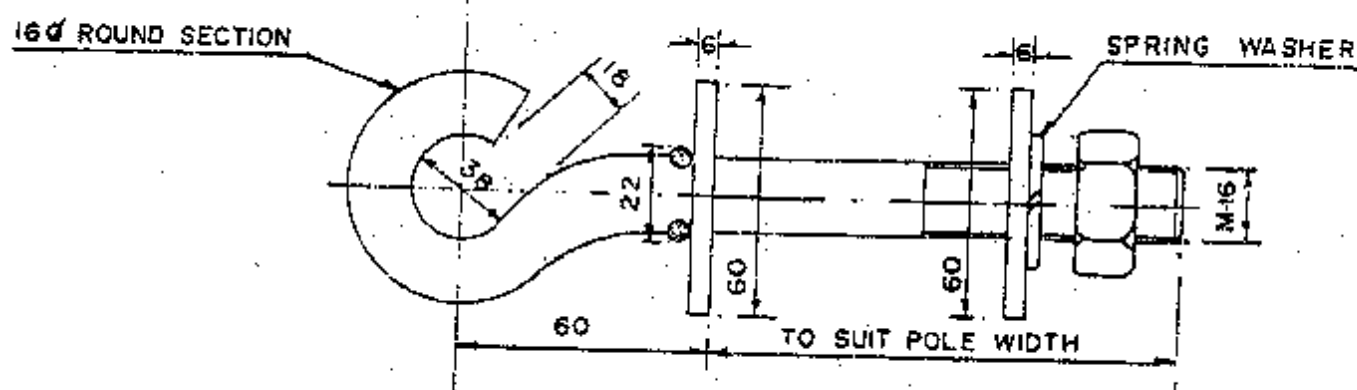
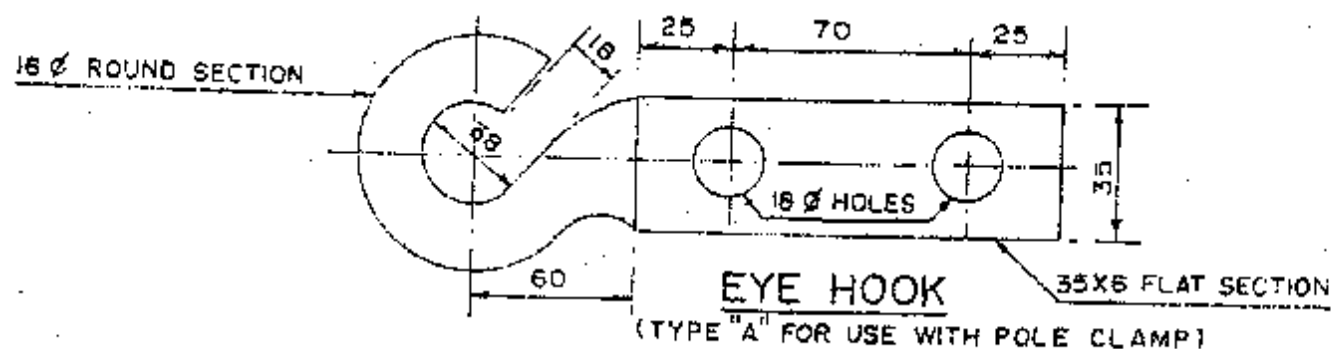
SCALE:-N.T.S

JULY, 1987.

REC
CONSTRUCTION STANDARD
E-35



DEAD END CLAMP

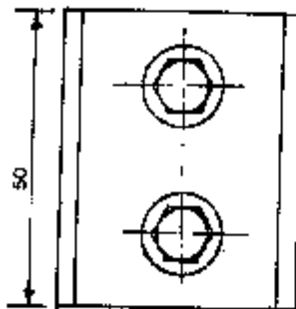
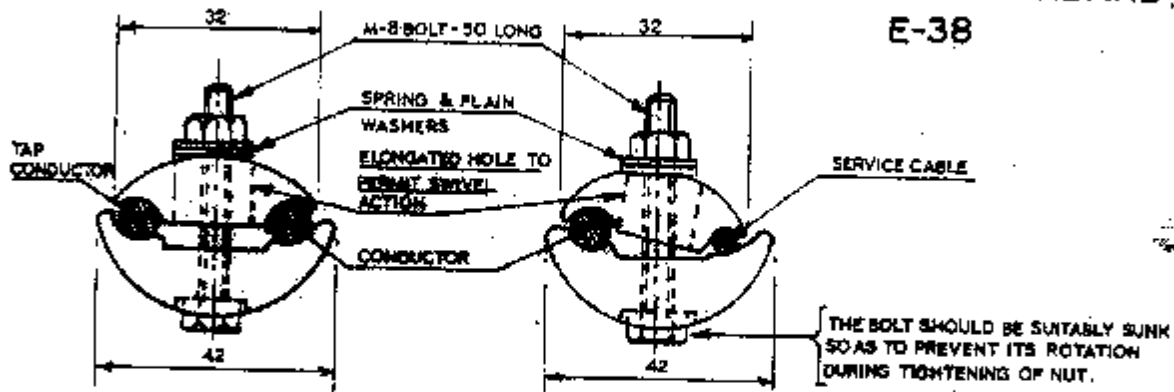


EYE HOOK

(TYPE "B" FOR USE AS A POLE-THROUGH BOLT)

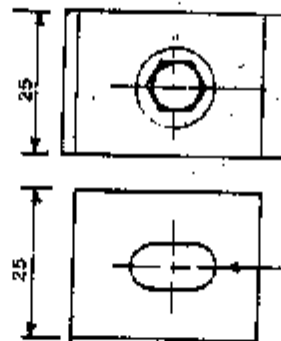
FIG.1 DETAILS OF DEAD-END CLAMP & EYE HOOKS

REC CONSTRUCTION STANDARD E-38



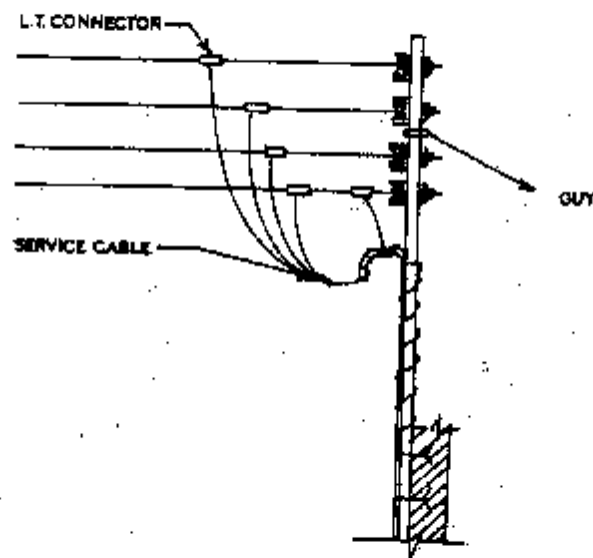
TYPE A

(SUITABLE FOR JUMPER CONNECTIONS
FOR LINE - TO - LINE TAPPING)

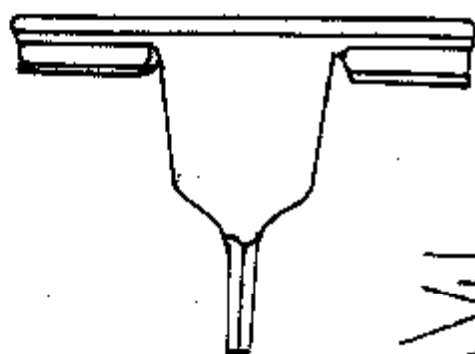


TYPE B

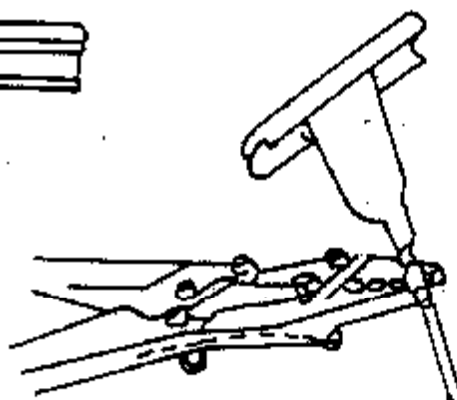
(SUITABLE FOR TAPPING OF
SERVICE CONNECTIONS)



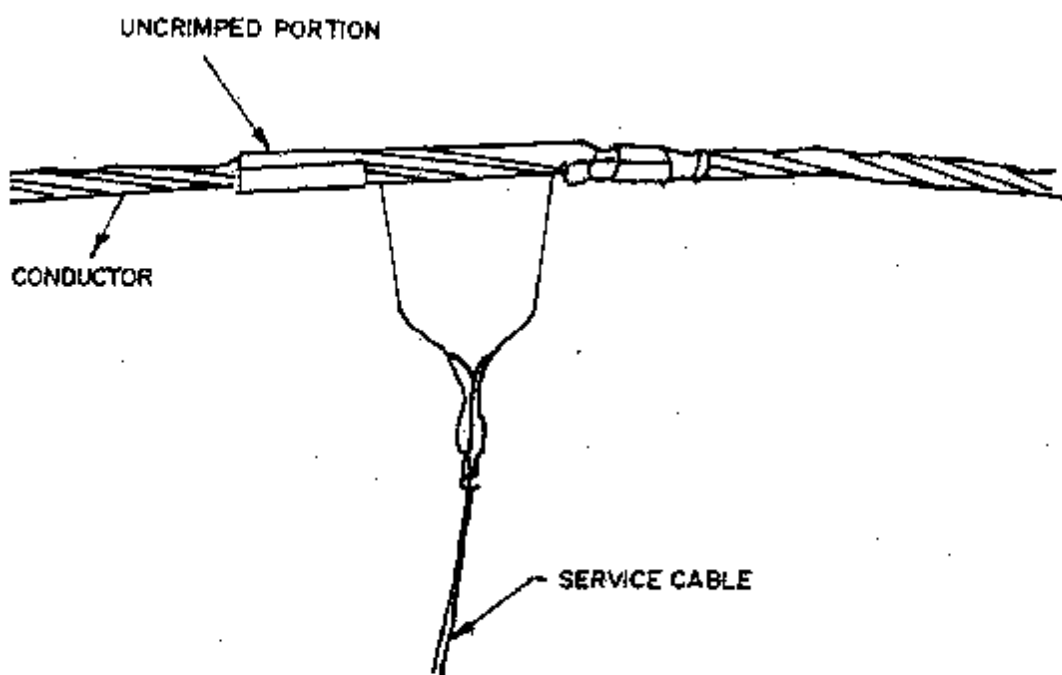
एल. टी. कनेक्टर्स (टेंशन रहित)
LT CONNECTORS (NON-TENSION)



SERVICE CONNECTOR



APPLICATION OF CRIMPING TOOL



A VIEW OF CRIMPED SERVICE CONNECTOR (PARTLY CRIMPED)

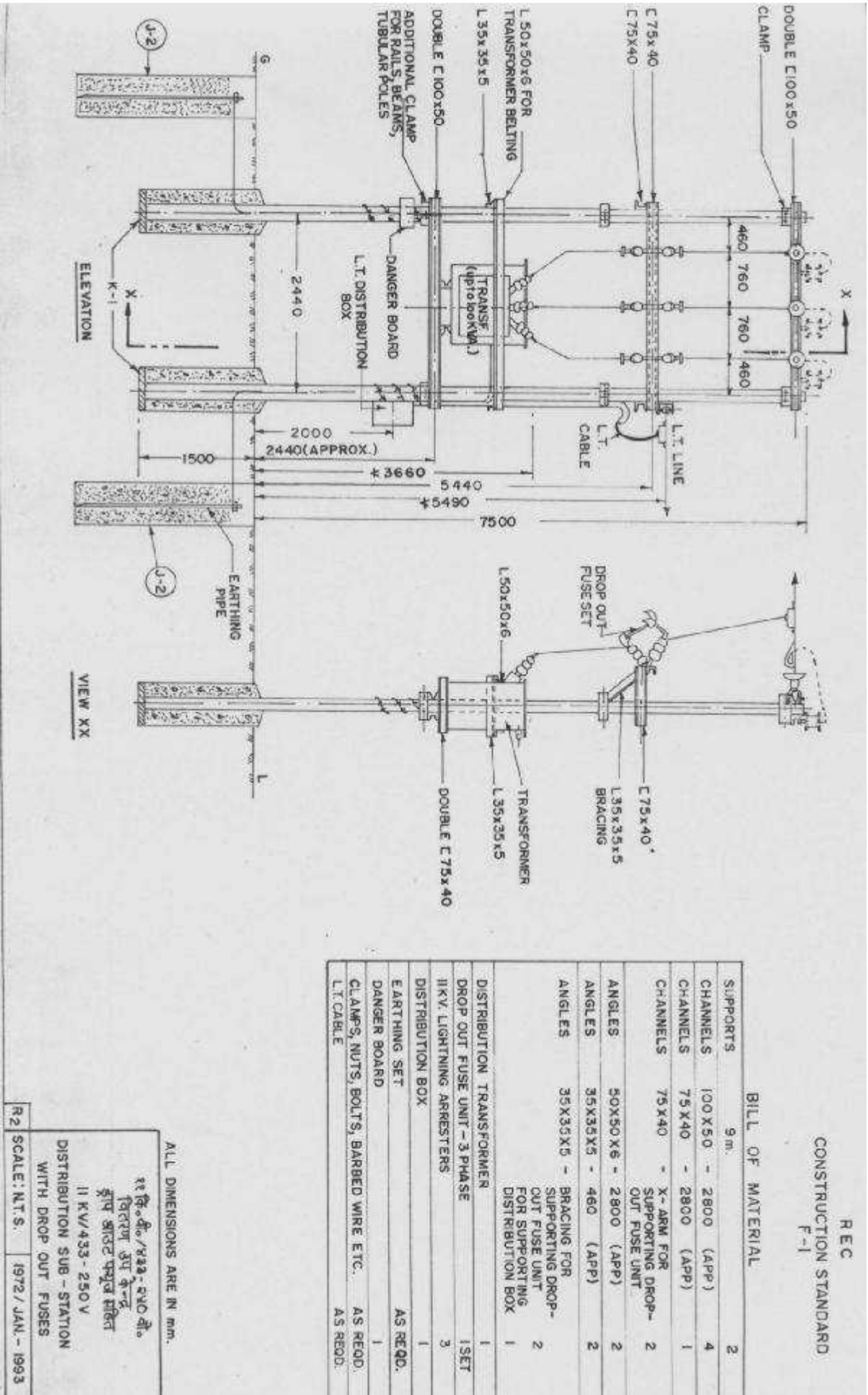
ALL DIMENSIONS ARE IN mm.

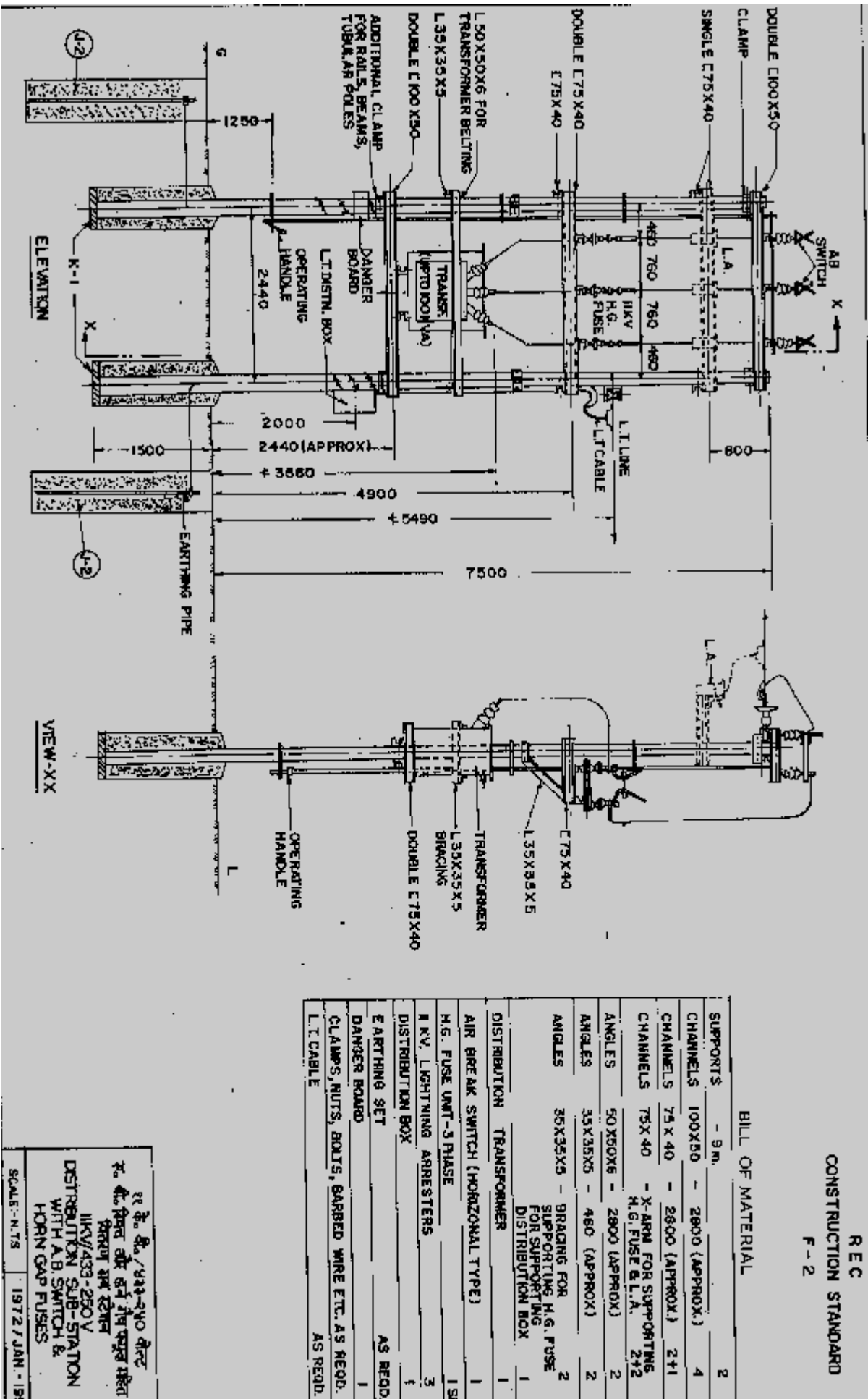
सल. टी. सर्विस कनेक्शन
के लिए क्रिम्पड जॉइन्ट

CRIMPED JOINT FOR
L.T. SERVICE CONNECTION

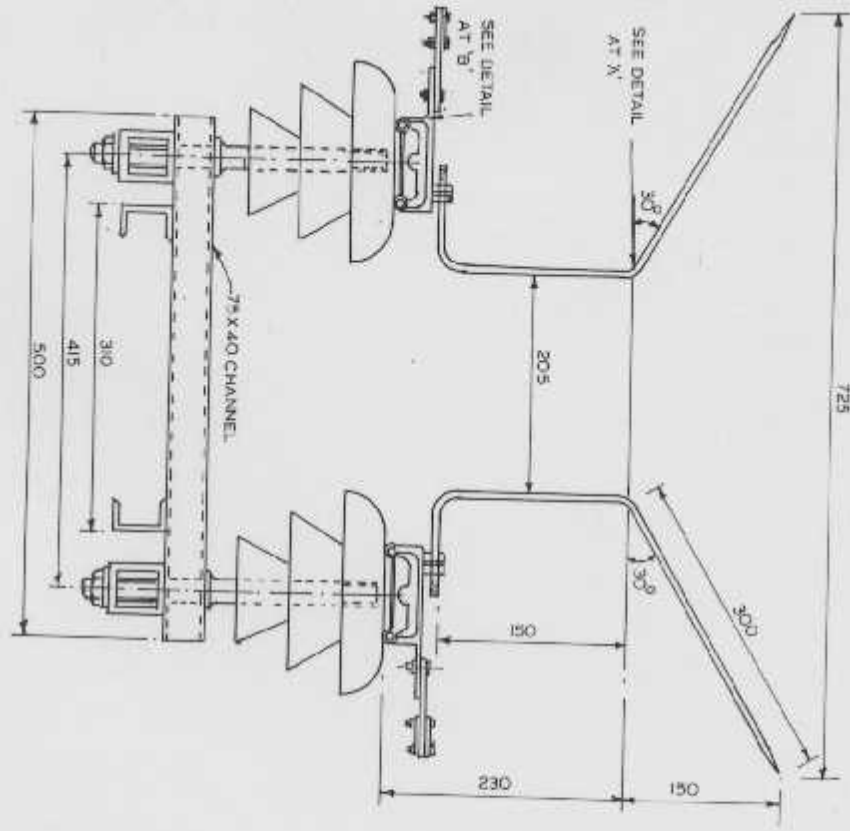
SCALE:- N.T.S

MARCH - 1968

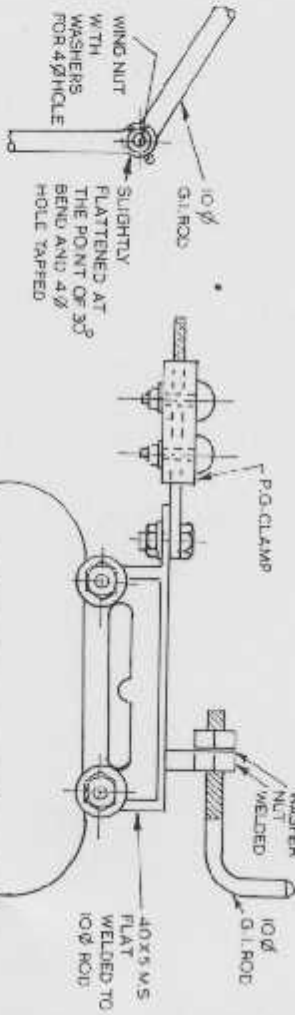




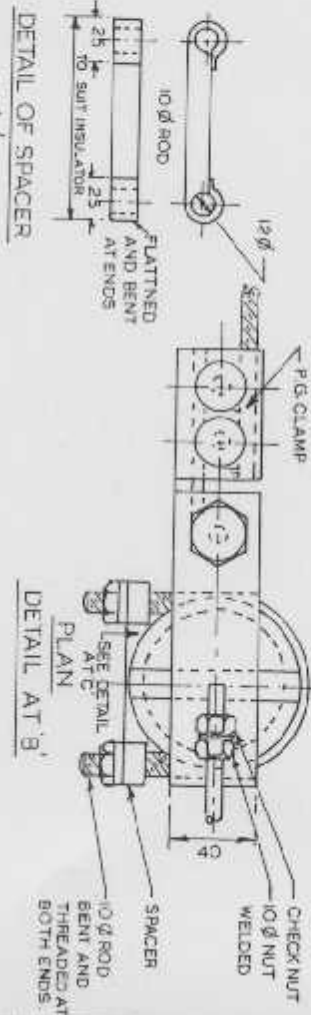
REC
CONSTRUCTION STANDARD
F-6



DETAIL AT A



DETAIL OF SPACER AT C



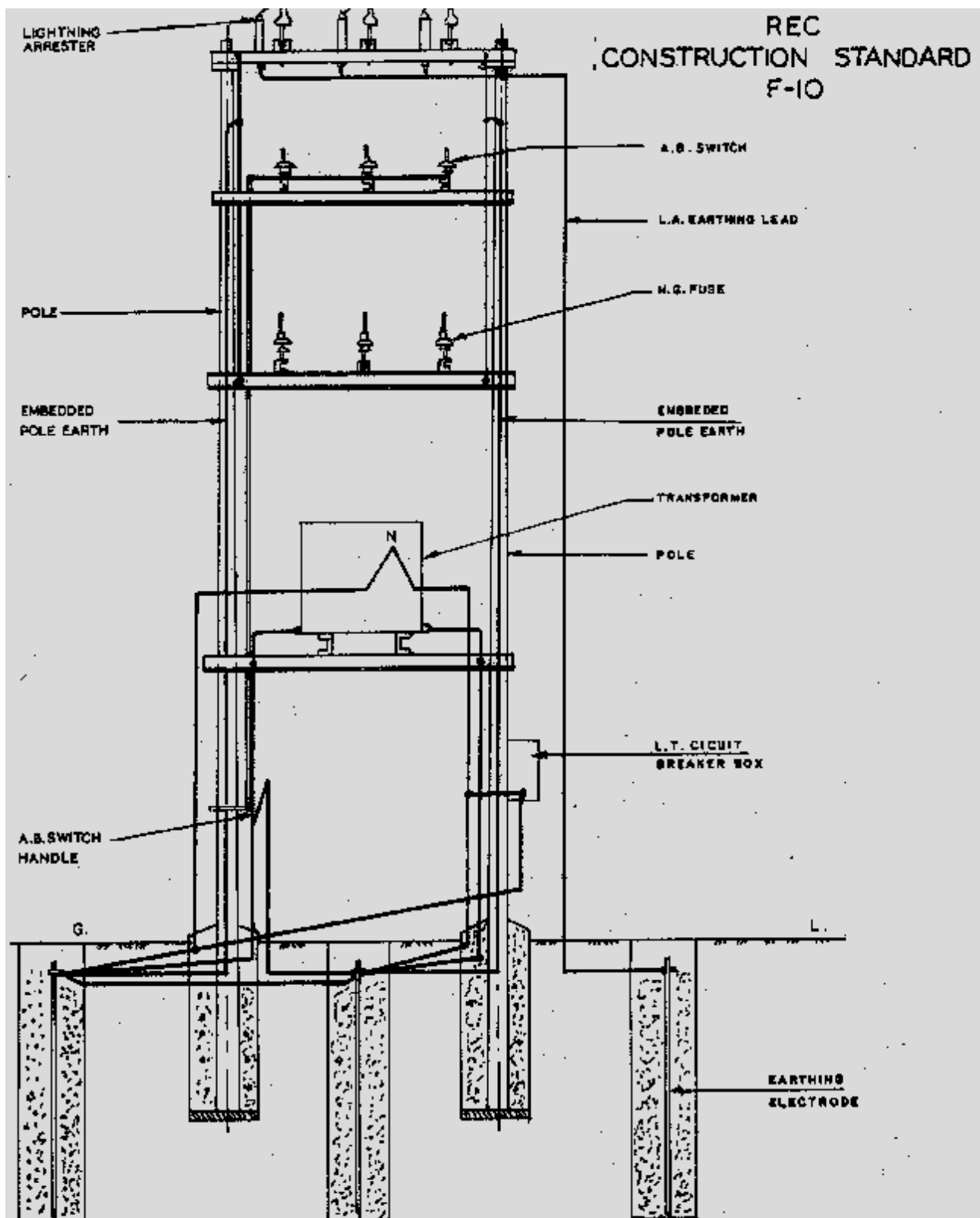
ELEVATION

ALL DIMENSIONS ARE IN mm.

११ के. वी. हॉर्न गैप फ्यूज

11KV HORN GAP FUSES

SCALE:- N.T.S



ALL DIMENSIONS ARE IN mm.

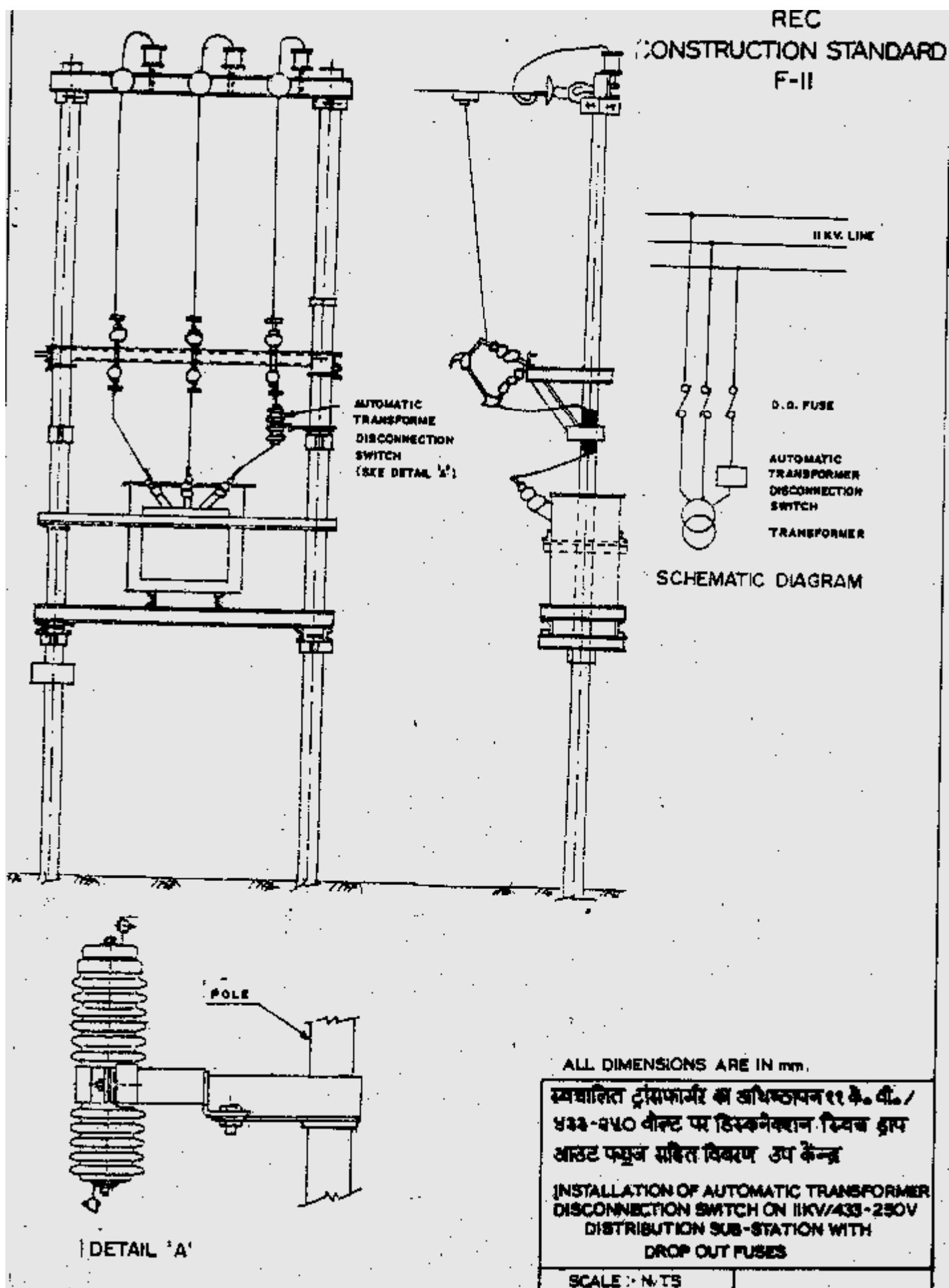
वितरण सब-स्टेशन के लिए
अर्थन व्यवस्था

**EARTHING ARRANGEMENT FOR
DISTRIBUTION SUB-STATION**

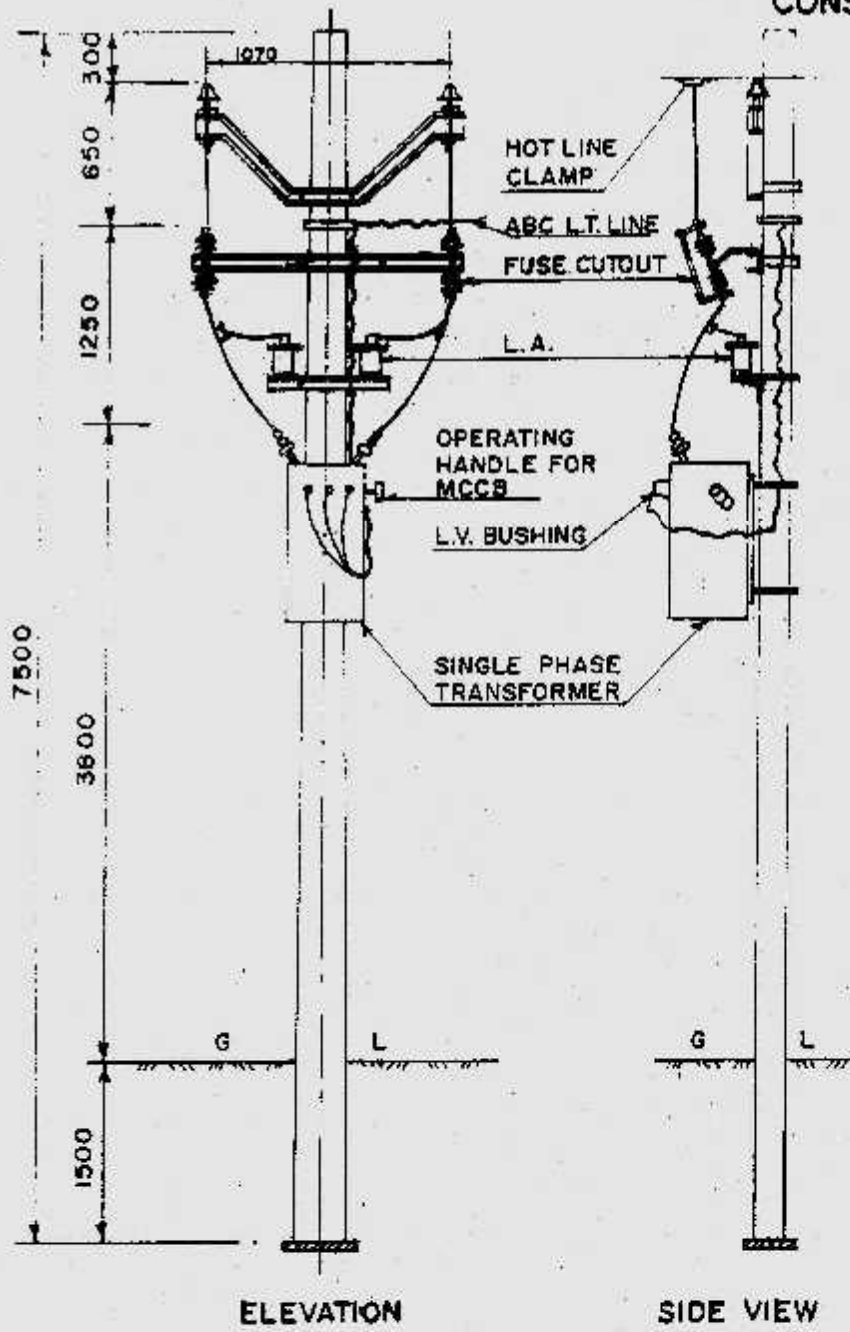
SCALE:- N.T.S

APRIL - 1983

REC
CONSTRUCTION STANDARD
F-II



REC
CONSTRUCTION STANDARD
F-19



BILL OF MATERIALS

PCC SUPPORT 7.5 M.	1 No.
V-CROSS ARM C75X40	1 No.
HORIZONTAL CROSS ARM C75X40X1150	1 No.
11 KV FUSE CUTOUT	2 No.
11 KV PIN INSULATORS WITH PINS	2 No.
11 KV L.A.	2 Nos.
M.S. 250X50X6-600 FOR L.A.'s FITTING	1 No.
11 KV SINGLE PHASE TRANSFORMER	1 No.
BASE PLATE	1 No.
EARTHING MATERIALS	AS REQ.
NUTS, BOLTS, CLAMPS Etc.	AS REQ.
HOT LINE CLAMPS	2 Nos.
ABC	AS REQD.

NOTE :-

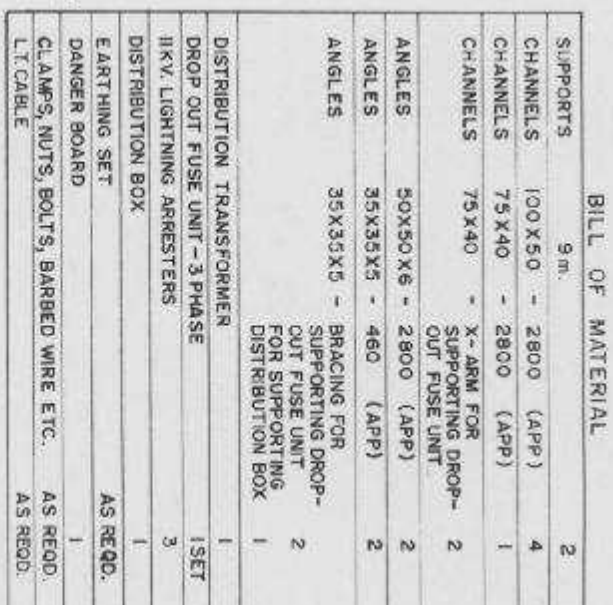
1. TRANSFORMER MOUNTING DETAILS ARE AS PER REC CONSTRUCTION STANDARD F-14.
2. AS AN ALTERNATIVE ARRANGEMENT TO ABC L.T. LINE SHOWN IN THE DRAWING, CABLE CONNECTION CAN BE USED TO THE FIRST POLE OF CONVENTIONAL L.T. LINE.

ALL DIMENSIONS ARE IN mm.

सिंगल फेज
(फेज से फेज)
वितरण सब-स्टेशन व्यवस्था
SINGLE PHASE
(PHASE TO PHASE)
DISTRIBUTION SUB-STATION
ARRANGEMENT

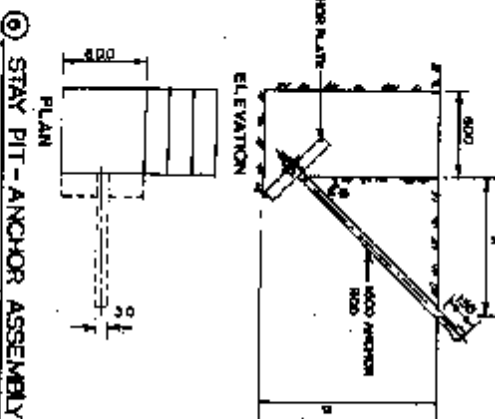
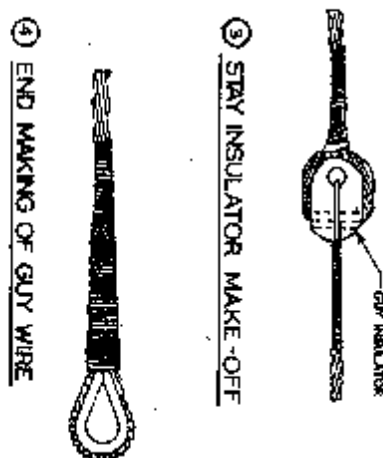
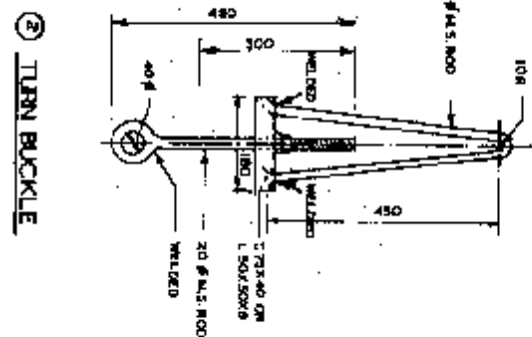
SCALE:- N.T.S.

SEPT, 1987.



२१ कि०मी०/घं० - २५० वी०
वितरण उप केन्द्र
ड्रॉप आउट फ्यूज प्रोडिक्ट
॥ K.V/433 - 250 V
DISTRIBUTION SUB-STATION
WITH DROP OUT FUSES

R2	SCALE: N.T.S.	1972 / JAN. - 1993
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B	30°	45°
A	750	1100
B	1500	1300

NOTES:-

1. ANCHOR ROD WITH WASHER & NUT SHOULD BE PREFERABLY GALVANISED.
2. WHEN CONTINUOUS EARTH WIRE IS USED, GUY INSULATOR MAY NOT BE USED.

(REFER - IE - RULE 901)

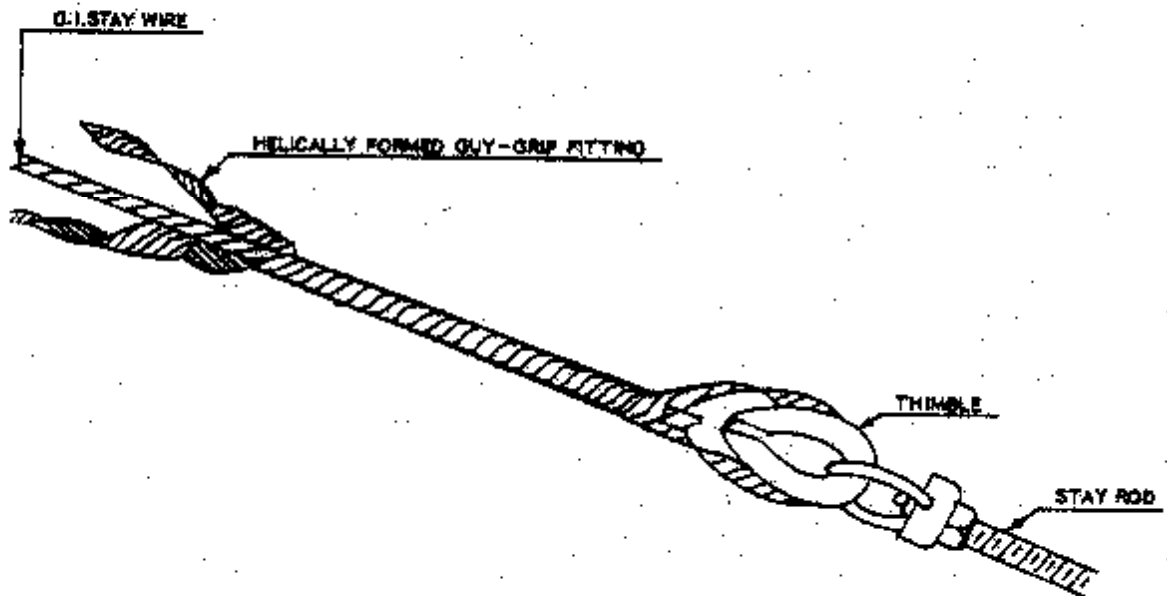
ALL DIMENSIONS ARE IN MM

गीतः दशमोऽध्यायः
(८५-८६ अध्यायः)

GUY ASSEMBLY

SCALE: N.T.S	SEPT. - 1972
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REC
CONSTRUCTION STANDARD
G-2



NOTE:- FOR DETAILS OF HELICALLY FORMED GUY GRIPS REFER REC SPECIFICATION NO. 28/1983

गर्ह के अन्तिम टोप की इस्तेमाली
(अर्थात् अन्तिम के फॉर्मेट फिटिंग का प्रयोग करना)

GUY-END ASSEMBLY

(USING HELICALLY FORMED FITTING)

SCALE:- N.T.S

JULY - 1984

REC CONSTRUCTION STANDARD G-3

NOTES:-

1. SINGLE GUY ARRANGEMENT AS PER FIGURE 1.2&3 CAN BE USED WHEN TOTAL TENSION TO BE TAKEN ON THE GUY DOES NOT EXCEED THE FOLLOWING LIMITS.

SIZE OF GUY WIRE	MAXIMUM TENSION TO KG/CM ² QUALITY	ON THE GUY.
7/2-50 mm	920 kg	
7/3-15 mm	1450 kg	
2. IN THE DOUBLE GUY ARRANGEMENT THE FOUNDATION OF THE GUYS SHOULD BE SO PLACED THAT ONE DOES NOT REDUCE THE STRENGTH OF THE OTHER. IN OTHER WORDS, THE SOIL WHICH RESISTS THE UP-LIFT SHOULD NOT BE DISTURBED WHILE DIGGING THE FOUNDATION FOR THE OTHER STAY.
3. FOR DETAILS OF COMPONENTS OF GUY ASSEMBLY, REFER: G-1

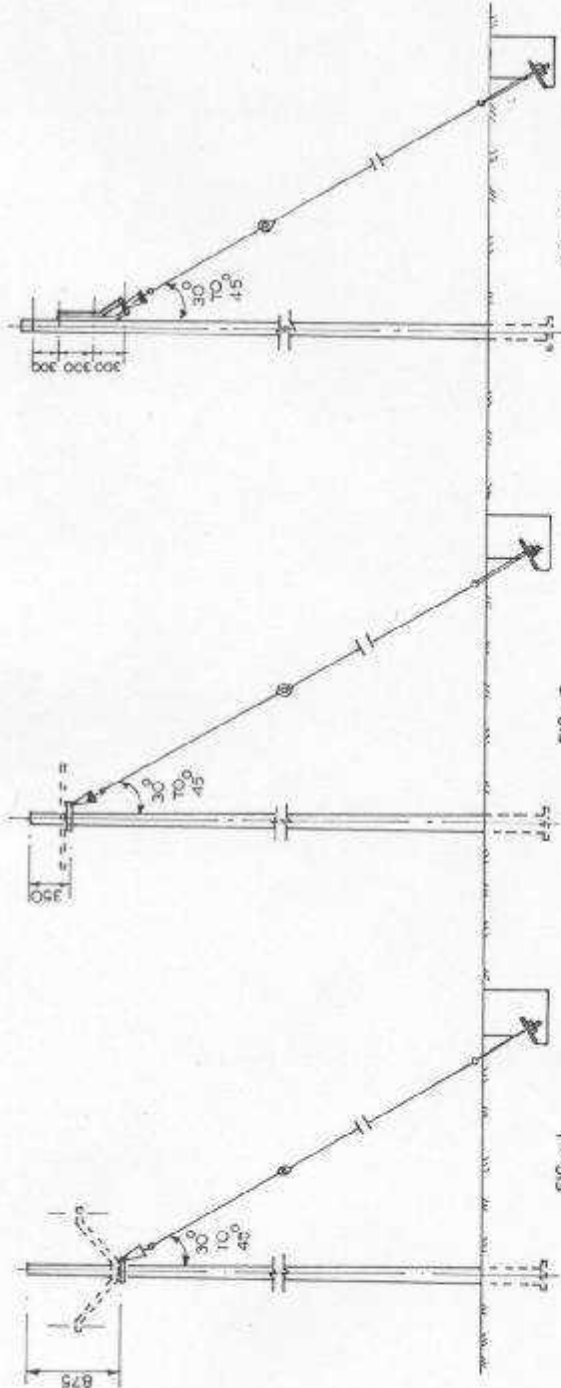
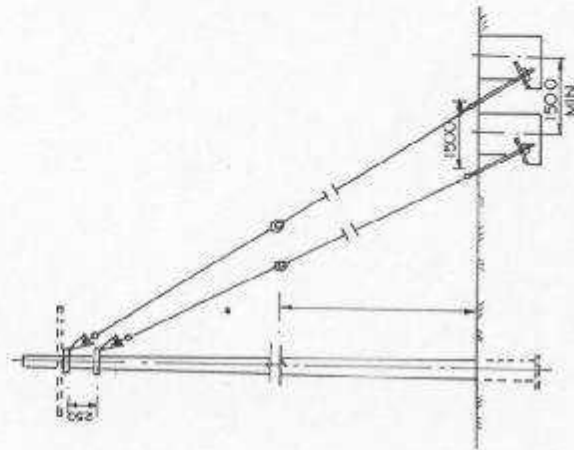


FIG. - 3

FIG. - 2
SINGLE GUY

FIG. - 1



DOUBLE GUY

ALL DIMENSIONS ARE IN mm.

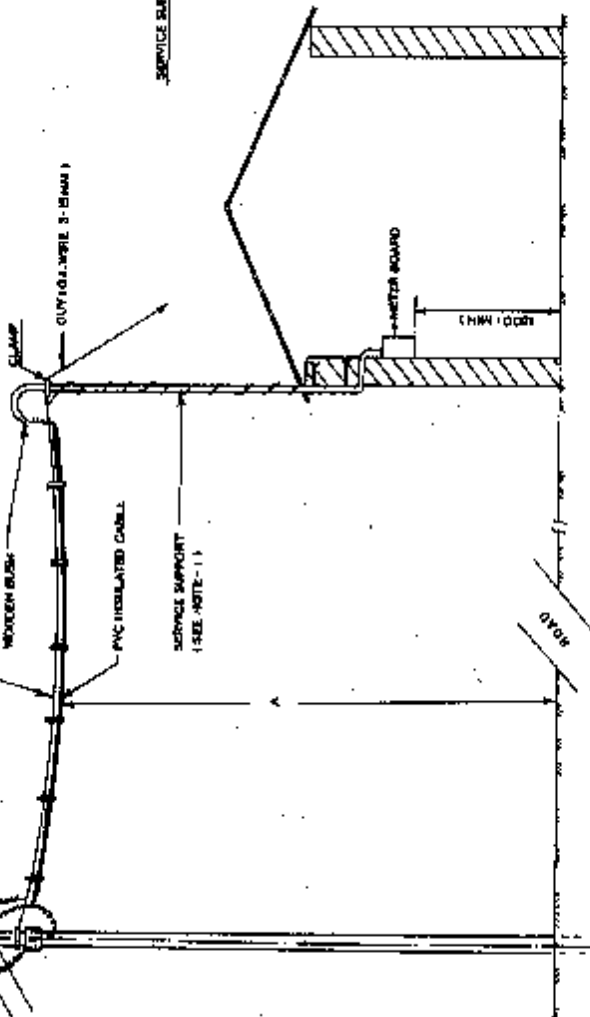
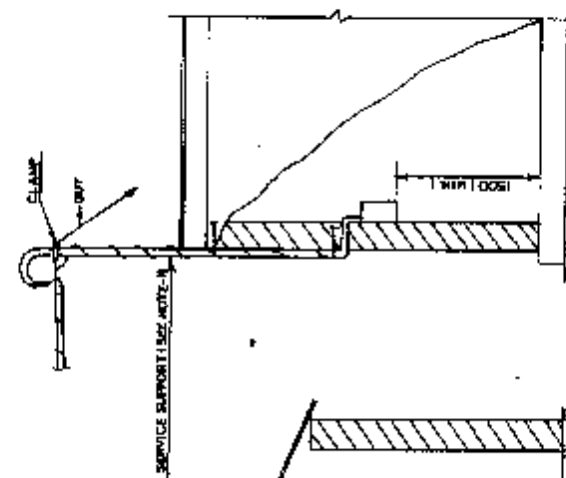
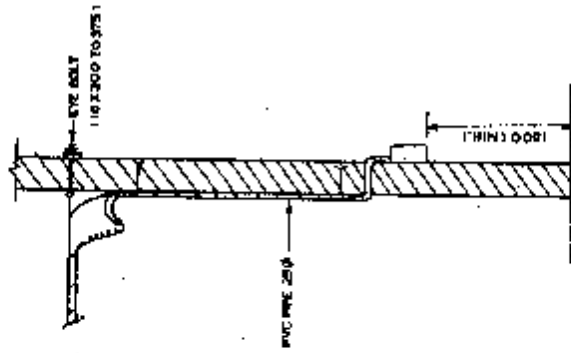
तान रस्मी व्यवस्था
स्कल व दूरी तान रस्मी

GUYING ARRANGEMENTS
SINGLE & DOUBLE GUY

SCALE:- N.T.S.

SEPT - 1973

REC CONSTRUCTION STANDARD H-1



TILED ROOFING OR OTHERS GABLED ROOFING

SINGLE STOREY - FLAT / R.C.C. ROOFING

MULTI-STOREY OR SINGLE STOREY BUILDING WITH HIGH ROOFING

TABLE - I

TYPE AND SIZE OF SERVICE CABLES

TYPE	CONNECTED LOAD	SIZE
TYPE CORE (UNINSULATED)	UP TO 2 KW	24 mm ²
PVC INSULATED CABLE AS PER REC SPEC. 25/100	UP TO 4 KW	40 mm ²

TABLE - II

TYPE / SIZE OF SERVICE SUPPORTS AND PERMISSIBLE SPANS

TYPE OF SUPPORT	SIZE OF SUPPORT	PERMISSIBLE SPAN IN METERS	PERMISSIBLE SPAN IN METERS
N.S. ANGLE WITH PVC PIPE	35 X 35 X 9	35-0	35-0
N.S. ANGLE WITH PVC PIPE	50 X 50 X 9	35-0	35-0
G.I. PIPE	2014.01	34-0	34-0
G.I. PIPE	2517.01	34-0	34-0
RIGID STEEL CONDUIT	25-010.01	34-0	34-0
RIGID STEEL CONDUIT	25-010.01	34-0	34-0
RIGID STEEL CONDUIT	25-010.01	34-0	34-0
RIGID STEEL CONDUIT	25-010.01	34-0	34-0

N.R. NOT RECOMMENDED

APPLICABLE FOR STATES WHICH HAVE ACCEPTED THE RECOMMENDED RELAXATIONS IN I.E. RULES, 1998.

NOTES:-

- SERVICE SUPPORT SHALL COMPOSE OF EITHER N.S. ANGLE WITH PVC PIPE 25/100 CONFORMING TO IS: 2009 - 1973, OR G.I. PIPE 2014.01 CONFORMING TO IS: 1061-1068, OR RIGID STEEL CONDUIT (MECHANICAL DUTY, MARK PROTECTION CATEGORY WITH A MINIMUM TENSILE STRENGTH OF 310 MPa CONFORMING TO IS: 9937 PART-2 & 3 - 1997 / 91).
- BEARER WIRE TO BE USED WITH PVC INSULATED CABLE SHALL BE OF HARD QUALITY CONFORMING TO IS: 280-1978. SUITABLE CLIPS OF LASHING ROD AS PER REC SPECIFICATION NO. 13/1005 MAY BE USED FOR SUPPORTING THE CABLE WITH THE BEARER WIRE.
- AS AN ALTERNATIVE TO THE USE OF SEPARATE G.I. WIRE FOR SUPPORTING THE CABLES, PVC CABLE WITH ENHANCED BEARER WIRE AS PER REC SPEC. 27/082 MAY BE USED. THIS IS MATERIALLY USUAL IN CORROSION AND POLLUTED AREAS WHERE CORROSION OF G.I. WIRE IS A PROBLEM.
- CLAMPS TO BE MADE FROM 40X3 U.S. PLATE

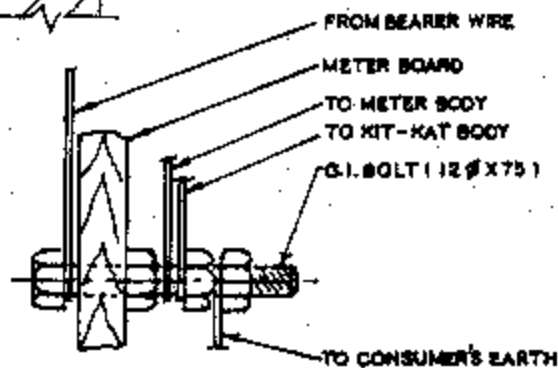
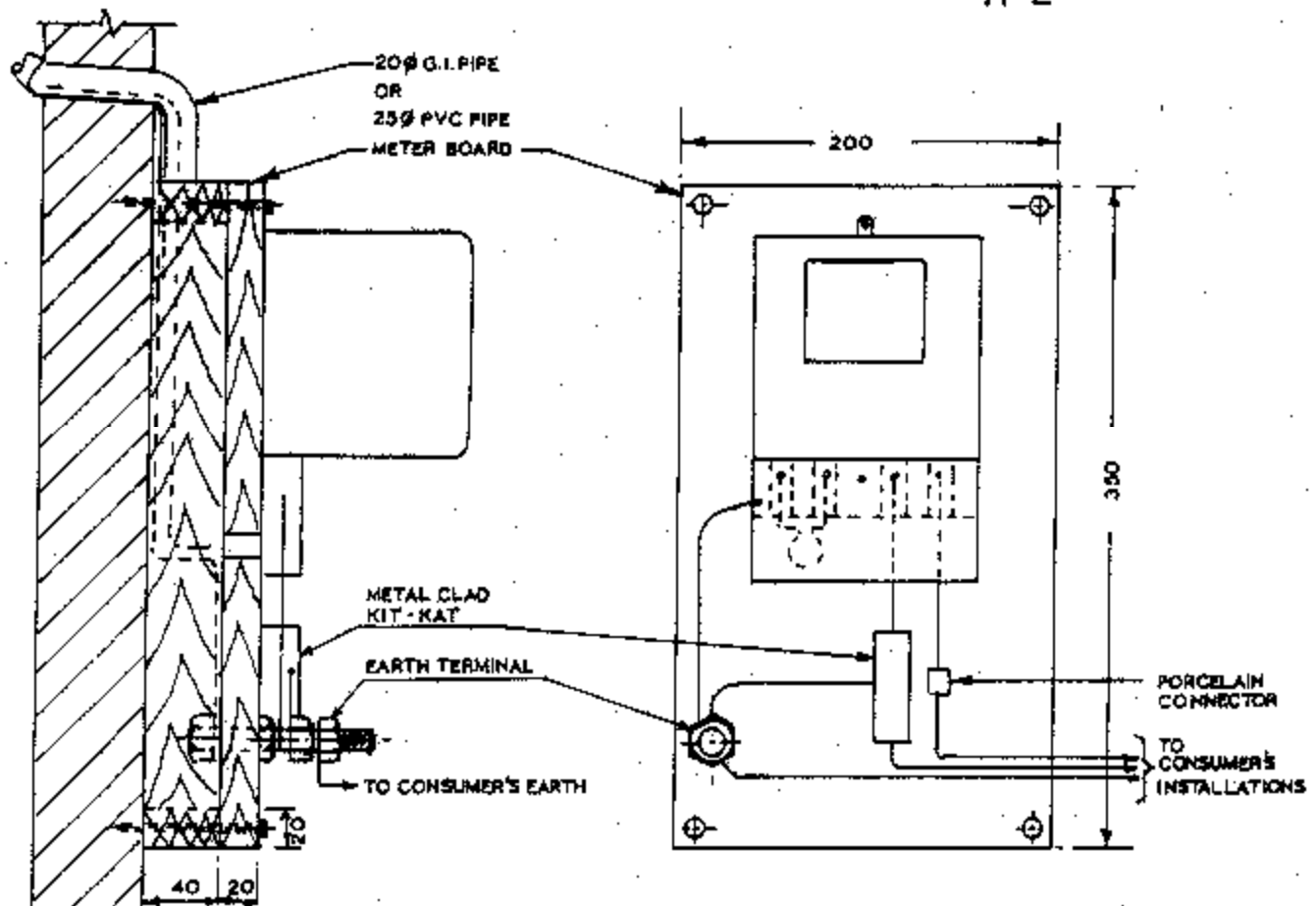
ALL DIMENSIONS ARE IN MM.

NOT TO SCALE
CLAMP
CLAMP
CLAMP

SERVICE CONNECTIONS
SINGLE PHASE
(INSULATED WIRE)

SCALE: - N.T.S. APRIL - 1998

REC CONSTRUCTION STANDARD H-2



EARTH TERMINAL DETAILS

NOTE

1. METER BOARD CAN BE OF TEAK WOOD OR ANY SUITABLE HARD WOOD.

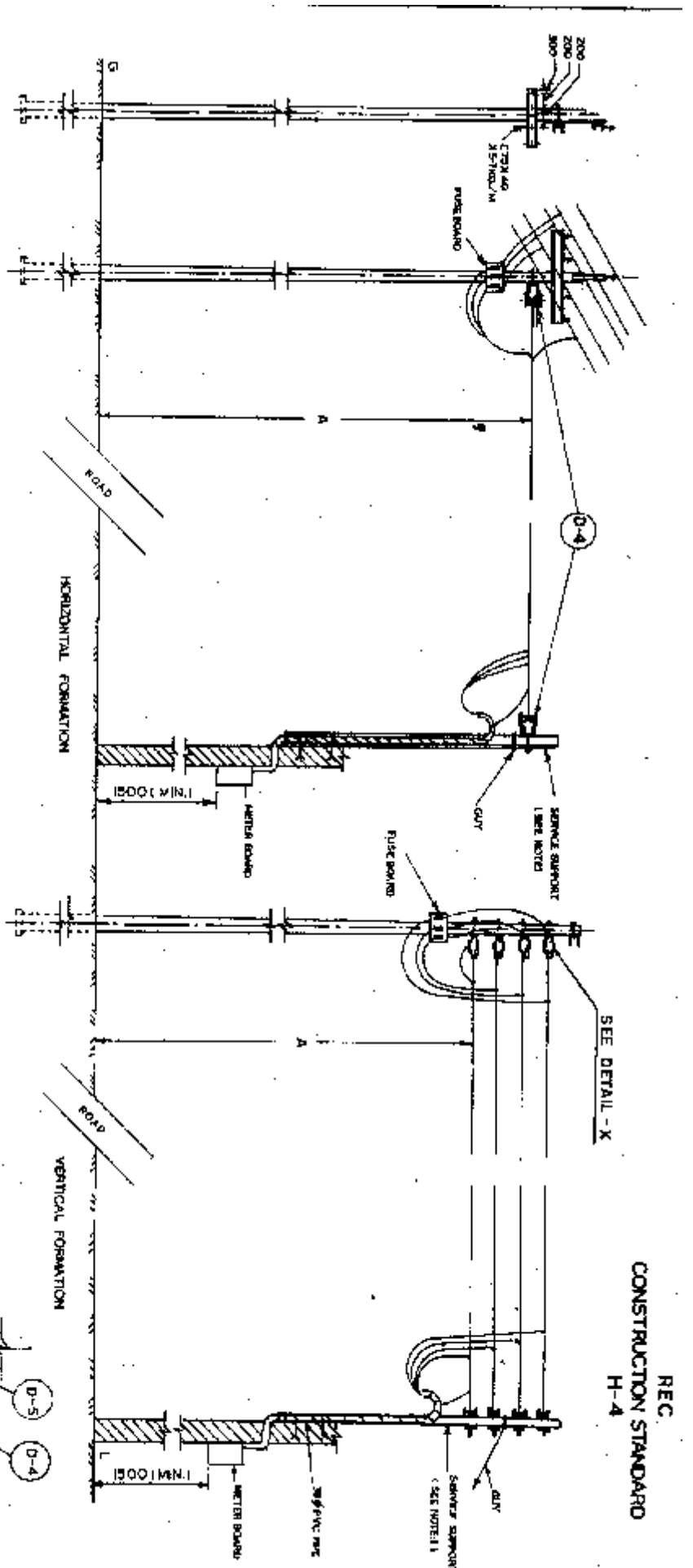
ALL DIMENSIONS ARE IN mm.

सर्विस कनेक्शन
सिंगल फेज मीटर बोर्ड
(वैकल्पिक - I)

SERVICE CONNECTIONS
SINGLE PHASE
METER BOARD
(ALTERNATIVE - I)

SCALE: - N.T.S

MARCH - 1974.



REC.
CONSTRUCTION STANDARD
H-4

TABLE - I

TYPE AND SIZE OF SERVICE CABLE

TYPE	CONNECTED LOAD	SIZE
TWIN CORE (UNARMED)	UP TO 27 MW (1.4 F)	2.5 sq. in.
PVC INSULATED CABLE AS PER REC SPEC NO. 27/15/14/1	UP TO 27 MW (1.4 F)	4.0 sq. in.
FOUR CORE (UNARMED)	UP TO 37 MW (1.4 F)	9.0 sq. in.
PVC INSULATED CABLE AS PER REC SPEC NO. 28/15/14/1	UP TO 37 MW (1.4 F)	10.0 sq. in.

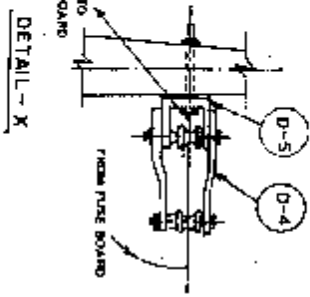
TABLE - II

TYPE / SIZE OF SERVICE SUPPORTS AND PERMISSIBLE SPANS

FORMATION	TYPE OF SUPPORT	SIZE OF SUPPORT	PERMISSIBLE SPAN IN METRES			
			ROAD CROSSING WITH DRIVING CLEARANCE	ALONG THE ROAD WITH RELAYED GROUND CLEARANCE	ALONG THE ROAD WITH RELAYED GROUND CLEARANCE	ELSEWHERE WITH RELAYED GROUND CLEARANCE
HORIZONTAL (A)	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	N.R.	N.R.	31-0	31-0
	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	27-0	27-0	31-0	31-0
	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	19-0	17-0	35-0	35-0
	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	19-0	17-0	35-0	35-0
VERTICAL	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	N.R.	N.R.	31-0	31-0
	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	27-0	27-0	31-0	31-0
	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	19-0	17-0	35-0	35-0
	M.S. ANGLE WITH P.C. PIPE	30 X 50 X 6	19-0	17-0	35-0	35-0

NOTES:-

- SERVICE SUPPORT SHALL COMPLY WITH EITHER M.S. ANGLE WITH P.C. PIPE 30/50/6 OR TO 13/25/6-10/7.1 ON G.I. PIPE (MEDIUM CLASS CORROSION) TO BE 120-1000 OR RIGID STEEL CONDUIT VERY HEAVY DUTY HIGH PROTECTION, CATEGORY WITH A MINIMUM YIELD STRESS OF 310 MPA. CONFORMING TO IS-9007 PART - II (1981)
- CLAMPS TO BE MADE FROM 40/5 M.S. PLAT.



ALL DIMENSIONS ARE IN MM.
3-PHASE INDUSTRIAL
SERVICE CONNECTIONS
(GARE WIRE)

SCALE: 1:1000 APRIL, 1991

REC
CONSTRUCTION STANDARD
H-5

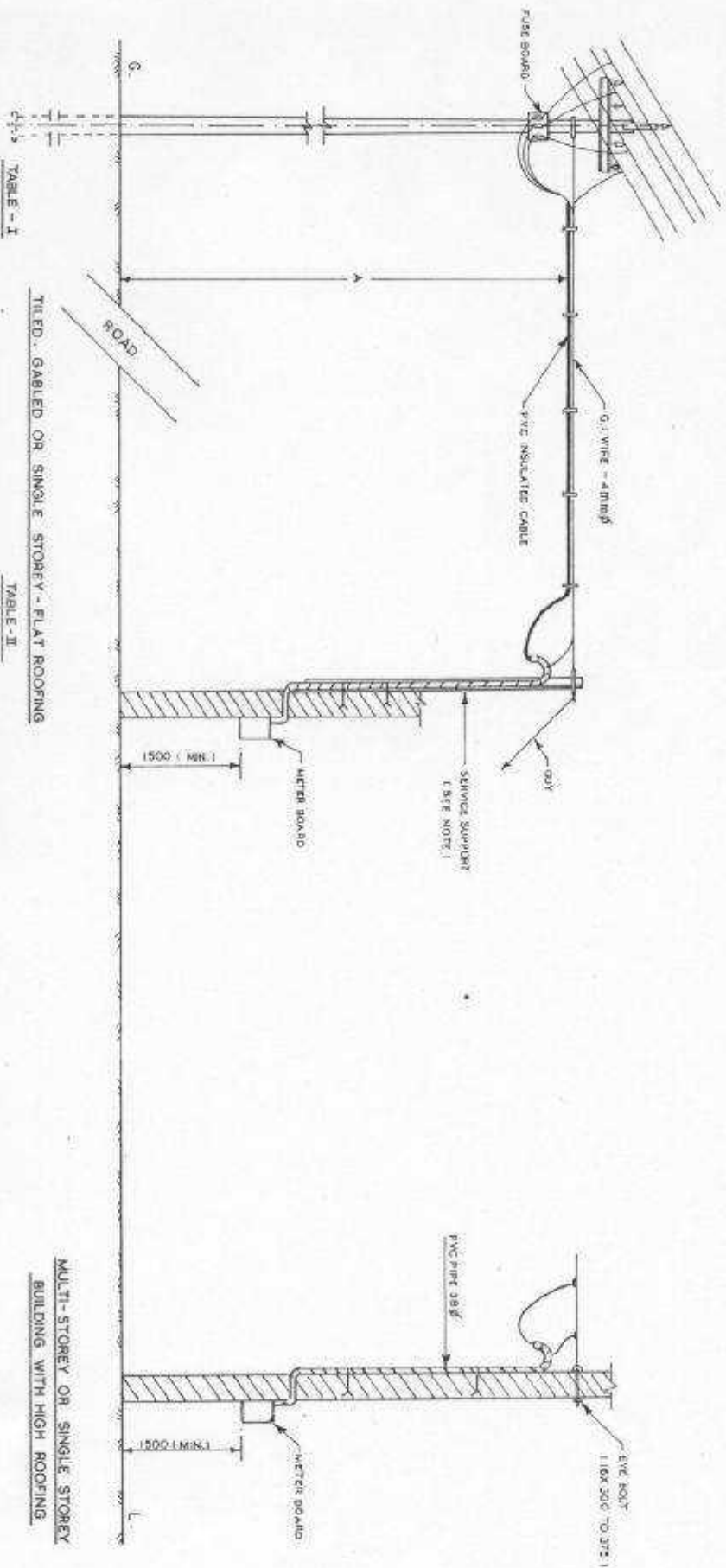


TABLE - I

TYPE	CONNECTED LOAD	SIZE
TWIN CORE (UNARMED)	UP TO 2.2 KW/24 PI	2-3mm ²
PVC INSULATED	ABOVE 2.2 KW	4-6mm ²
2.5mm ² TO 3.7mm ²	1.5H PI	4-6mm ²
4.0mm ² TO 6.0mm ²	1.5H PI	6-10mm ²
6.0mm ² TO 10.0mm ²	1.5H PI	10-16mm ²
10.0mm ² TO 16.0mm ²	1.5H PI	16-25mm ²
25.0mm ² TO 35.0mm ²	1.5H PI	35-50mm ²
35.0mm ² TO 50.0mm ²	1.5H PI	50-75mm ²
75.0mm ² TO 110.0mm ²	1.5H PI	110-150mm ²

TABLE - II

TYPE/SIZE OF SERVICE SUPPORTS AND PERMISSIBLE SPANS				
TYPE OF SUPPORT	SIZE OF SUPPORT	PERMISSIBLE SPAN IN METRES		
		ROAD CROSSING WITH GROUND CLEARANCE	ALONG THE ROAD WITH GROUND CLEARANCE	EL SEWERAGE WITH GROUND CLEARANCE
M/S ANGLE WITH PVC PIPE	50 X 50 X 5 38 DIA.	19.0 (1) ≤ 5.8 M	19.0 (1) ≤ 5.8 M	35.0 (1) ≤ 4.0 M
G.I. PIPE	401.1.0.1	21.0	25.0	35.0
RIGID STEEL CONDUIT	500.0.1 WALL THICKNESS 2.0	21.0	25.0	35.0

8. APPLICABLE FOR STATES WHICH HAVE ACCEPTED THE RECOMMENDED REGULATION IN I.E. RULES, 1956.

NOTES

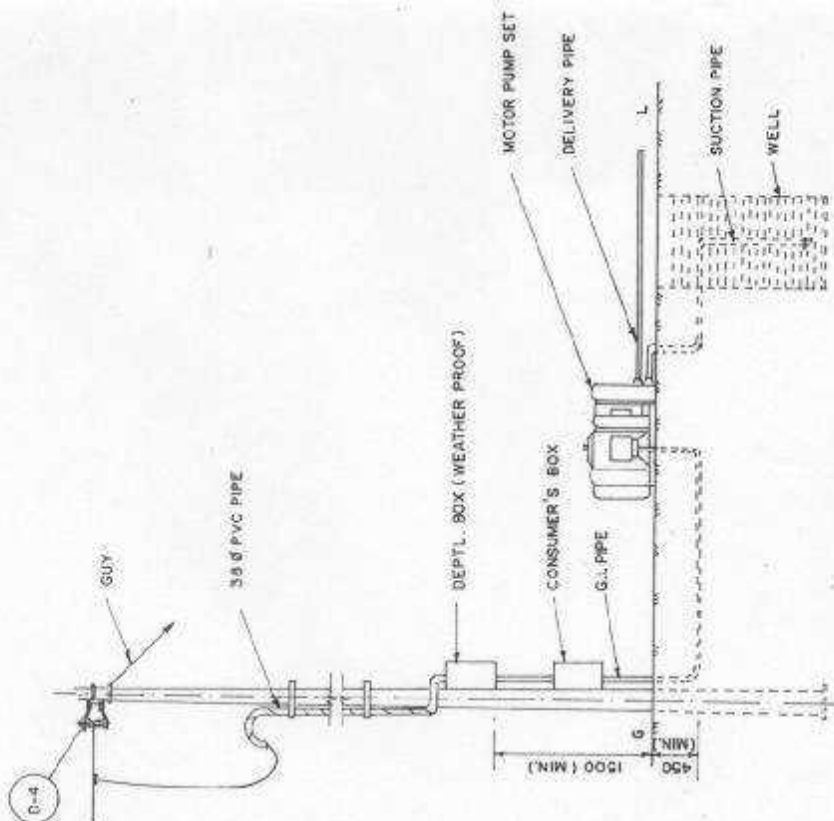
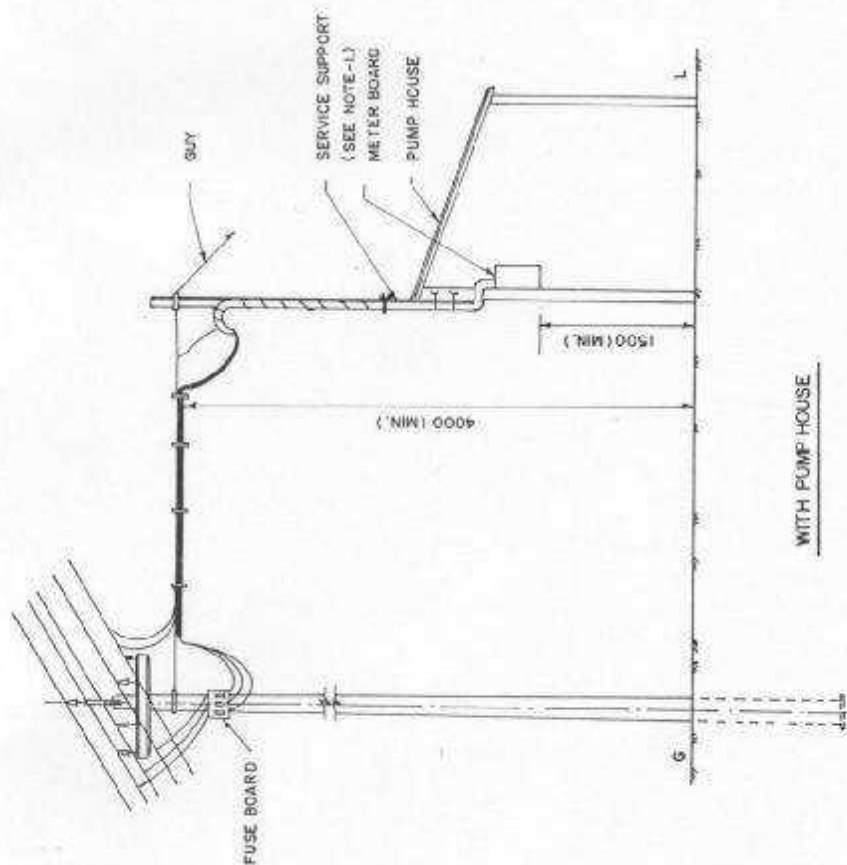
1. SERVICE SUPPORT SHALL COMPOSE OF EITHER M/S ANGLE WITH PVC PIPE 38 DIA. CONFORMING TO IS 2479-1973 OR G.I. PIPE IMBEDDED CLASS CONFORMING TO IS 1161-1968 OR RIGID STEEL CONDUIT (VERY HEAVY DUTY) WITH PROTECTION CATHODIC WITH A MINIMUM TENSILE STRESS OF 310 MPa. CONFORMING TO IS 1937 (PART II)-1981.
2. BEARER WIRE TO BE USED WITH PVC INSULATED CABLE SHALL BE OF HAD QUALITY CONFORMING TO IS 280-1978 SUITABLE CLIPS OR LASHING WIRE AS PER IEC SPECIFICATION NO. 25/1983 MAY BE USED FOR SUPPORTING THE CABLE WITH THE BEARER WIRE.
3. AS AN ALTERNATIVE TO THE USE OF SEPARATE G.I. WIRE FOR SUPPORTING THE CABLES, PVC CABLE WITH EMBEDDED BEARER WIRE AS PER IEC SPECIFICATION 25/1983 MAY BE USED. THIS IS PARTICULARLY USEFUL IN COASTAL & POLLUTED AREAS WHERE CORROSION OF G.I. WIRE IS A PROBLEM.
4. CLIPS TO BE MADE FROM 40X5 M/S FLAT

ALL DIMENSIONS ARE IN MM.

सर्वीस कनेक्शन्स
3-फेज इंडस्ट्रियल
(इन्सुलेटेड कबल्स)
सर्वीस कनेक्शन्स
3-फेज इंडस्ट्रियल
(इन्सुलेटेड कबल्स)

SCALE: N.T.S. APRIL, 1991

REC CONSTRUCTION STANDARD H-6



WITHOUT PUMP HOUSE

NOTES:-

- SERVICE SUPPORT SHALL COMPRISE OF EITHER M.S. ANGLE WITH PVC PIPE 38 Ø CONFORMING TO IS: 250-1973 OR G.I. PIPE 1 MEDIUM CLASS CONFORMING TO IS: 1181-1981 OR RIGID STEEL CONDUIT (VERY HEAVY DUTY). HIGH PROTECTION CATEGORY WITH A MINIMUM YIELD STRESS OF 310 MPa CONFORMING TO IS: 3537 (P) (I)-1981.
- BEARER WIRE TO BE USED WITH PVC INSULATED CABLE SHALL BE OF HARD QUALITY, CONFORMING TO IS: 280-1978 SUITABLE CLIPS OR LASHING ROD AS PER REC SPECIFICATION NO. 28/1983 MAY BE USED FOR SUPPORTING THE CABLE WITH THE BEARER WIRE.
- AS AN ALTERNATIVE TO THE USE OF SEPARATE G.I. WIRE FOR SUPPORTING THE CABLES, PVC CABLES WITH EMBEDDED BEARER WIRE AS PER REC SPECIFICATION NO. 27/1983 MAY BE USED. THIS IS PARTICULARLY USEFUL IN COASTAL AND POLLUTED AREAS WHERE CORROSION OF G.I. WIRE IS A PROBLEM.
- CLAMPS TO BE MADE FROM 40MM M.S. PLAT.
- THE MAXIMUM SPANS INDICATED IN TABLE II ARE BASED ON THE MINIMUM GROUND CLEARANCE OF 4.0M. AS SHOWN. FOR OTHER GROUND CLEARANCES, AS APPLICABLE, IN THE CASE OF ROAD CROSSING OR ALONG THE ROAD, ARE NOT ENVISAGED IN THIS CONSTRUCTION STANDARD.

TABLE - II

TYPE AND SIZE OF SERVICE CABLES

TYPE OF SUPPORT	SIZE OF SUPPORT	PERMISSIBLE SPAN IN METERS
M.S. ANGLE WITH PVC PIPE	50X50X6 38 DIA.	21.0
G.I. PIPE	40X1.0	27.0
RIGID STEEL CONDUIT	50.0 (MIN.) THICKNESS 20	27.0

TABLE - I

TYPE AND SIZE OF SERVICE CABLES

TYPE	CONNECTED LOAD	SIZE
TWIN CORE (UNARMED)	UP TO 2.2 KW (3 H.P.)	2.5mm ²
PVC INSULATED AS PER REC. SPECIFICATION NO. 26/1983	ABOVE 2.2 KW (3 H.P.) TO 3.7 KW (5 H.P.)	4mm ²
FOUR CORE (UNARMED)	ABOVE 3.7 KW (5 H.P.) TO 7.5 KW (10 H.P.)	60mm ²
PVC INSULATED AS PER REC. SPECIFICATION NO. 26/1983	ABOVE 7.5 KW (10 H.P.) TO 11 KW (15 H.P.)	100mm ²

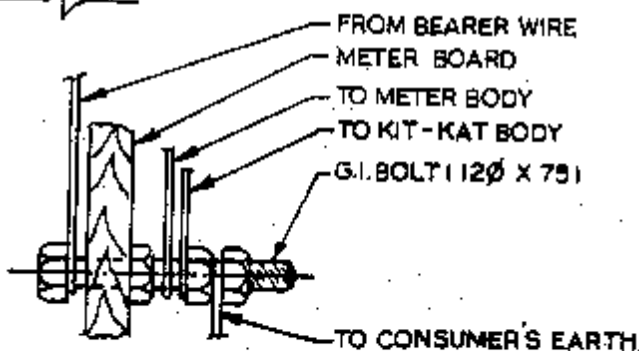
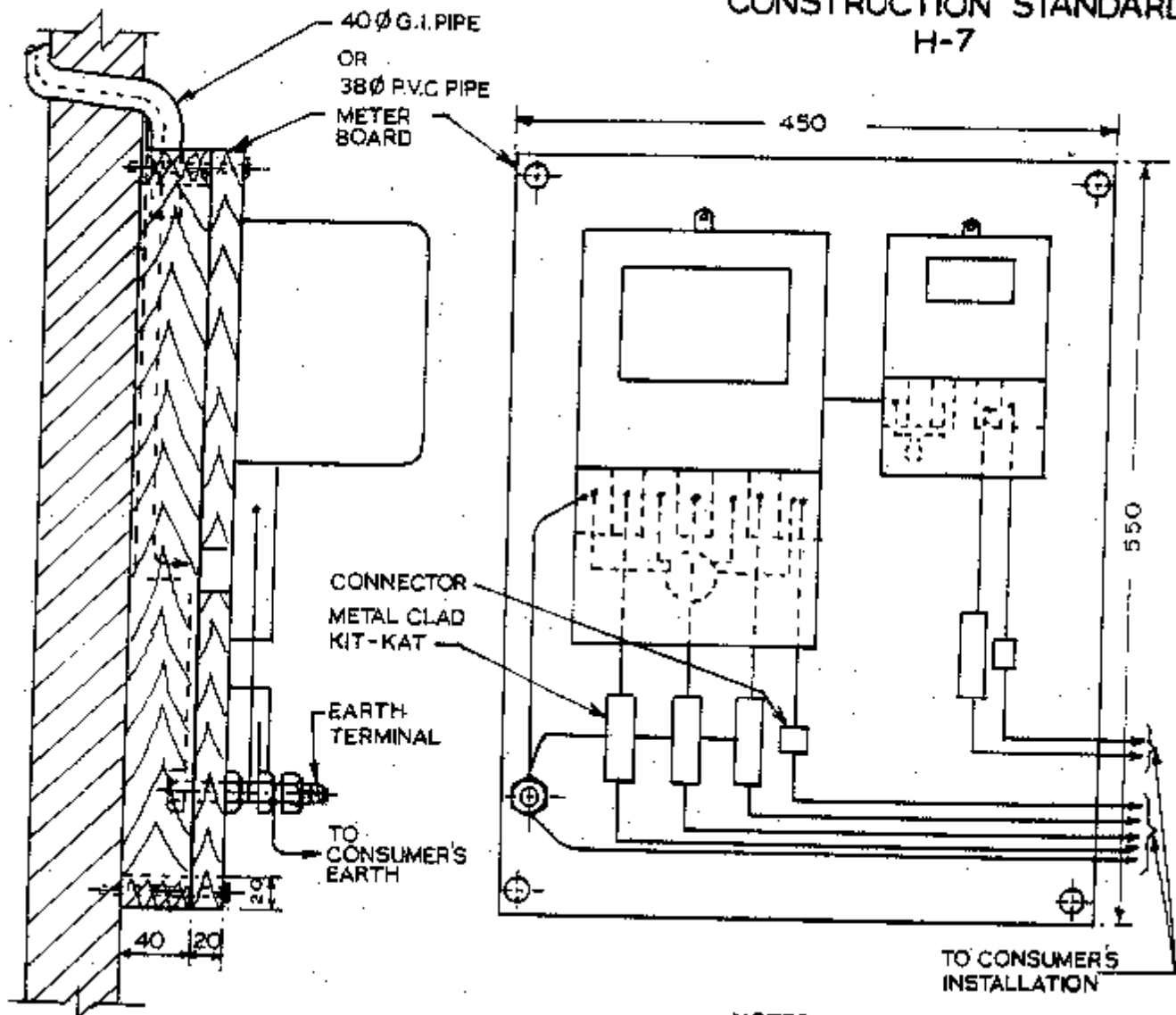
ALL DIMENSIONS ARE IN mm.

सर्विस कनेक्शन
तीन फेज
ग्राम

SERVICE CONNECTIONS
THREE PHASE
AGRICULTURAL

SCALE: N.T.S. APRIL - 1981

REC CONSTRUCTION STANDARD H-7



EARTH TERMINAL DETAILS

NOTES:-

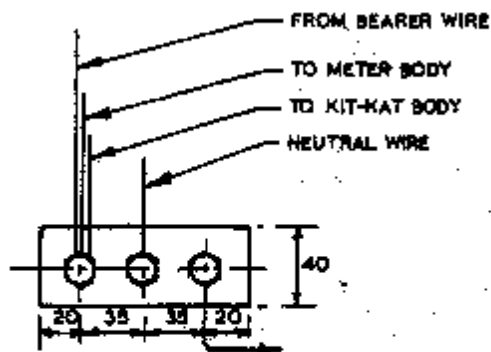
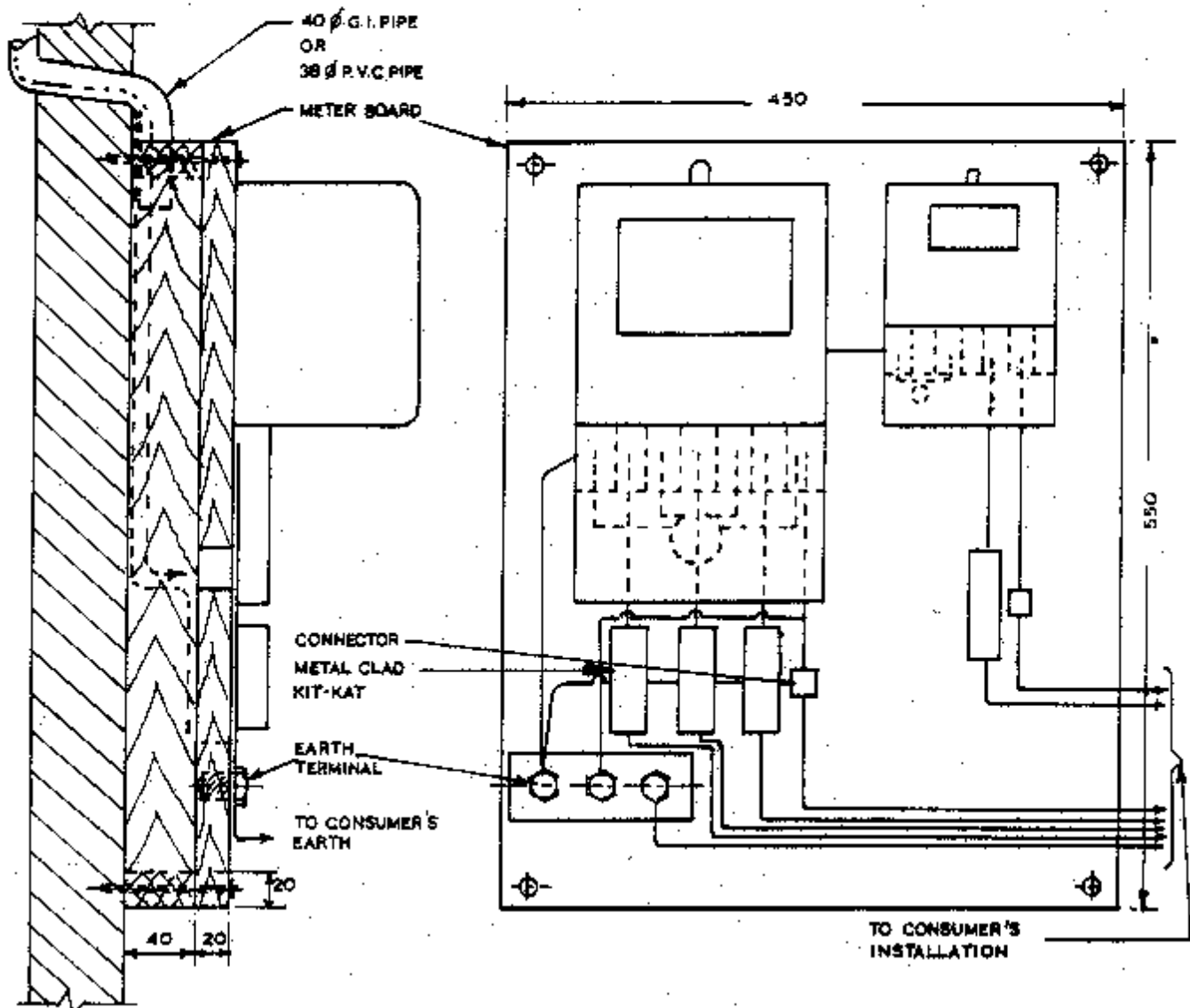
1. METRE BOARD CAN BE OF TEAK WOOD OR ANY SUITABLE HARD WOOD.
2. WHERE ONLY A THREE PHASE METER IS TO BE USED, THE DIMENSIONS OF THE METER BOARD MAY BE 550X350.

ALL DIMENSIONS ARE IN mm.

सर्विस कनेक्शन
तीन फेज मीटर बोर्ड
(वैकल्पिक - I)
**SERVICE CONNECTIONS
THREE PHASE
METER BOARD
(ALTERNATIVE - I)**

SCALE:- N.T.S | MARCH - 1974

REC CONSTRUCTION STANDARD H-8



EARTH TERMINAL DETAILS

NOTES:-

1. METER BOARD CAN BE OF TEAK WOOD OR ANY SUITABLE HARD WOOD.
2. WHERE ONLY A THREE PHASE METER IS TO BE USED, THE DIMENSIONS OF THE METER BOARD MAY BE 550X350
3. EARTH TERMINAL SHOULD BE MADE OF G.I. STRIP 40X3 WITH 3 NOS. 12 Ø STUDS.

ALL DIMENSIONS ARE IN mm.

सर्विस कनेक्शन
तीन फेज मीटर बोर्ड
(वैकल्पिक - II)
**SERVICE CONNECTIONS
THREE PHASE
METER BOARD
(ALTERNATIVE - II)**

SCALE:- N.T.S

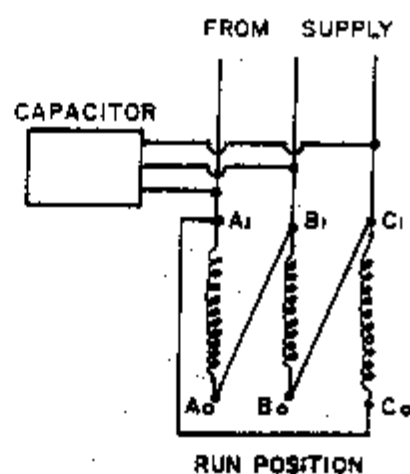
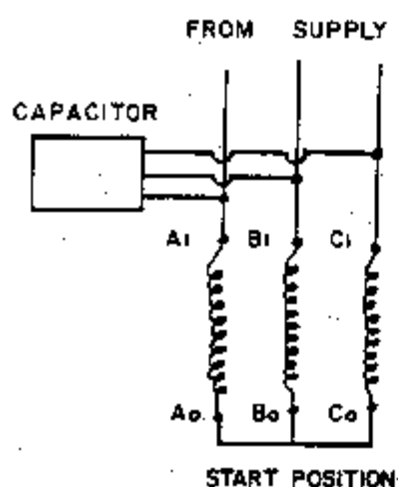
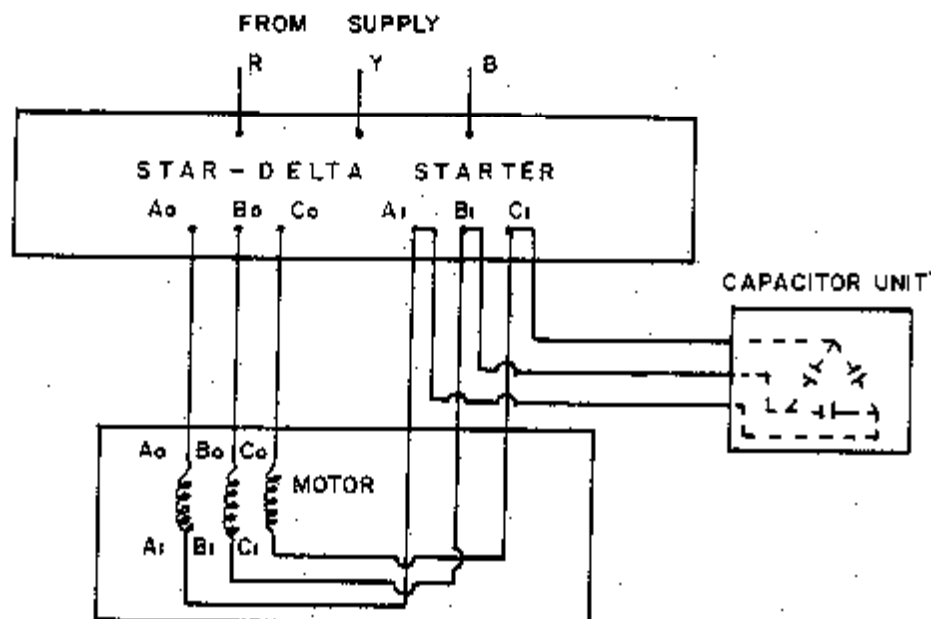
MARCH - 1974.

**REC
CONSTRUCTION STANDARD
H-9**

RECOMMENDED CAPACITOR RATINGS

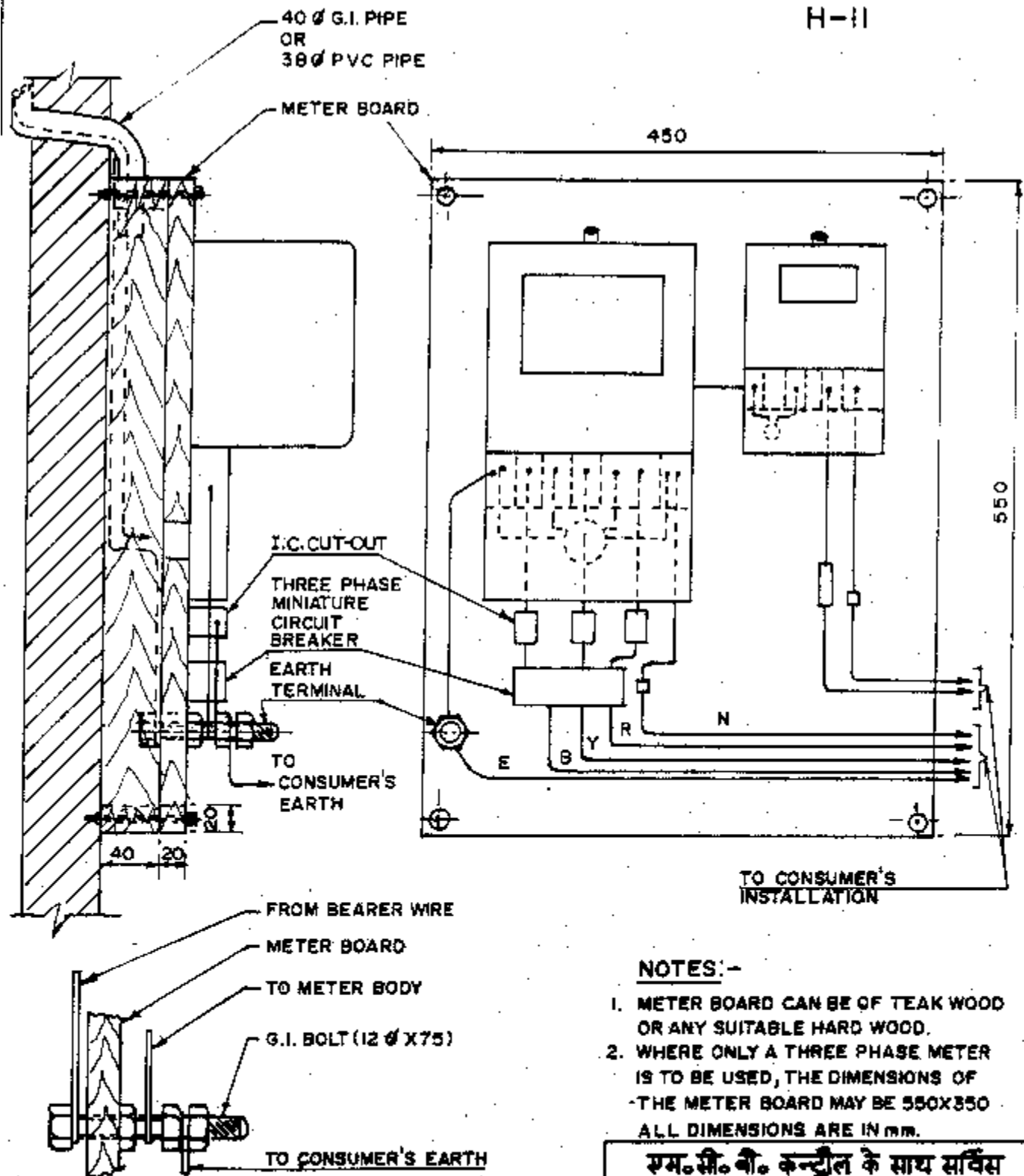
MOTOR RATING	22KW(3H.P.)	37KW(5H.P.)	55KW(7.5H.P.)	75KW(10H.P.)
CAPACITOR RATING IN KVAR	1	2	3	4

**CONNECTIONS OF A 3-TERMINAL CAPACITOR UNIT TO A
MOTOR HAVING A START DELTA STARTER**



**एल.टी. कैपेसिटर
कनेक्शनों की संस्तुत रेटिंग एवं पद्धति
L.T. CAPACITORS
RECOMMENDED RATINGS
AND MODE OF CONNECTIONS**

REC CONSTRUCTION STANDARD H-II



EARTH TERMINAL DETAILS

NOTES:-

1. METER BOARD CAN BE OF TEAK WOOD OR ANY SUITABLE HARD WOOD.
 2. WHERE ONLY A THREE PHASE METER IS TO BE USED, THE DIMENSIONS OF THE METER BOARD MAY BE 550X350.
- ALL DIMENSIONS ARE IN mm.

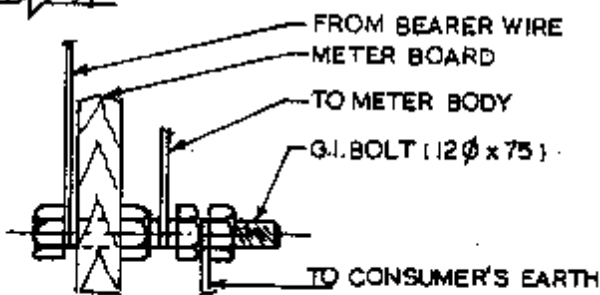
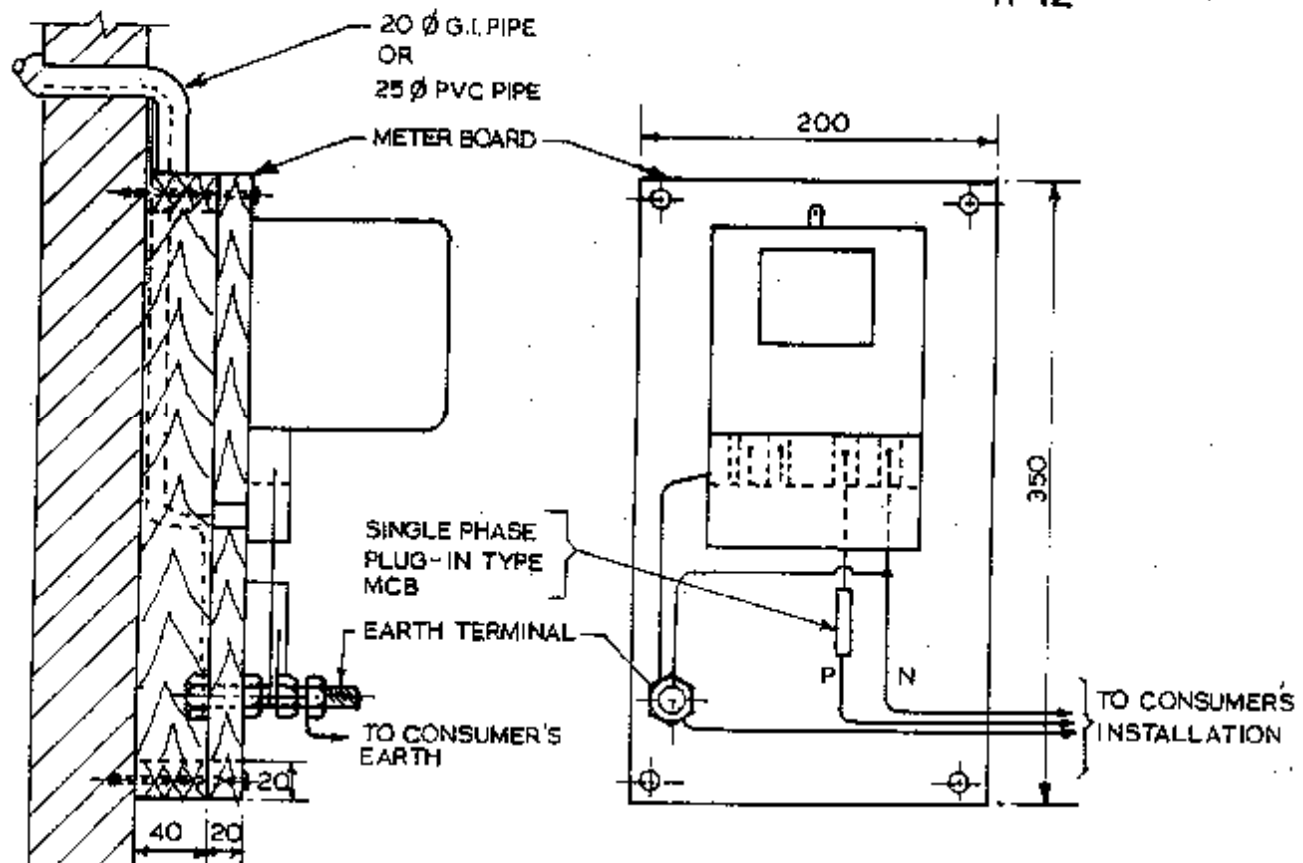
एम.सी.बी. कन्ट्रोल के साथ सर्विस
कनेक्शन तीन फेज मीटर
(अलग न्यूट्रल और अर्थ सहित)
SERVICE CONNECTIONS
THREE PHASE METER BOARD
WITH MCB CONTROL

(WITH SEPARATE NEUTRAL AND EARTH)

SCALE: N.T.S.

MAY, 1993.

**REC
CONSTRUCTION STANDARD
H-12**



EARTH TERMINAL DETAILS

NOTE :-

TO AVOID ENVOIRNMENTAL DEGRADATION METER BOARDS MADE OF ENGINEERING PLASTIC COULD BE USED INSTEAD OF WOODEN BOARDS.

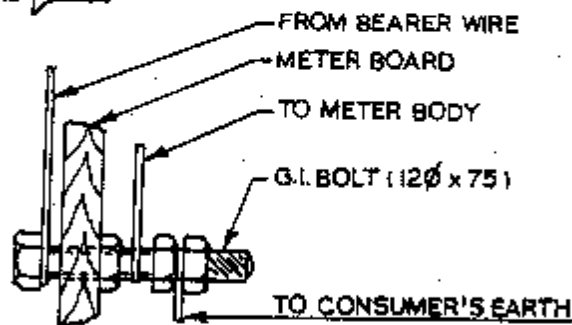
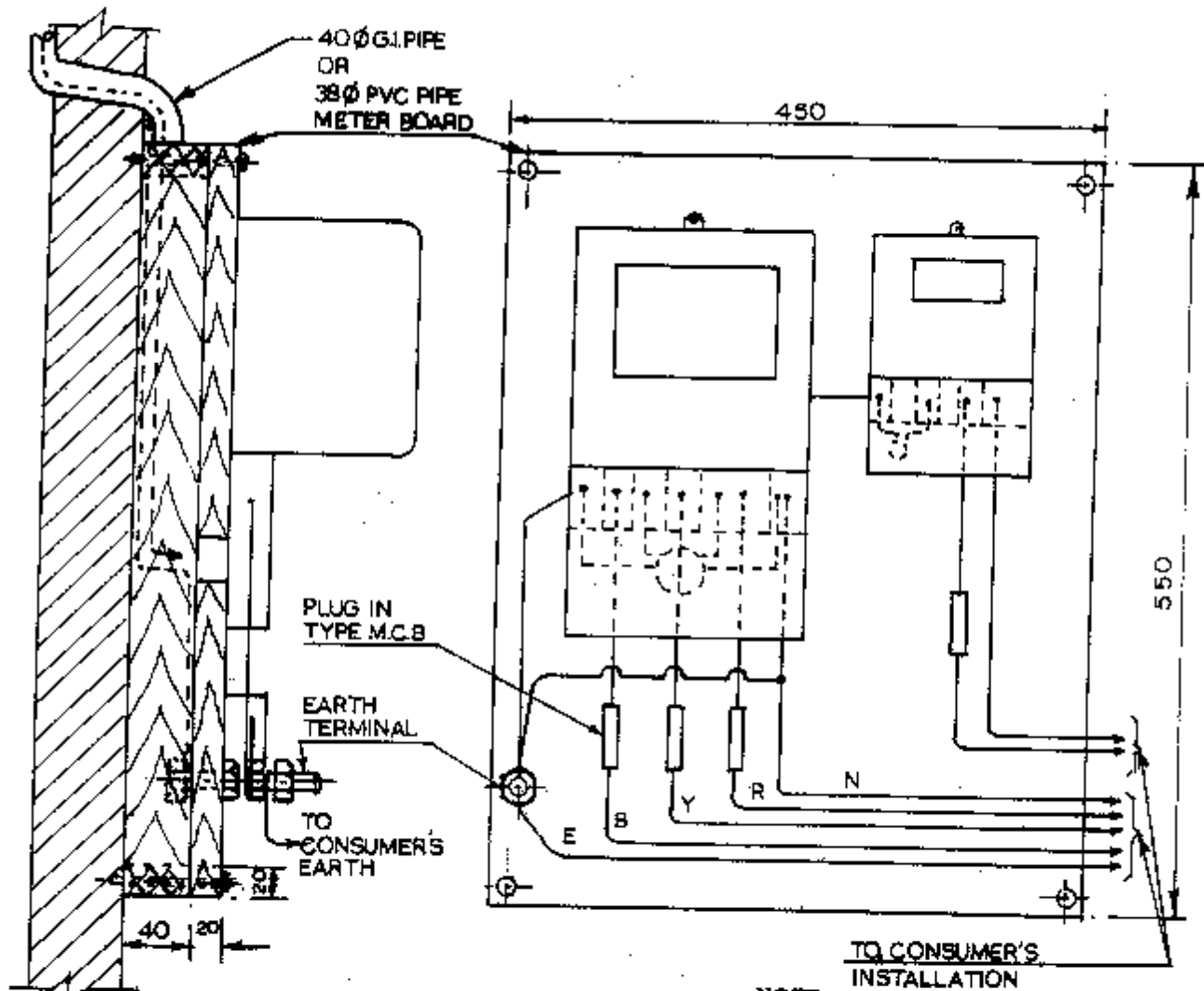
THIS IS AN ALTERNATIVE TO
REC CONST. STD. H-10

ALL DIMENSIONS ARE IN mm.

सर्विस कनेक्शन
प्लग-इन-टार्प रम. सी. बी. के साथ
सिंगल फेज मीटर बोर्ड
**SERVICE CONNECTIONS
SINGLE PHASE METER BOARD
WITH PLUG-IN-TYPE M.C.B.
(WITH SEPARATE NEUTRAL AND EARTH)**

SCALE :- N. T.S. | AUGUST, 1997

**REC
CONSTRUCTION STANDARD
H-13**



EARTH TERMINAL DETAILS

THIS IS AN ALTERNATIVE TO
REC CONST. STD. H-11

NOTE :-

1. WHERE ONLY A THREE PHASE METER IS TO BE USED, THE DIMENSIONS OF THE METER BOARD MAY BE 550X150.
2. TO AVOID ENVIRONMENTAL DEGRADATION METER BOARDS MADE OF ENGINEERING PLASTIC COULD BE USED INSTEAD OF WOODEN BOARDS.

ALL DIMENSIONS ARE IN mm.

सर्विस कनेक्शन
प्लग-इन-टाइप मीटर बोर्ड
श्री फैज मीटर बोर्ड

**SERVICE CONNECTIONS
THREE PHASE METER BOARD
WITH PLUG-IN-TYPE M.C.B.
(WITH SEPARATE NEUTRAL AND EARTH)**

SCALE :- N.T.S. | AUGUST, 1997