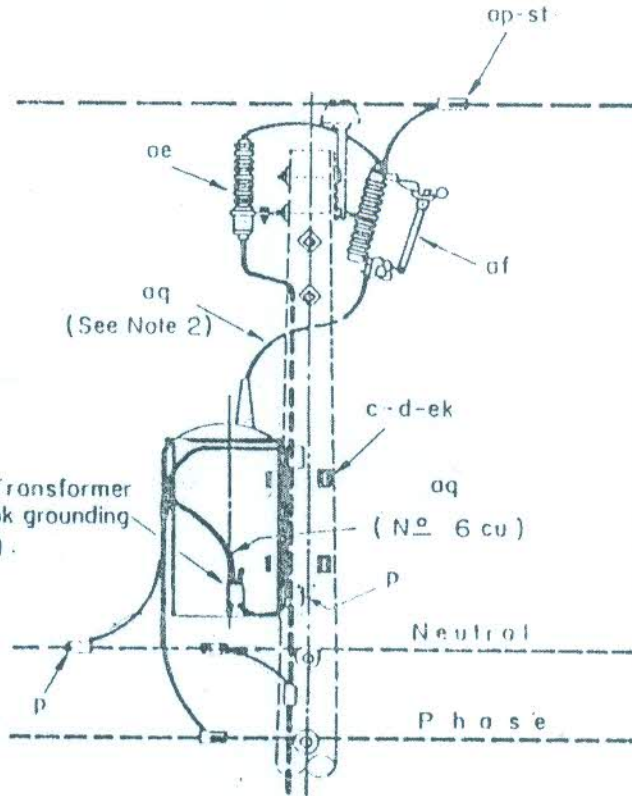
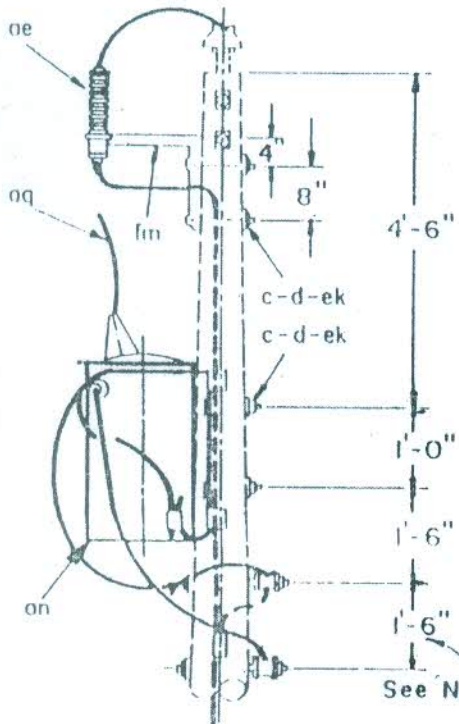


NOTES:

1. Refer to transformer guide drawings for secondary and service connections.
2. Refer to guide drawing M28-I for transformer lead sizes and primary fuse sizes.
3. Increase this dimension 2'-0" for spans over 300 feet in length.
4. The transformer grounding loop assures two separate connections to ground. See guide drawing M27 for details.
5. A ground rod is required for this installation. Specify separately as M2-II.
6. A 3" minimum separation is required between neutral and low tension jumpers.



৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০৫

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

ITEM NO.	MATERIAL	ITEM NO.	MATERIAL
c 4	Bolt, machine, 5/8" x required length	ap 1	Clamp, hot line
d 4	Washer, square, 2 1/4"	aq -	Jumpers, as required
p -	Connectors, as required	ek -	Locknuts
ae 1	Lightning arrester	fm 1	Bracket, cutout and arrester
af 1	Cutout	st 1	Stirrup for hot line clamp
an 1	Transformer, conventional type		

(Debasish Chakraborty)
PD, TAPP, BREB.

(Md. Mozibur Rahman)
Consultant, TAPP, BREB

(Md. Duhidul Islam)
Consultant, TAPP, BREB

(Md. Mozammel Haq)
Consultant, TAPP, BREB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB

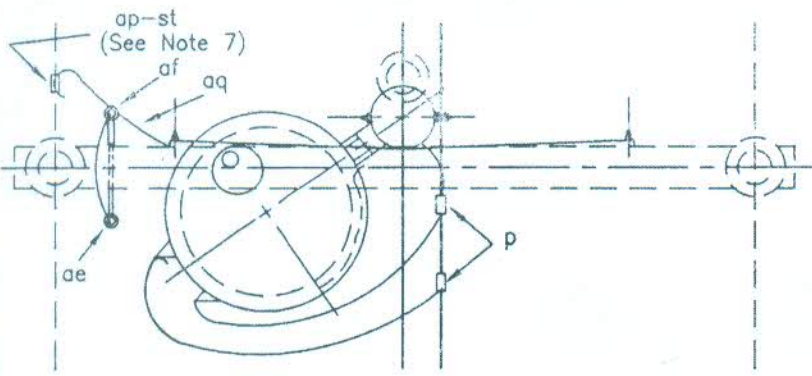
(Md. Ahsanul Haque)
Consultant, TAPP, BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV SINGLE PHASE TRANSFORMER AT 1-PHASE TANGENT

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	G105

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, **February 2020**



P L A N

NOTES :

- 1.
- 2.
3. } Refer to drawing G 105 or 106
4. } for these Notes.
- 5.
- 6.
7. See staking sheet to determine on which phase transformer is to be connected.

(Debasish Chakraborty)
PD, TAPP, BREB

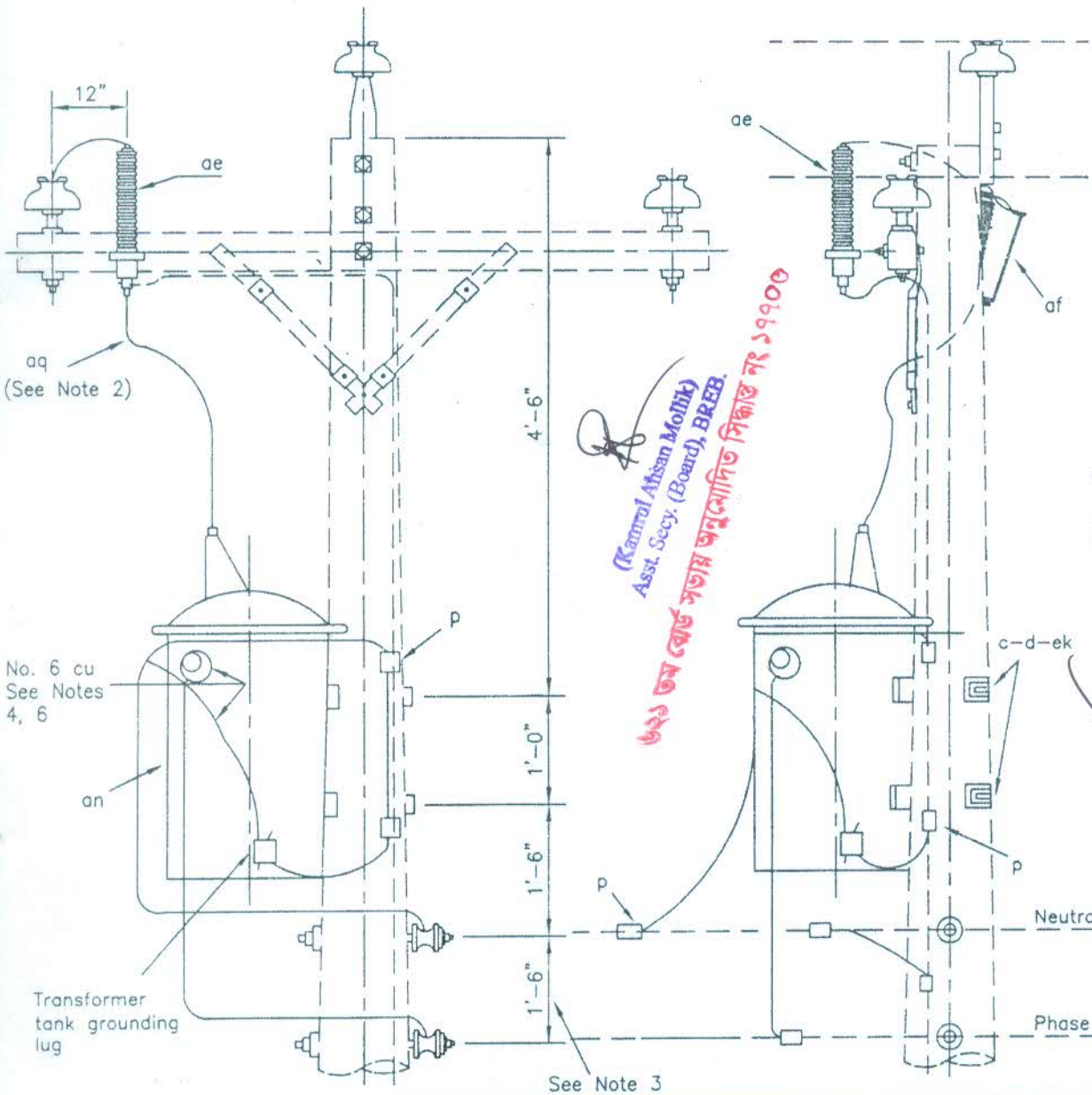
(Md. Ahsanul Haque)
Consultant TAPP, BREB

(Md. Abdul Khaleque)
Consultant TAPP, BREB

(Md. Mozammel Haq)
Consultant TAPP, BREB

(Md. Duhidul Islam)
Consultant TAPP, BREB

(Md. Mozibur Rahman)
Consultant TAPP, BREB



(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

৬৩১ তম কোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

See Note 3

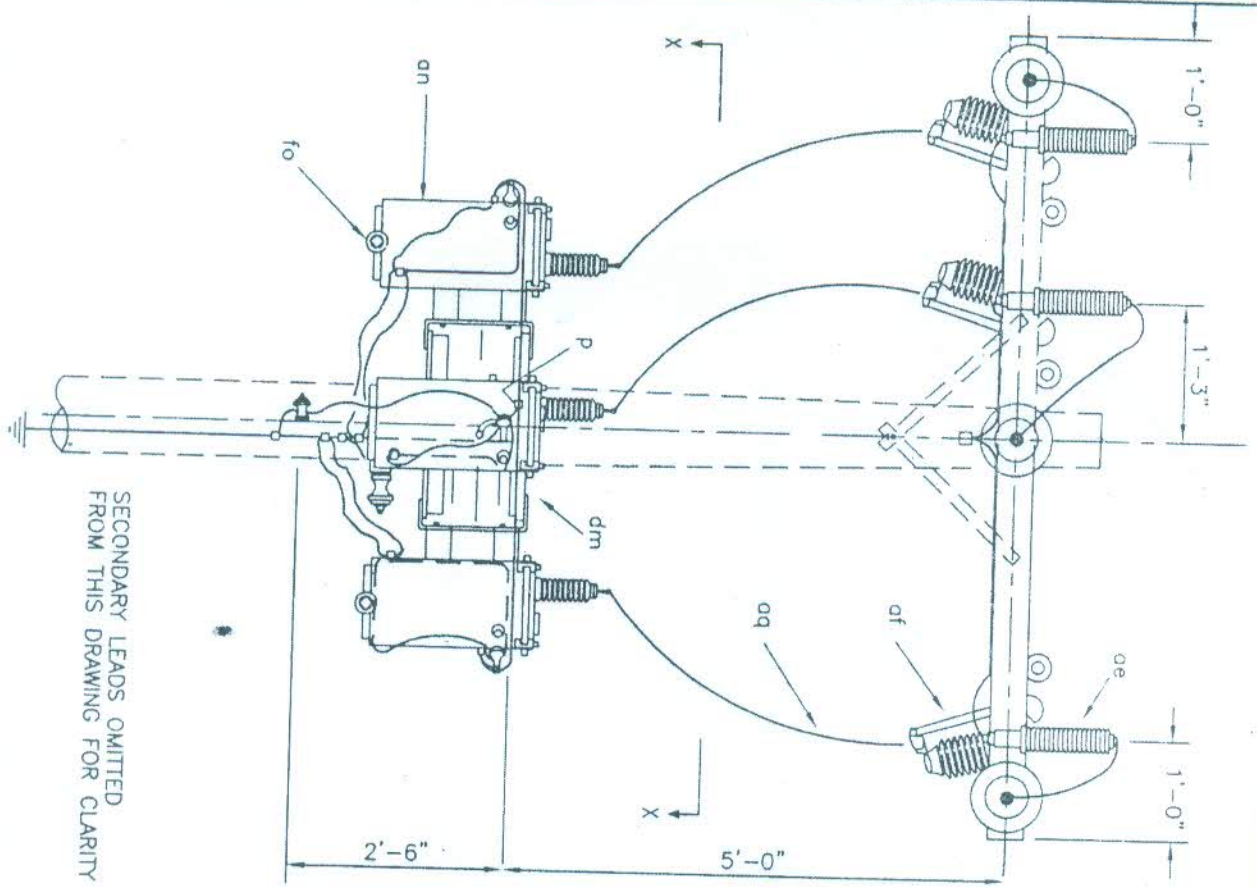
ITEM	NO.	MAT. CODE	MATERIAL	ITEM	NO.	MAT. CODE	MATERIAL
c	2	B7/8/9	Bolt, machine, 5/8" x req'd length	ap	1		Clamp, hot line
d	2		Washer, square, 2 1/4"	aq	-	D-6	Jumpers, as required
p	-	15/6	Connectors, as required	ek	2	B50	Locknuts as required
ae	1	H-2	Lightning arrester	st	1		Stirrup for hot line clamp
af	1	H-1	Cutout				
an	1	G	Transformer, conventional type				

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV SINGLE PHASE TRANSFORMER ON 3-PHASE CIRCUIT

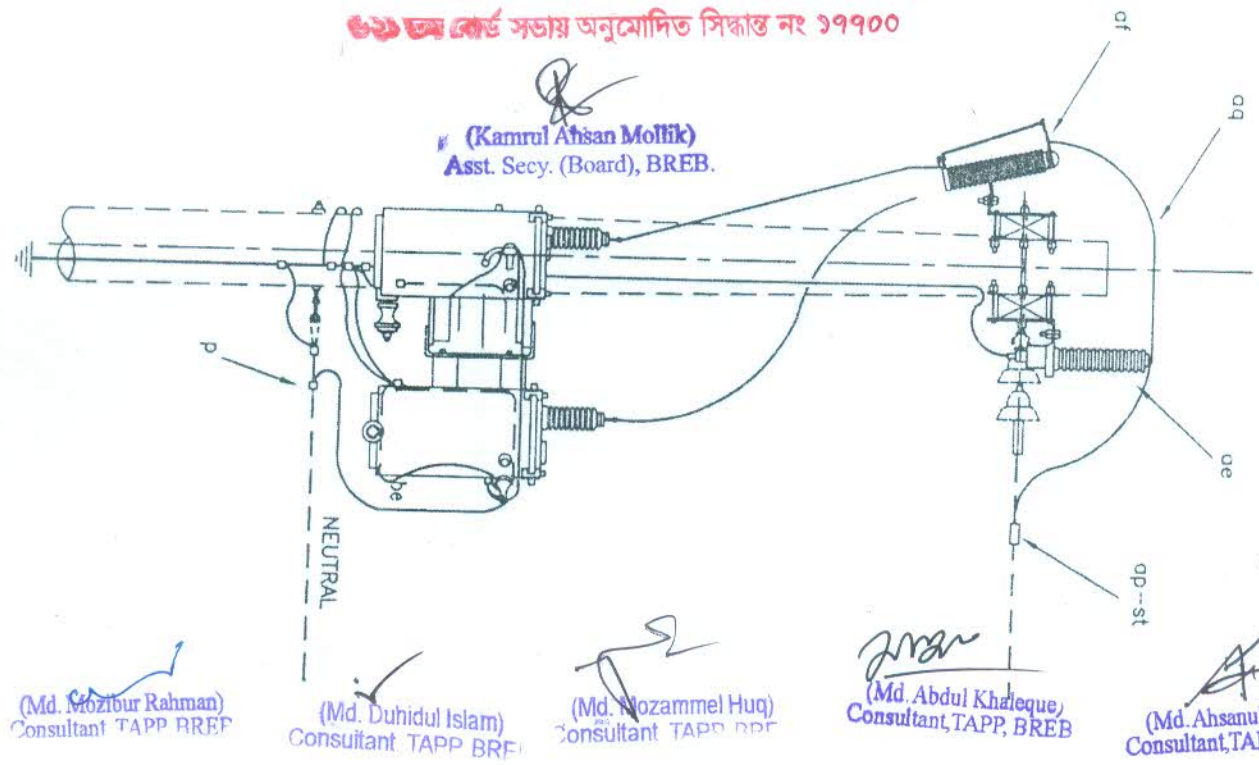
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	G136

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



৬৩৩ ডি. বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.



(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Haq)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB

(Md. Ahsanul Haque,
Consultant, TAPP, BREB

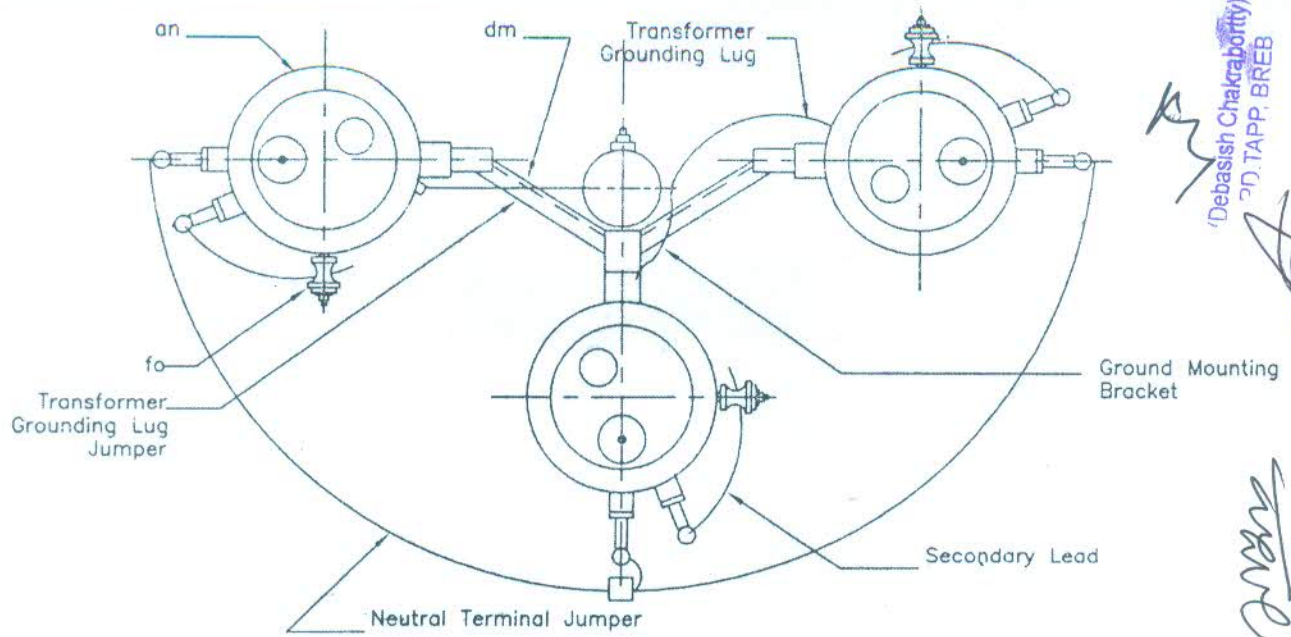
(Debasish Chakraborty)
PD, TAPP, BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV, THREE TRANSFORMER CLUSTER MOUNT
(4-WIRE GROUNDED WYE-GROUNDED WYE FOR 230/400 VOLT POWER LOADS)

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	G312 SHEET 1 of 2

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

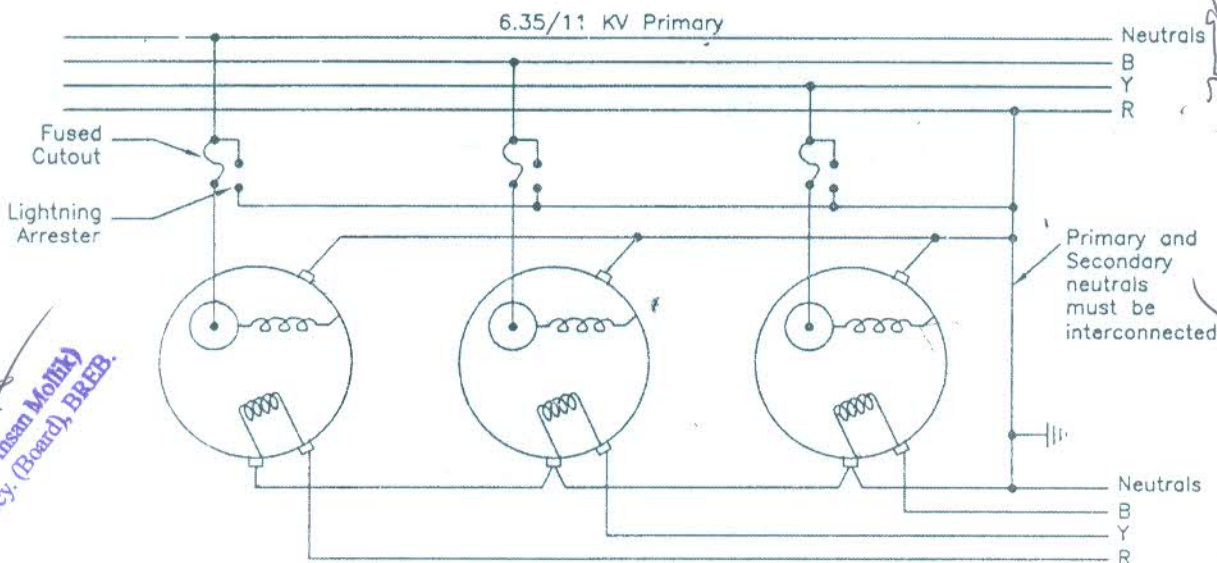


SECTION X-X

৬২১ ভব কোর্ট সড়ায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Debasish Chakraborty)
TAPP, BREB
(Md. Ahsanul Haque)
Consultant, TAPP, BREB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB



230/400 Volt Secondary WIRING DIAGRAM

NOTES :

1. Refer to M0*-1 for transformer lead and primary fuse sizes.
2. A ground rod is required for this installation. Ground all transformers and the mounting bracket as per guide M27-1.
3. See guide M31 for cutout and lightning arrester installation and connection details.
4. C1 or C1-1 pole top units may be substituted for the C7 shown on this drawing.
5. For ease of operation install cutout turned in toward pole.

(Kamrul Ahsan Molity)
Asst. Secy. (Board), BREB.

(Md. Mizammel Haq)
Consultant, TAPP, BREB

(Md. Duhiul Islam)
Consultant, TAPP, BREB

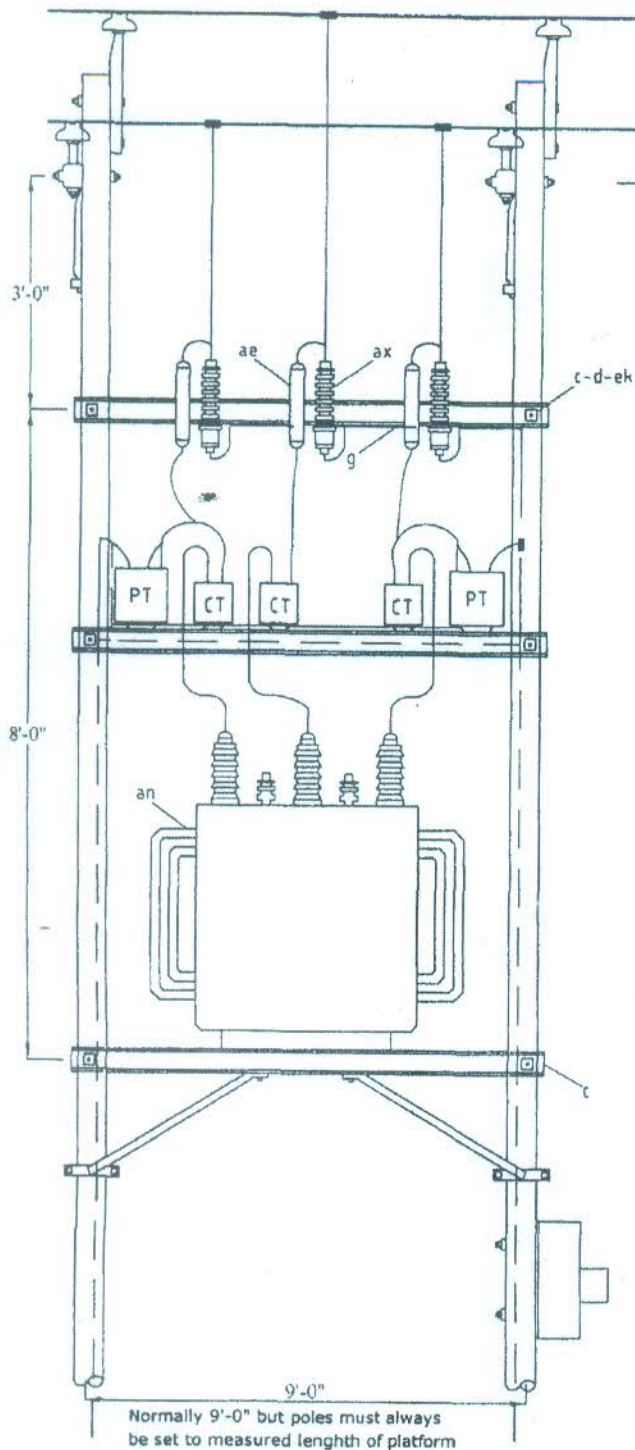
(Md. Mozibur Rahman)
Consultant, TAPP, BREB

ITEM	NO.	MAT. CODE	MATERIAL	ITEM	NO.	MAT. CODE	MATERIAL
c	2	B7/8/9	Bolt, machine, 5/8" req'd length	an	3	G	Transformer, 167 KVA maximum
c	2	B15	Bolt, machine, 3/4"x12"	ap	3	I24/46	Hot line clamp
d	2	B46	Washer, square 2-1/4"	aq	-	D6	Jumpers, as required
p	-	I1/2/3/4	Connectors, as required	dm	1	B87/88	Bracket, cluster mount
ae	3	H2	Lightning arrester	ek	-	B50	Locknuts
af	3	H1	Cutout	fo	3	B71	Secondary lead bracket and insulator
				st	3	I35/54	Stirrup for hot clamp

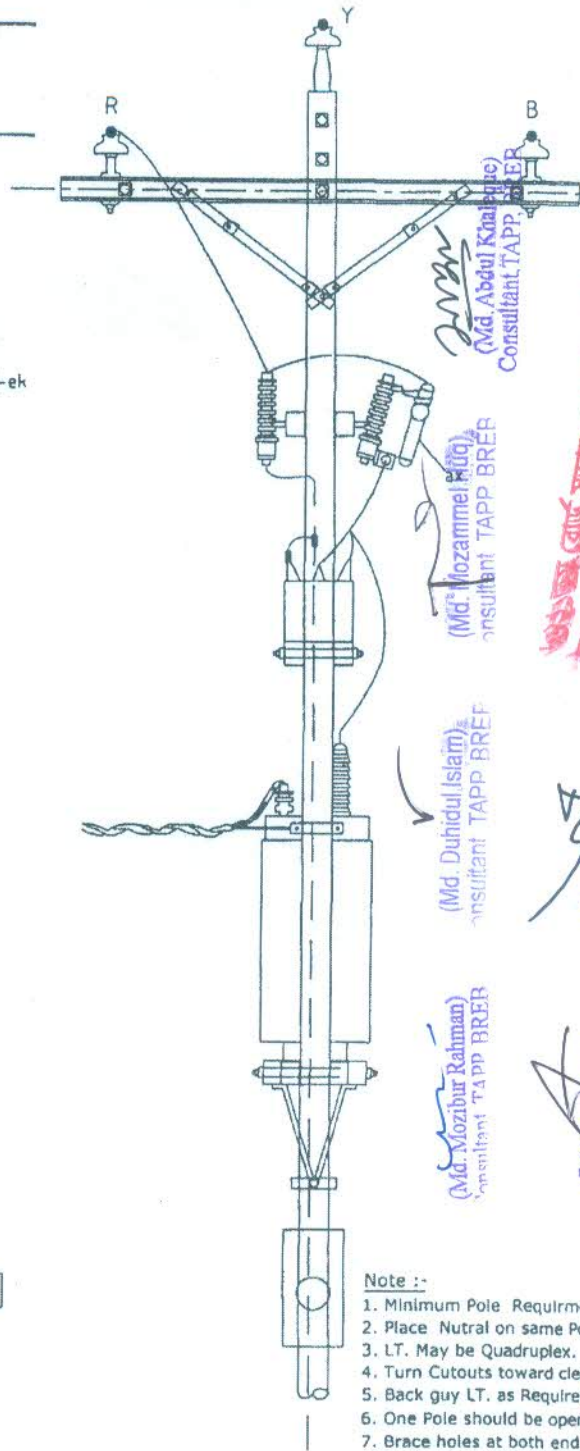
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: **6.35/11 KV THREE TRANSFORMER CLUSTER MOUNTED**
(4-WIRE GROUNDED WYE-GROUNDED WYE FOR 230/400 VOLT POWER LOADS)

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	G312



Normally 9'-0" but poles must always be set to measured length of platform



Note :-

1. Minimum Pole Requirement 35ft Class 6.
2. Place Neutral on same Pole W/LT.
3. LT. May be Quadruplex.
4. Turn Cutouts toward clear Pole .
5. Back guy LT. as Required.
6. One Pole should be open for climbing.
7. Brace holes at both end should be 11/16"φ

(Md. Abdul Khatun) Consultant, TAPP, BREB

(Md. Mozammel Hossain) Consultant TAPP BREB

(Md. Duhidul Islam) Consultant TAPP BREB

(Md. Mozibur Rahman) Consultant TAPP BREB

(Md. Ahsanul Haque) Consultant, TAPP, BREB

(Kamrul Ahsan Mofiz) Asst. Secy. (Board), BREB.

১১ কিলো ভোল্ট ত্রি-ফেজ ত্রি-পোল প্ল্যাটফর্ম নং ১১৩৪

ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
c	B 6/7/8	04	Bolt, Machine, 5/8"φ x required length	ae	H2	03	Lightning Arrester
c	B 15	06	Bolt, Machine, 3/4" x 12"	an	G 4/5/6	01	Transformer, 3Ø, 250 KVA max.
cu	B 41	04	Brace, steel	aq	D 6/7/8	-	Jumpers, as required
g	X-	06	Crossarm 4" x 2" x 2" x 1/4" x 10' steel channel	ek	B 50/138	04	Locknuts, as required
c l	B 95	04	Bolt, m/c 5/8" - 1 1/2"			01	Platform assembly
p	-	-	Connectors, as Required			01	J8 or J6 assembly for neutral as required
aq	D 6/7/8	-	Jumper, Secondary as Required	st	135/54	03	Cutout and fuse
-	-	02	4 - way pole band with bolts & nuts.	ap	I 24/46	03	Clamp, hot line

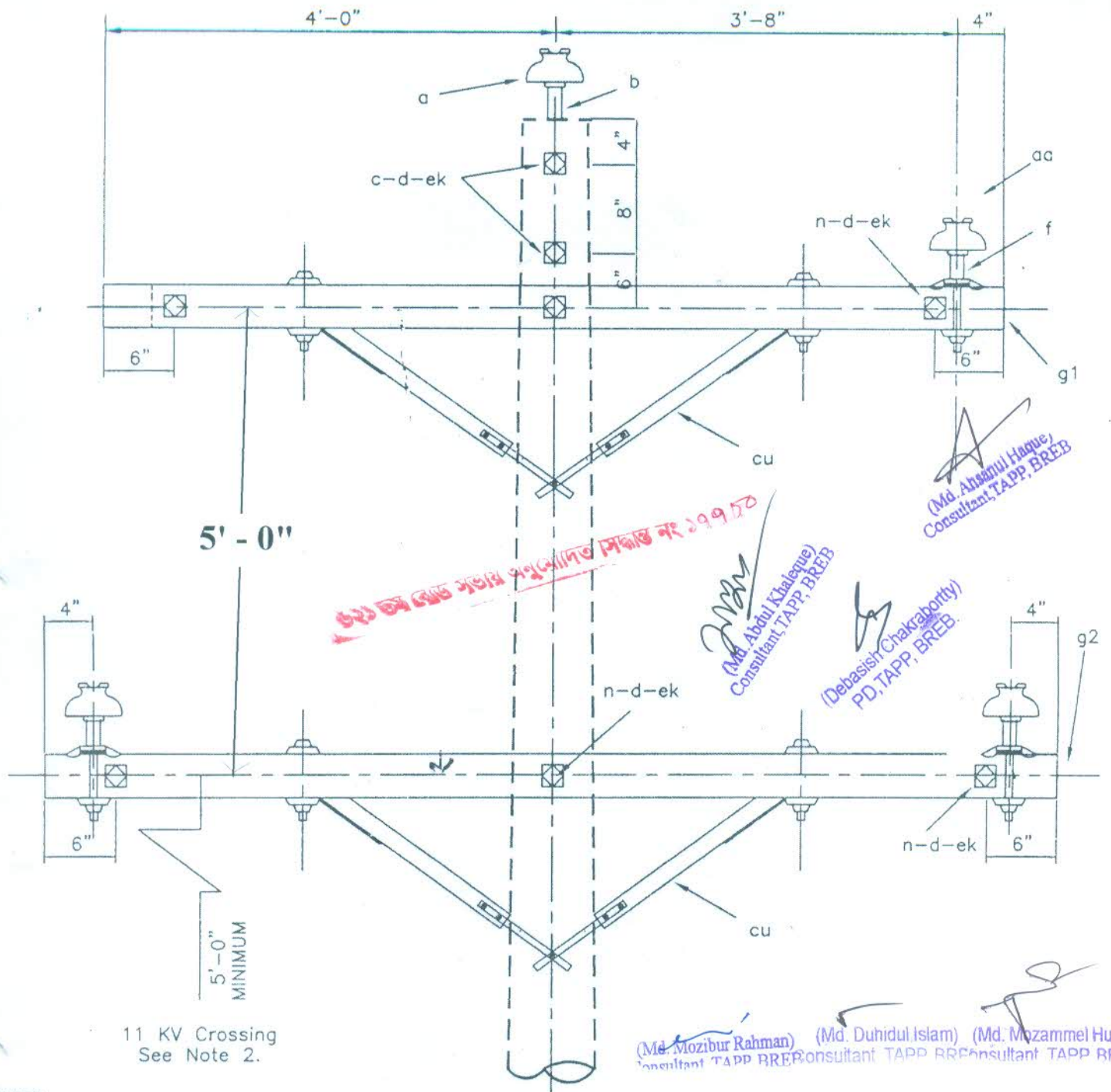
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description:

11 KV THREE PHASE TRANSFORMER ON 2 POLE PLATFORM MOUNTED FOR 230/400 VOLT POWER LOADS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	G315

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



11 KV Crossing
See Note 2.

NOTES :

1. This construction standard may be used as a "Lift pole" in a 33 KV transmission line. When the 33 KV phase conductor configuration or other circumstances permit, the preferred "lift pole" construction assembly unit is either the T2 or T2A. Refer to PBS Instruction 100-45 for material and assembly details.
2. When used as a common pole for a 6.35/11 KV crossing under a 33 KV line, the 11 KV construction assembly unit shall either be a A9, a C8-1 or a C9 and shall be installed a minimum of 5'-0" below the bottom HI crossarm.

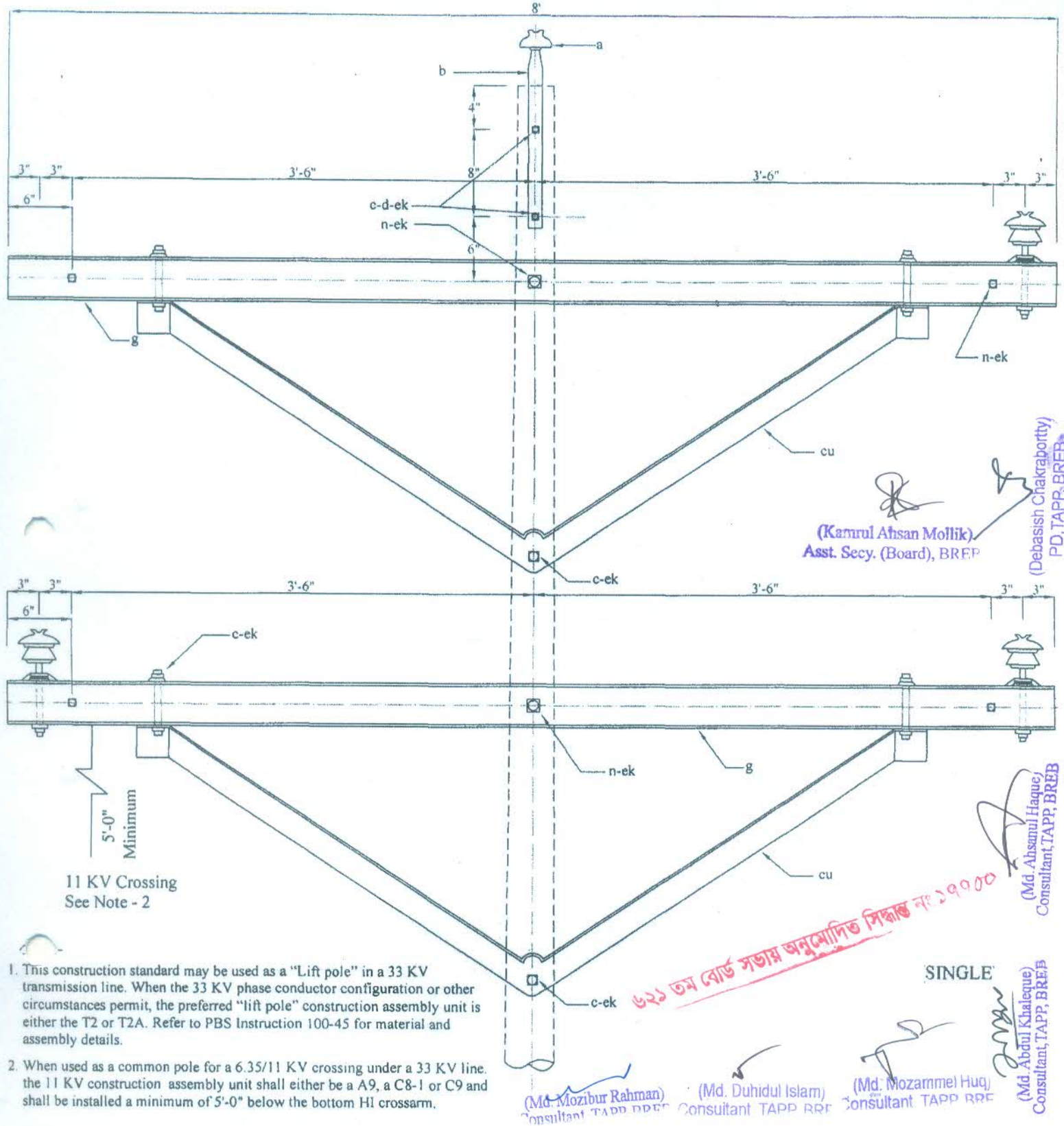
ITEM NO	MATERIAL	MAT.CODE	ITEM	MAT.CODE	NO	MATERIAL
a	1 Pole top Insulator (11 KV)	C1	g1	X1	2	Crossarm, 31/2"x41/2"x8'-0"
b	1 Pole top pin	B1	g2	X2	2	Crossarm, 33/4"x43/4"x10'-0"
c	8 Bolt, machine, 1/2"x6"	B4	aa	C5	6	Insulators pin type (33 KV)
c	4 Bolt, machine, 5/8"xreq'd length	B8	cu	B45/42	4	Brace, 60" span
d	8 Washer, rd, 1 3/8" dia, 9/16" hole	B48	ek	B50/138		Locknuts as required
d	22 Washer, square 2 1/4"	B46	p	B46		Connectors as req'd.
f	6 Crossarm pins (33 KV)	B92	n	B26/27/28	6	Bolt, double arming, 5/8"xreq'd length

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV LIFT POLE FOR A 33 KV LINE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	H1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



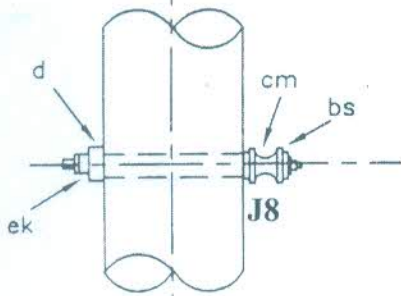
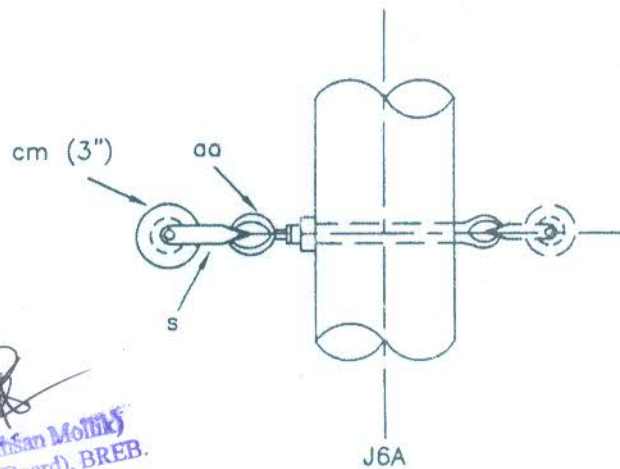
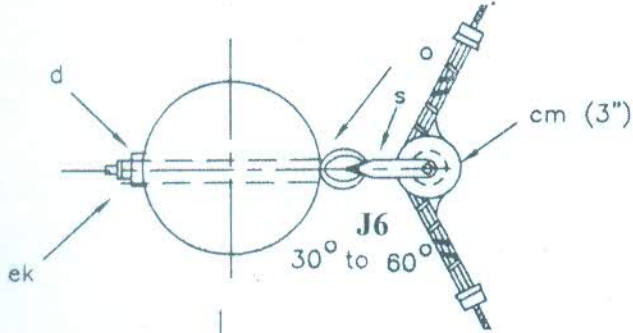
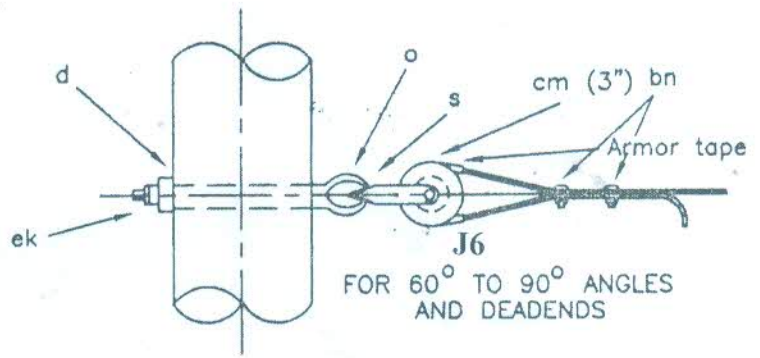
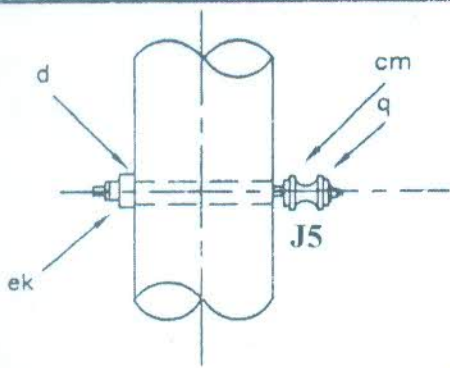
1. This construction standard may be used as a "Lift pole" in a 33 KV transmission line. When the 33 KV phase conductor configuration or other circumstances permit, the preferred "lift pole" construction assembly unit is either the T2 or T2A. Refer to PBS Instruction 100-45 for material and assembly details.
2. When used as a common pole for a 6.35/11 KV crossing under a 33 KV line, the 11 KV construction assembly unit shall either be a A9, a C8-1 or C9 and shall be installed a minimum of 5'-0" below the bottom H1 crossarm.

ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
a	C 1	01	Pole top Insulator (11 KV)	g	X-7	04	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"
b	B 1	01	Pole top Pin	a	C 5	6	Insulators Pin Type (33 KV)
c	B 6/7/8	08	Bolt Machine, 5/8" x required length	cu	B 42	4	Brace, 60" Span
d	B 46	04	Washer, square 2 1/4"	ek	B 50/138	32	Locknuts as required
f	B 92/122	06	Crossarm Pins (33 KV)	n	B 26/27/28	06	Bolt, double arming, 5/8" x req'd length

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL CROSSARM (X7) CONSTRUCTION-DEADEND

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	H1A

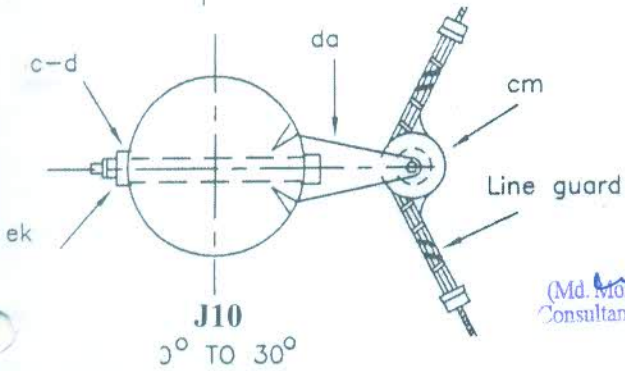


(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

(Debasish Chakraborty)
PD, TAPP, BREB

(Md. Ahsanul Haque)
Consultant, TAPP, BREB

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০
৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭



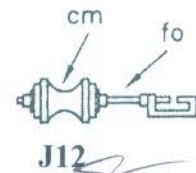
DRAWING TITLE
6.35/11 KV SECONDARY ASSEMBLIES
J5 to J12

(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Haq)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB



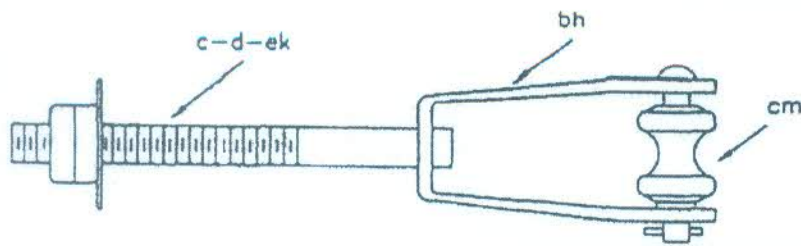
ITEM	MATERIAL	MAT. CODE	NUMBER REQUIRED					
			J5	J6	J6A	J8	J10	J12
c	Bolt, machine, 5/8" x required length	B6/7/8					1	
d	Washer, square, 2 1/4"	B46/118	1	1		1	1	
o	Bolt, eye, 5/8" x required length	B18/19/20		1				
i	Screw, lag, 1/2" x 4"	B40					2	
q	Bolt, double upset	B36/37/38	1					
s	Clevis, secondary, swinging (B73)	B73		1	1			
aa	Nut, eye, 5/8"	B53			1			
bs	Bolt, single upset	B33/34/35					1	
bn	Clamp, loop deadend	B85/86		2	2			
cm	Spool, insulator, 1 3/4" or 3" groove diameter	C3	1	1	1	1	1	1
da	Clevis, secondary bracket (B72)	B72					1	
ek	Locknuts	B50	1	1		1	1	
fo	Transformer secondary lead bracket (B71)	B71						1

BANGLADESH RURAL ELECTRIFICATION BOARD

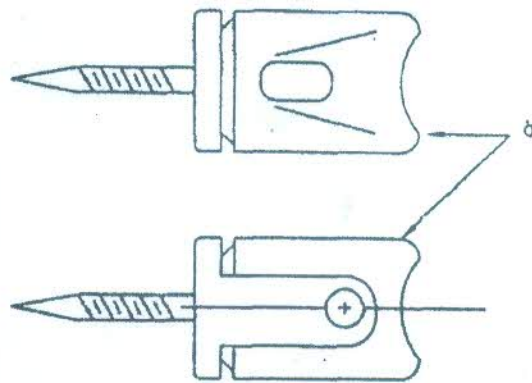
Unit Description: 230/400 V SECONDARY ASSEMBLIES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	J5 To J12

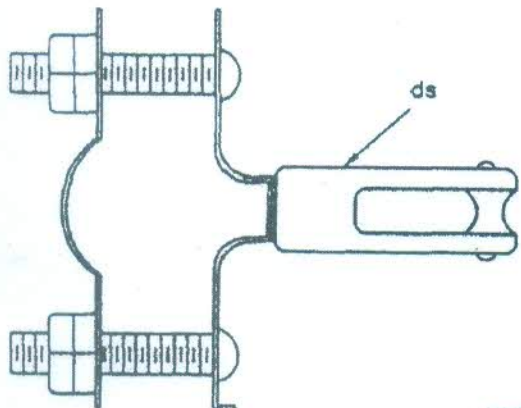
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



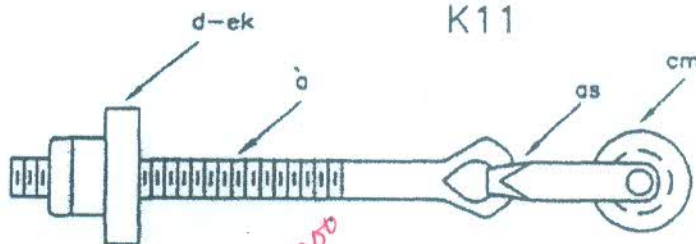
K10



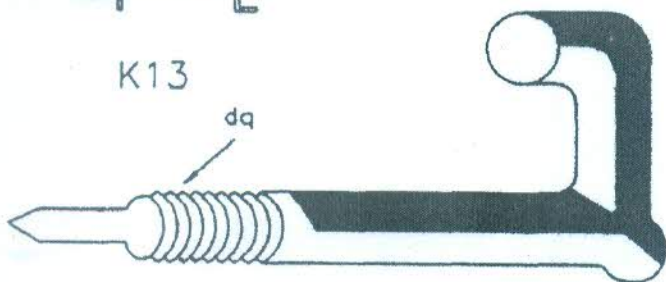
K11



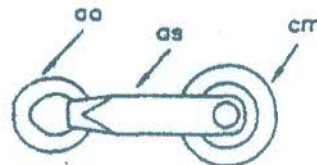
K13



K14



K15



K16

(Md. Mozibur Rahman)
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(Md. Duhidul Islam)
Consultant TAPP BRFB

(Md. Mozammel Huq)
Consultant TAPP BRFB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB

(Md. Ahsanul Haque)
Consultant, TAPP, BREB

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
 (Kamrul Ahsan Mofiz)
 Asst. Secy. (Board), BREB

(Debasish Chakraborty)
 PD, TAPP, BREB

ITEM	MAT. CODE	QUANTITY REQUIRED						MATERIAL
		K10	K11	K13	K14	K15	K16	
c	B 6/7/8	1						Bolt Machine, 5/8" x req'd length
d	B 46/118	1			1			Washer, square 2 1/4"
g	B 18/19/20				1			Bolt Machine, 5/8" x req'd length
aa	B 53						1	Nut, eye, 5/8"
as	B 75				1		1	Clevis, service swinging
ar	B 77		1					wire holder, service, screw type
bh	B 74	1						Clevis, service deadend
cm	C 4	1			1		1	Spool, Insulator, 1/2" dia, groove
dq	B 104					1		Drive hook
ds	B 78			1				wire holder, service, clamp type
ek	B 50	1			1			Locknuts

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 230/400 V SERVICE ASSEMBLIES

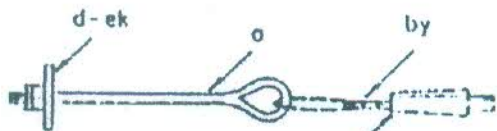
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	K10 to K16



K17

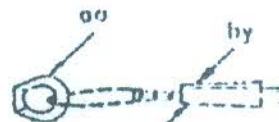


K18



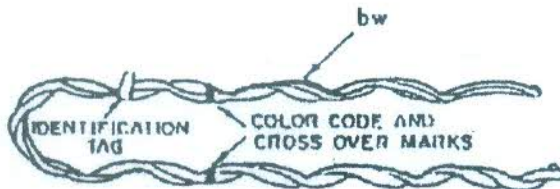
K19

See Note 1



See Note 1

K20



K21

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ২৭৫০০

NOTES

- Item "bw", preformed grip service deadend, may be used instead of Item "by" wedge type service deadend.

(Md. Mozibur Rahman)
Consultant, TAPP, BREB

(Md. Duhidul Islam)
Consultant, TAPP, BREB

(Md. Mozammel Haq)
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(Md. Abdul Khaleque,
Consultant, TAPP, BREB

(Md. Ansanul Haque,
Consultant, TAPP, BREB

(Debasis Chakraborty)
PD, TAPP, BREB.

(Kamrul Ansan Mollik)
Asst. Secy. (Board), BREB.

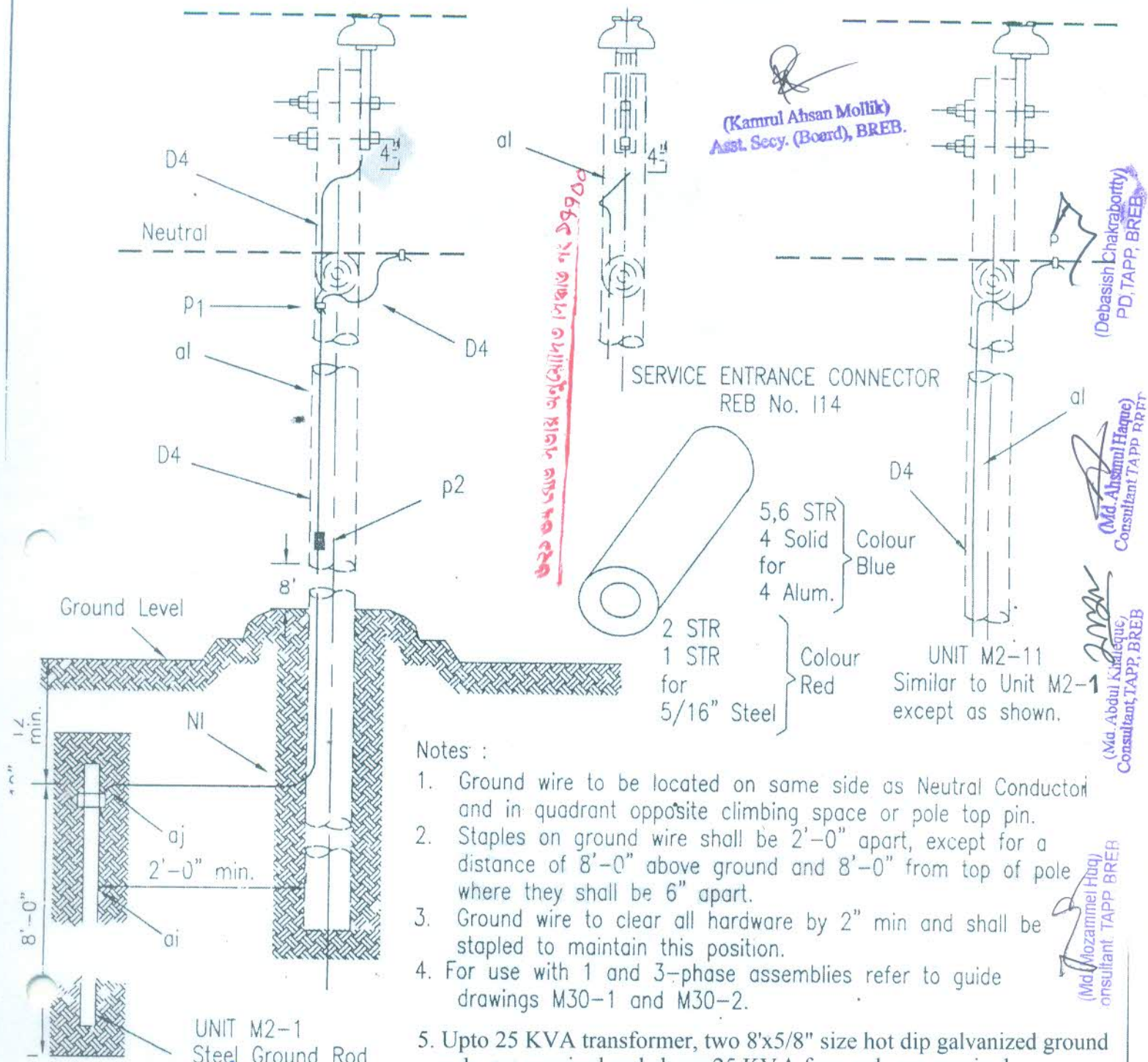
QUANTITY REQUIRED

ITEM	MAT. CODE	K17	K18	K19	K20	K21	MATERIAL
d	B 46			1			Washer, square 2 1/4"
o	B 18/19/20			1			Bolt, eye, 5/8" x req'd length
aa	B 53				1		Nut, eye, 5/8"
as	B 75	1					Clevis, service swinging
bw	E 17-20					1	service deadend, preformed grip
by	B 120		1				service deadend, wedge type
cm	C 4	1					Spool, Insulator, 1 1/2" groove diameter
ek	B 50			1			Locknuts

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 230/400 V SERVICE ASSEMBLIES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	K17 to K21



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(Debasish Chakraborty)
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(Md. Abul Kalamique)
Consultant, TAPP, BREB

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Consultant, TAPP, BREB

(Md. Mozibur Rahman)
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(Md. Duhurul Islam)
Consultant, TAPP, BREB

Notes :

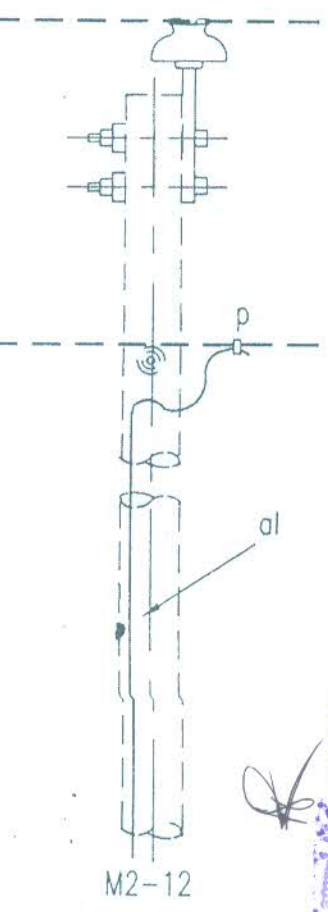
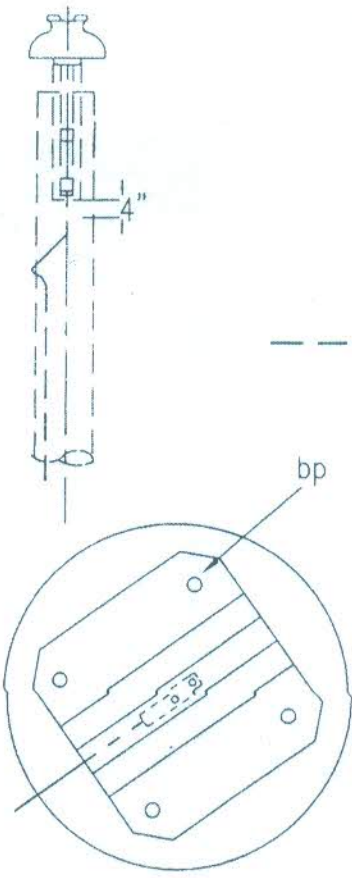
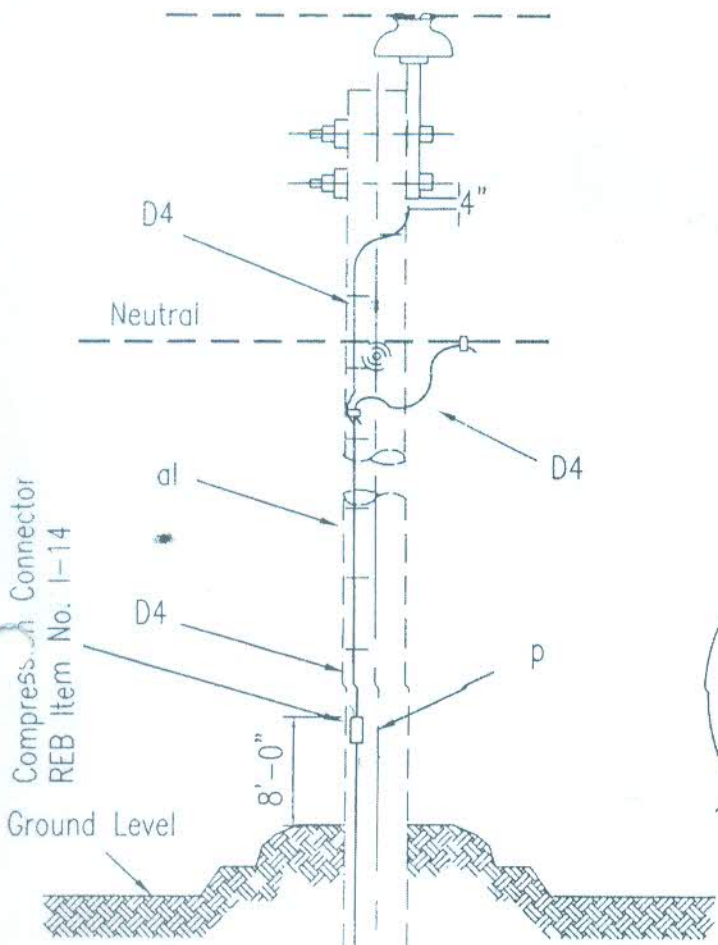
1. Ground wire to be located on same side as Neutral Conductor and in quadrant opposite climbing space or pole top pin.
2. Staples on ground wire shall be 2'-0" apart, except for a distance of 8'-0" above ground and 8'-0" from top of pole where they shall be 6" apart.
3. Ground wire to clear all hardware by 2" min and shall be stapled to maintain this position.
4. For use with 1 and 3-phase assemblies refer to guide drawings M30-1 and M30-2.
5. Upto 25 KVA transformer, two 8'x5/8" size hot dip galvanized ground rods are required and above 25 KVA four rods are required
6. For system grounding, resistance of ground maintained maximum 10 ohms as per PBS Instruction 100-22

ITEM	MATERIAL	MAT. CODE	ASSEMBLY UNIT	
			M2-1	M2-11
p1	Connectors, H-type for "Hycrimp"	16	as required	
ni	Rod, ground, 5/8" minimum diameter (8')	B65	1 to 4	1 to 4
aj	Clamp, ground rod.	B80	1	1
a1	Staples, ground wire.	B67	as required	as required
D4	Ground wire, No. 4 Aluminium, Solid	-	as required	as required
p2	Sleeve connector, "LINKIT". REB Item No. 114	114	1	1
N1	Ground wire, 5/16" galvanized steel, 3-Strand.	-	as required	as required

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: GROUNDING ASSEMBLY-GROUND ROD TYPE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M2-1, M2-11



Compressor Connector
REB Item No. 1-14

Ground Level

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M2-2

(Md. Mozammel Haq,
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(Kamrul Ahsan Mollah)
Asst. Secy. (Board), BREB

PLAN OF PLATE
TYPE GROUND

৩২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০৩

Notes :

1. Ground wire to be located on same side as Neutral Conductor and in quadrant opposite climbing space or pole top pin.
2. Staples on ground wire shall be 2'-0" apart, except for a distance of 8'-0" above ground and 8'-0" from top of pole where they shall be 6" apart.
3. Ground wire to clear all hardware by 2" min and shall be stapled to maintain this position.
4. For use with 1 and 3-phase assemblies refer to guide drawings M30-1 and M30-2.

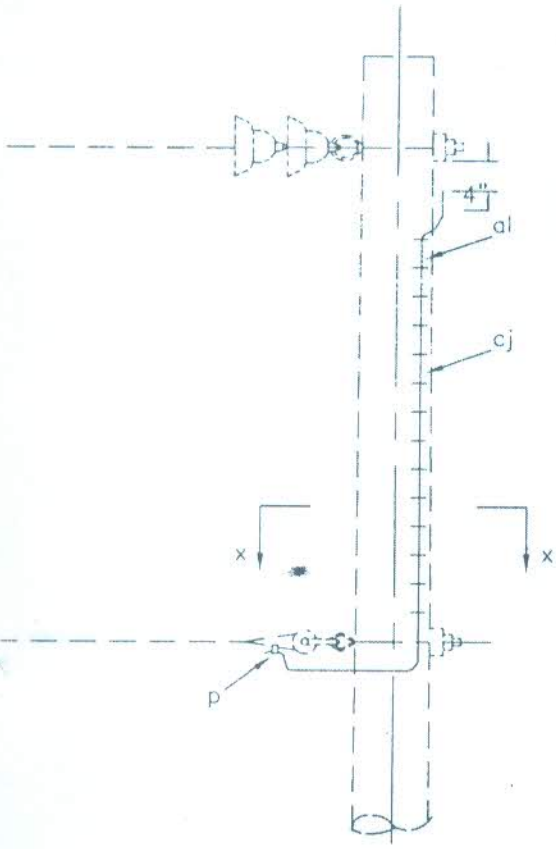
ITEM	MATERIAL	MAT. CODE	ASSEMBLY UNIT	
			M2-2	M2-12
hp	Nails, galvanised, 1", roofing	4	4	4
al	Staples, ground wire.	B67	as req'd	as req'd
CJ2	Ground wire, No. 4 Aluminium, Solid	D4	as req'd	as req'd
dh	Grounding plate, butt type	B66	1	1
CJ1	Ground wire, 5/16" galvanized steel, 3-Strand.	N1	as req'd	as req'd
P2	Connectors	I14	as req'd	as req'd

BANGLADESH RURAL ELECTRIFICATION BOARD

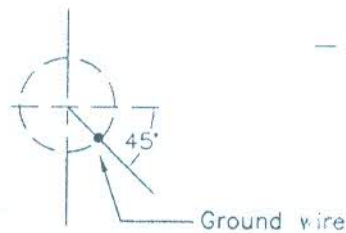
Unit Description: POLE PROTECTION ASSEMBLY-PLATE TYPE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M2-2, M2-12

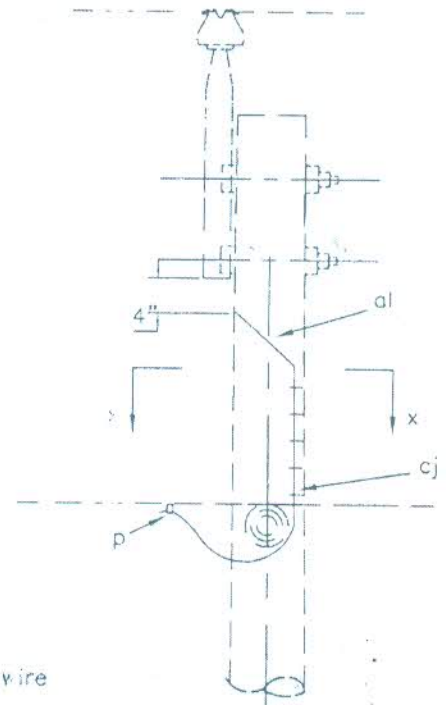
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



DEADEND ARRANGEMENT



SECTION X - X



TANGENT ARRANGEMENT

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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NOTE :

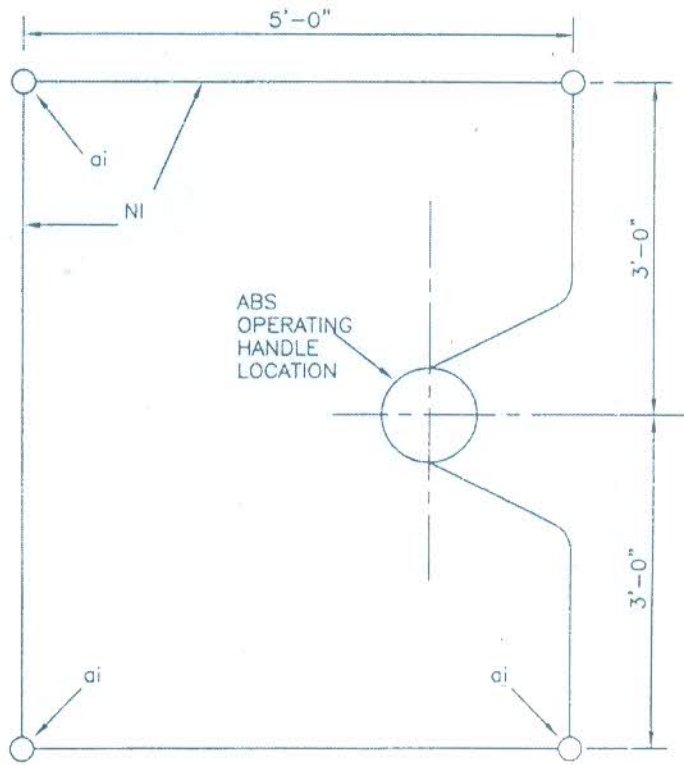
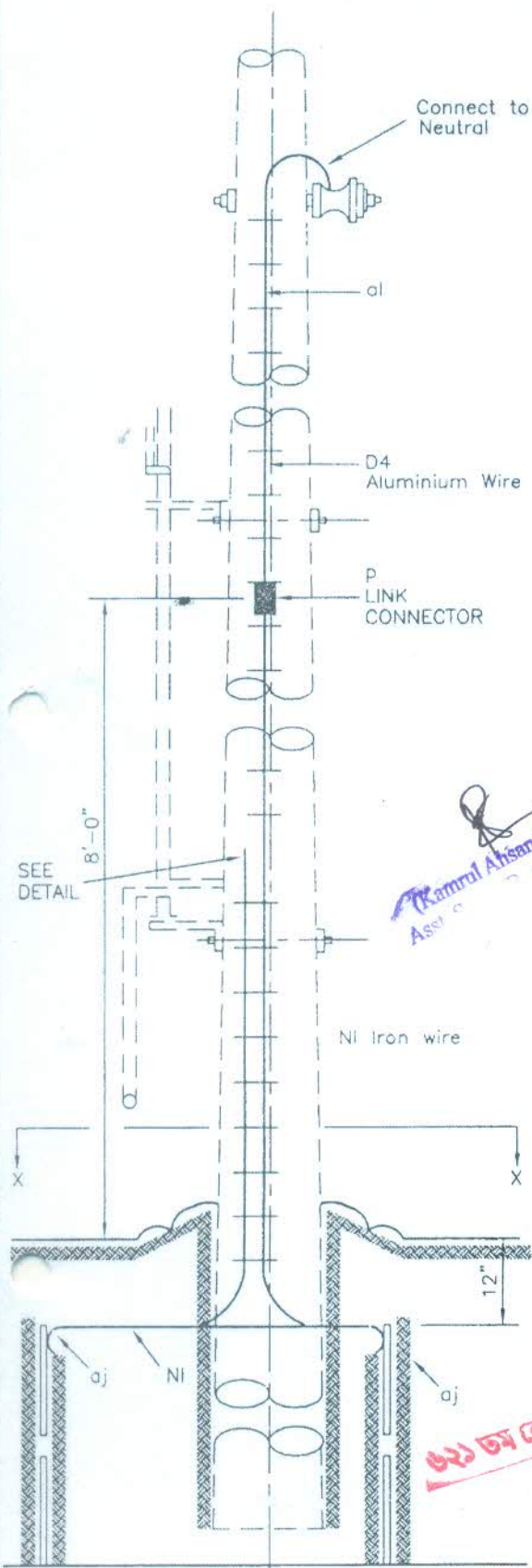
1. Ground wire to be located on same side as Neutral Conductor and in quadrant opposite climbing space
2. Staples on ground wire to be 6" apart.
3. Ground wire to clear all hardware by 2" min and shall be stapled to maintain this position.
4. For use 1 or 3-phase assemblies refer to guide drawings M30-1 and M30-2.

ITEM	ITEM NO.	NO.	MATERIAL	ITEM	ITEM NO.	NO.	MATERIAL
p		1	Connector				
al			Staples ground wire				
cj			Ground wire, # 4 aluminium				

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: POLE TOP PROTECTION ASSEMBLY

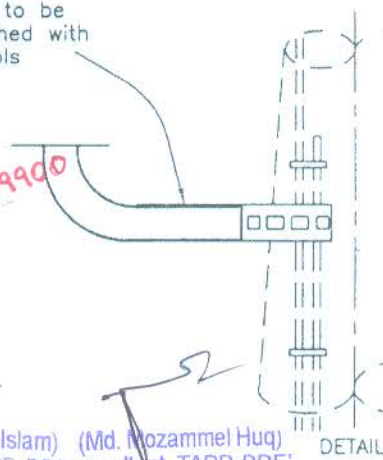
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M2-9



NOTES :

1. CONNECT ONE GROUND WIRE TO ABS OPERATING MECHANISM
2. THE GROUND WIRE SHALL HAVE A MINIMUM CLEARANCE OF 2 INCHES FROM ALL HARDWARE AND BE SECURELY STAPLED TO MAINTAIN THIS POSITION.

Clamp and Braid to be furnished with controls



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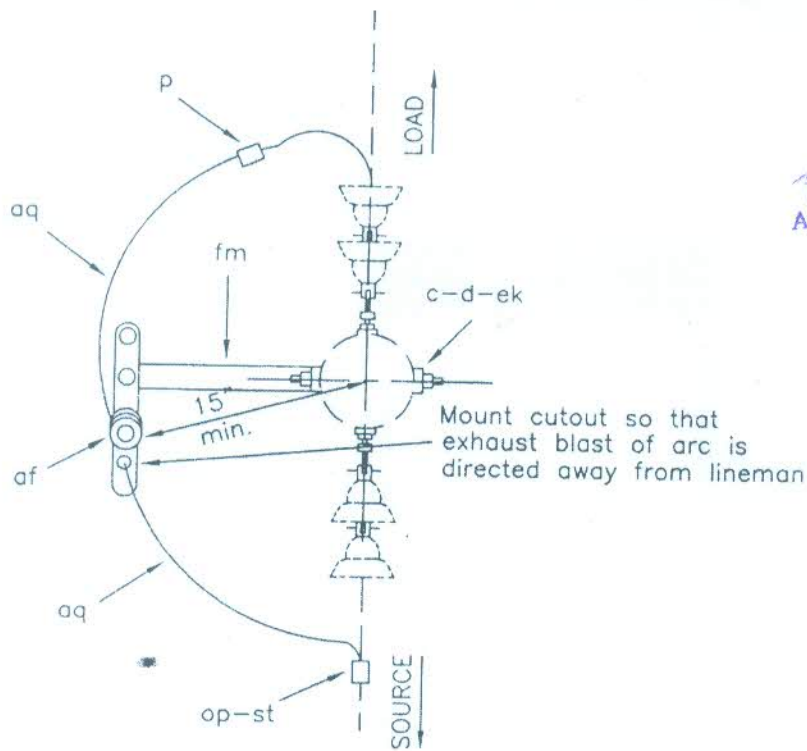
৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

ITEM	MATERIAL CODE	NO.	MATERIAL	ITEM	MATERIAL CODE	NO.	MATERIAL
aj	B65	4	Rod, ground, 5/8" dia	D4	D4	8	Ground wire, No.4 Al M ter
aj	B80	4	Clamp, ground rod	p	16	2	Connector, if required
al	B67	35	Staples, ground wire	p	114	1	Sleeve connector, "LINI KIT"
Ni	N1	35	Ground wire, soft annealed iron, galv. 5/16"				

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV GROUNDING ASSEMBLY FOR SECTIONALIZING AIR BREAK SWITCH

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M2-15



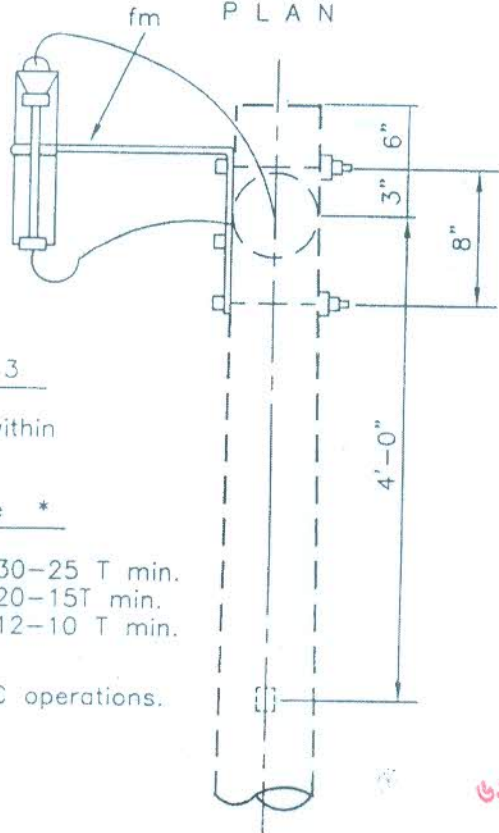
(Kamrul Ahsan Mollik)
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P L A N



NOTE : 1

For use sectionalizing use :
 40 T Max. after 70 Amp recloser
 25 T Max. after 50 Amp recloser
 15 T Max. after 25 Amp recloser

Where cutouts are used only for isolating line sections use a proper fuse link Size, not over 40 T.

NOTE : 2

A smaller fuse aids coordination. Engineer may specify smaller fuse based on
 1. Max. & Min. fault amps.
 2. Peak load amps.
 3. Recloser size and fuse heating on 2A operations.

NOTE : 3

Use a smaller fuse within Min-Max sizes :

Fuse Range *

- Rec : 40 T max-30-25 T min.
- Rec : 25 T max-20-15 T min.
- 25 Rec : 15 T max-12-10 T min.

* Recloser on 2A, 2C operations.

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৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

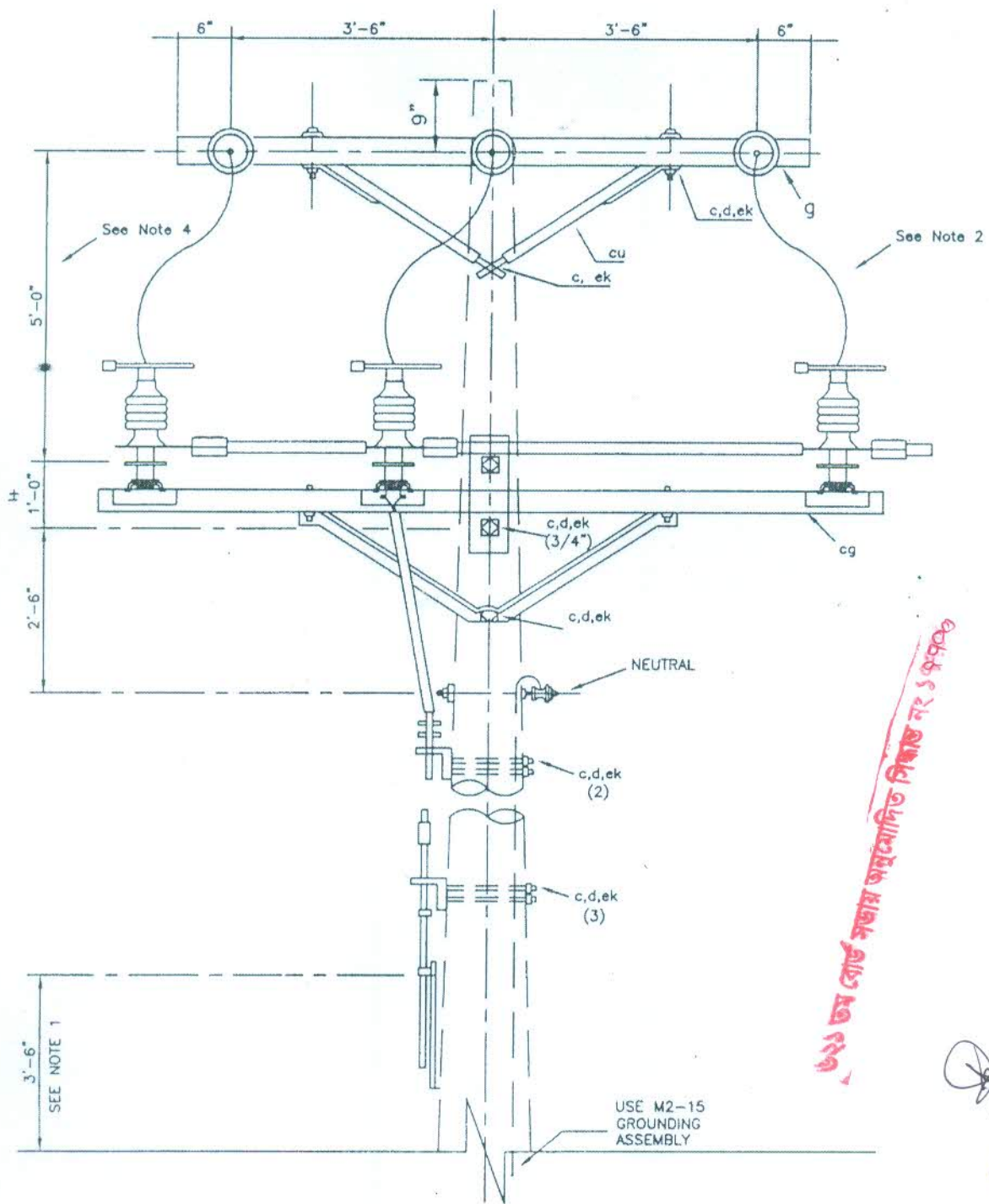
ITEM	NO	MAT. CODE	MATERIAL	ITEM	NO.	MAT. CODE	MATERIAL
c	2	B7/8/9	Bolt, machine, 5/8" x required length	d	2	B46/118	Washer, sq. 2 1/4"
af	1	H1	Cutout	p	1	15/6	Connector, compression type
aq	1	D1	Jumper, as required	ap	1	124/46	Clamp, hot line
ek	2	B50	Locknuts	fm	1	B90	Bracket, cutout and arrester
				st	1	135/54	Stirrup for hot line clamp

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV, 1-PHASE ONE SECTIONALIZING FUSE CUTOUT

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-4

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



SEE SHEET 2 OF 2 FOR NOTES AND MATERIAL LIST

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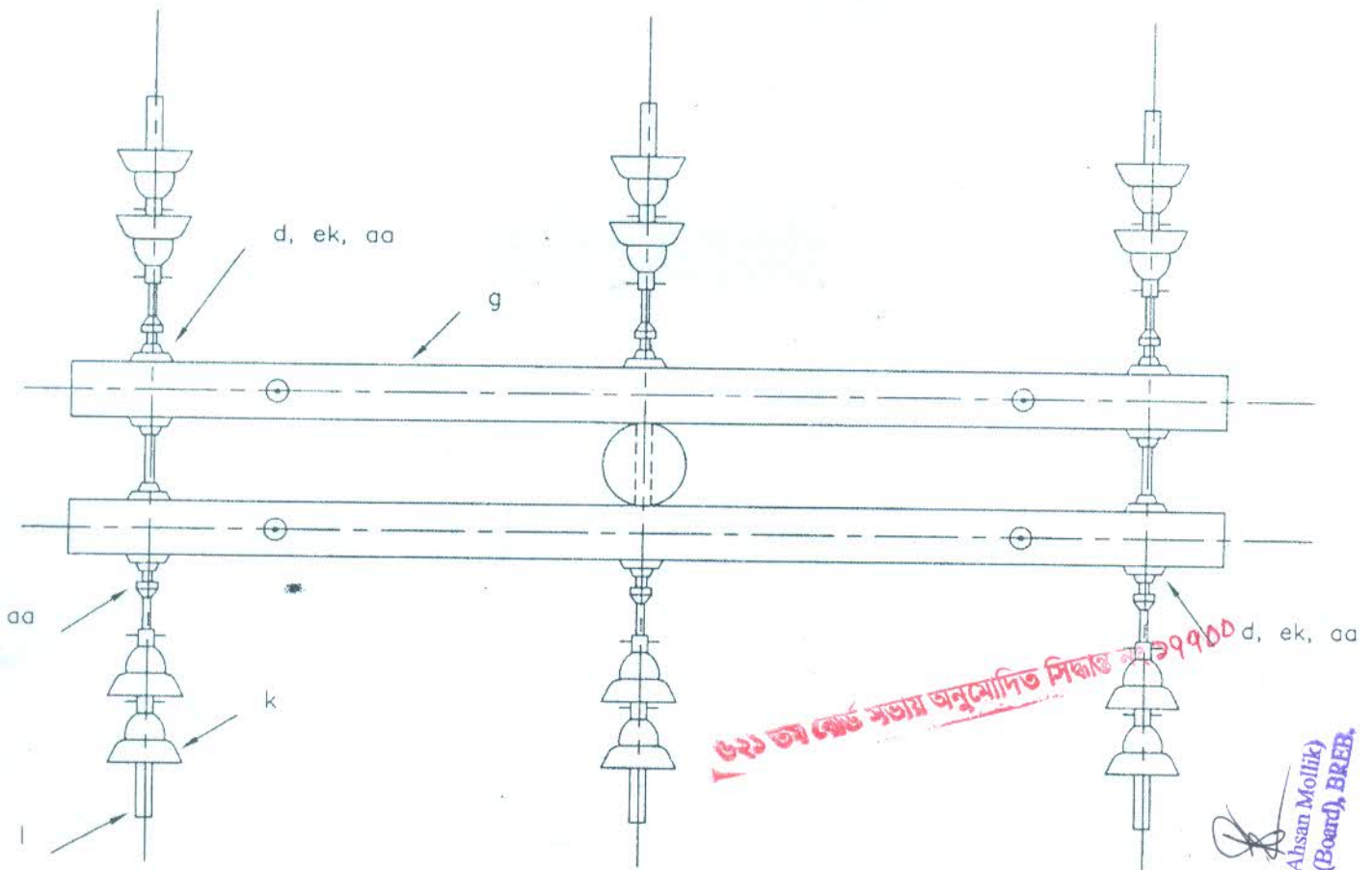
(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV SECTIONALIZING AIR BREAK SWITCH

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-15 SHEET 1 OF 2

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



TOP VIEW
11KV DOUBLE DEADEND

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(Md. Ahsanul Haque)
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NOTES :

1. REFER TO SWITCH MANUFACTURER'S "INSTRUCTIONS FOR INSTALLATION" FOR INSTALLATION DETAILS AND RECOMMENDATIONS.
2. CONNECT THE 11 KV SOURCE JUMPERS TO SWITCH SO THAT WHEN SWITCH IS OPEN THE SWITCH BLADES ARE NOT ENERGIZED.
3. INSTALLATION OF THE M2-15, AIR BREAK SWITCH GROUND MAT, IS REQUIRED AT ALL POLE MOUNTED 11 KV AIR BREAK SWITCH LOCATIONS.
4. THIS DRAWING DEPICTS A CHANGE TYPE D7 ABS, SIDE BREAK TYPE FOR VERTICAL BREAK ABS INCREASE THIS DIMENSION TO 6'-0".
5. MATERIAL AND QUANTITIES WILL VARY WITH TYPE/MANUFACTURER OF SWITCH INSTALLED.

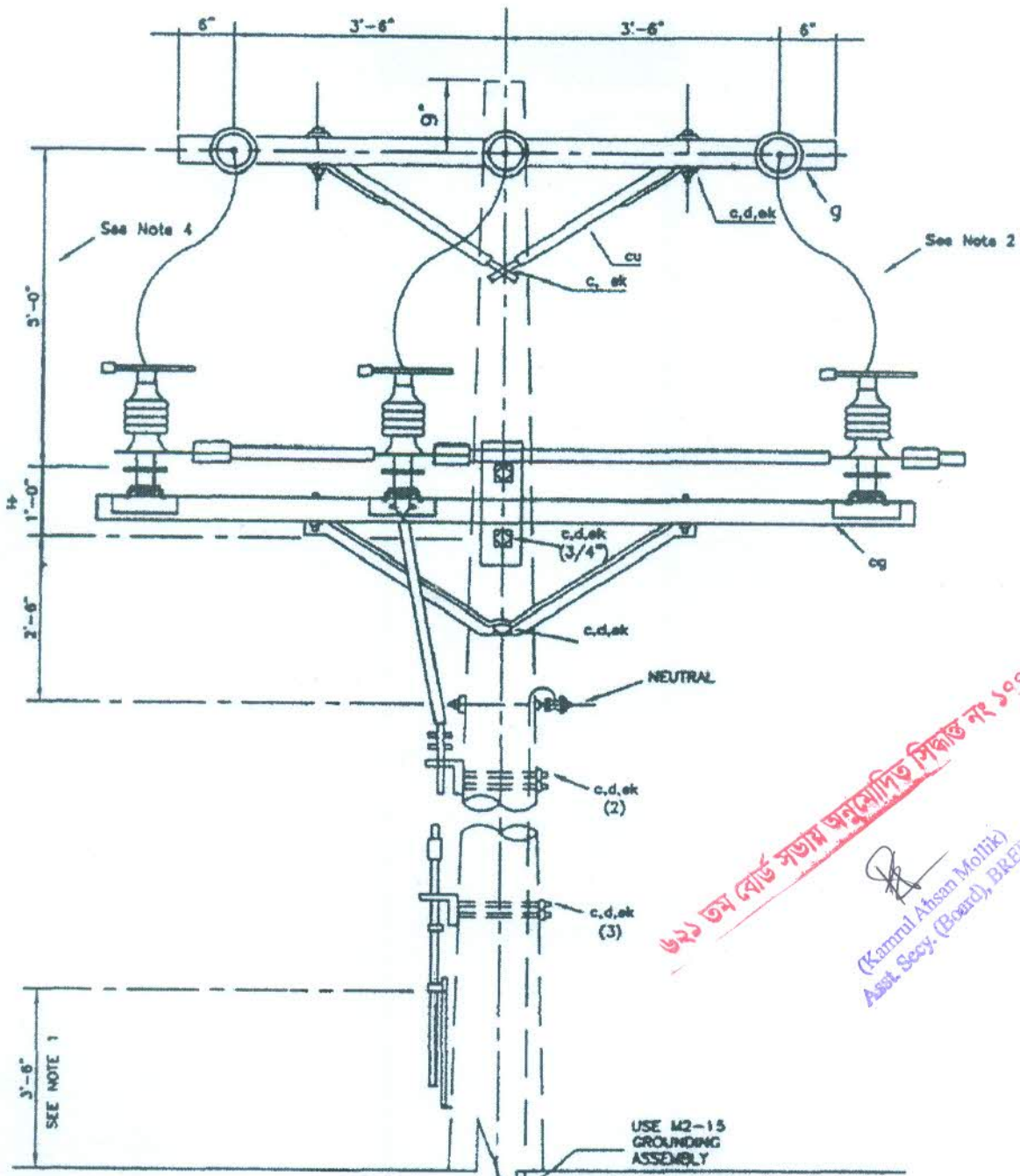
ITEM NO	MAT. CODE	MATERIAL	ITEM NO.	MAT. CODE	MATERIAL
c	4	B4/115 Bolt, machine, 1/2" x 6"	n	3	B27/28 Bolt, double arming, 5/8" x req'd length
c	9	B6/7/8 Bolt, machine, 5/8" x required length	p	-	15/6 Connectors, as required
c	2	B13/14/15/16/17 Bolt, machine, 3/4" x required length	aa	6	B53 Nut, eye, 5/8"
d	4	B48 Washer, round, 1-1/2" diameter	aq	-	Jumpers, as required
d	19	B46/118 Washer, square, 2-1/4"	bs	1	B33/34/35 Bolt, single upset
d	2	B49 Washer, curved, 3" x 3"	cm	1	C3/2 Spool, insulator, 1-3/4" groove diameter
g	2	X-2 Crossarm, 3-3/4" x 4-3/4" x 8'-0"	cg	1	Air break switch assembly
j	6	B40 Lag, screw, 1/2" x 6"	cu	2	B45 Brace, crossarm, 60" span
k	12	C-10 Insulator, suspension, 11KV	ek	-	B50 Locknuts, as required
l	6	B81/132 Clamp, deadend			

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11KV SECTIONALIZING AIR BREAK SWITCH

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-15 SHEET 2 OF 2

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



৬৩২ তম বোর্ড সভায় অনুমোদিত শিফট নং ১৭৭০০

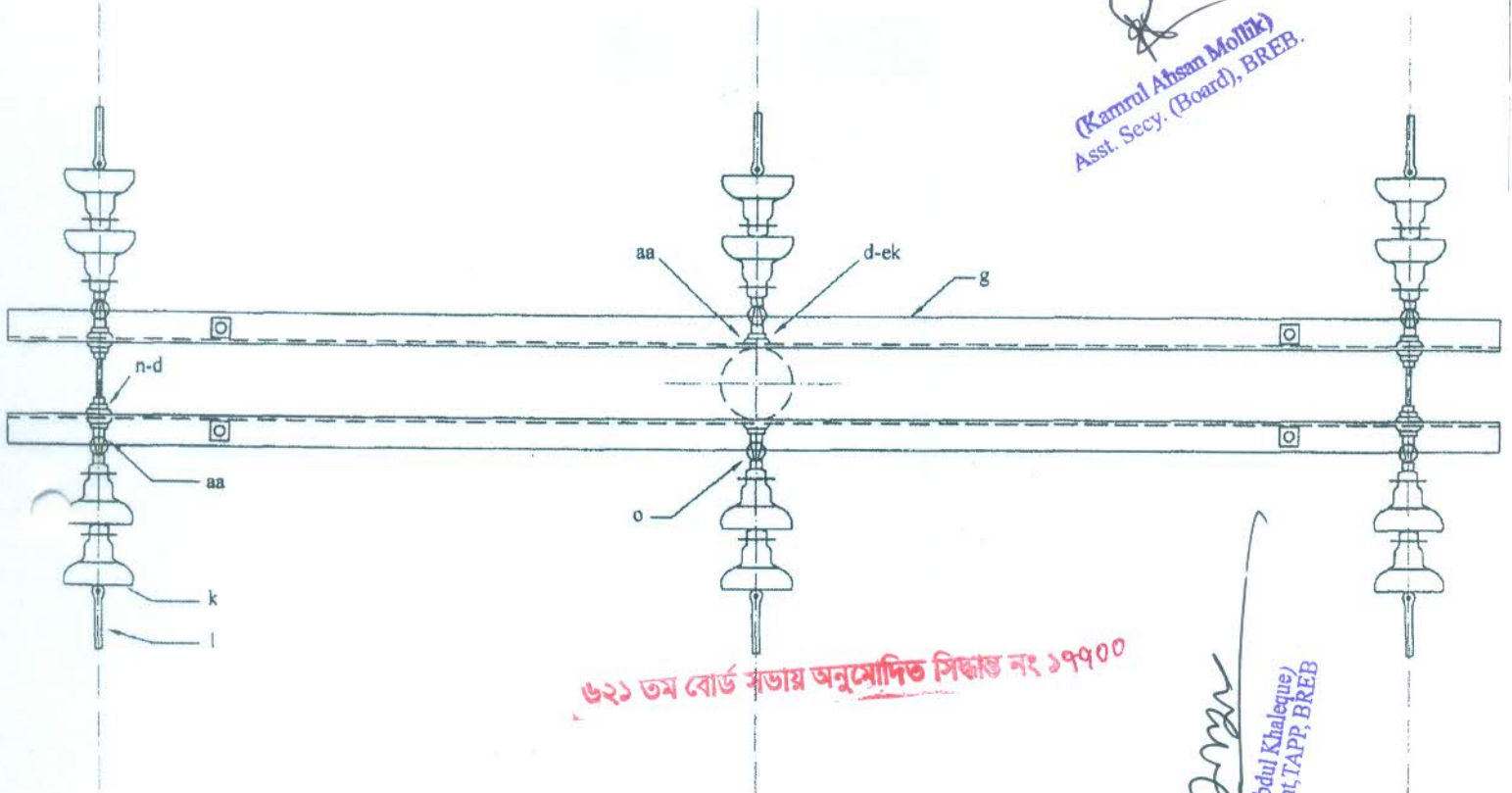
(Kamrul Ahsan Mollik)
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(Md. Mozibur Rahman) Consultant, TAPP, BREB
 (Md. Duhidul Islam) Consultant, TAPP, BREB
 (Md. Mozammel Hossain) Consultant, TAPP, BREB
 (Md. Mozibur Rahman) Consultant, TAPP, BREB
 (Md. Abdul Khaleque) Consultant, TAPP, BREB
 (Debasish Chakraborty) PD, TAPP, BREB

See Sheet 2 of 2 for Notes and Materials List

BANGLADESH RURAL ELECTRIFICATION BOARD				
- Unit Description: 6.35/11 KV SECTIONALIZING AIR BREAK SWITCH				
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-15A Sheet No. 1 of 2
Revision Date: July 1980. June 1981. August 1989. July 1995. August 2013. February 2020				

(Kamrul Ahsan Mollik)
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৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

TOP VIEW
11 KV DOUBLE DEADEND

Notes:-

1. Refer to switch manufacturer's "instruction for installation" for Installation Details And Recommendations.
2. Connect the 11 kv source jumpers to switch so that when switch is open the switch blades are not energized.
3. Installation of the M2-15, air break switch ground mat, is required at all pole mounted 11 kv air break switch locations.
4. This drawing depicts a "CHANCE TYPE d7 abs, side break type". For vertical break abs increase this dimension to 6'-0".
5. Material and quantities will vary with type/manufacturer of switch installed.

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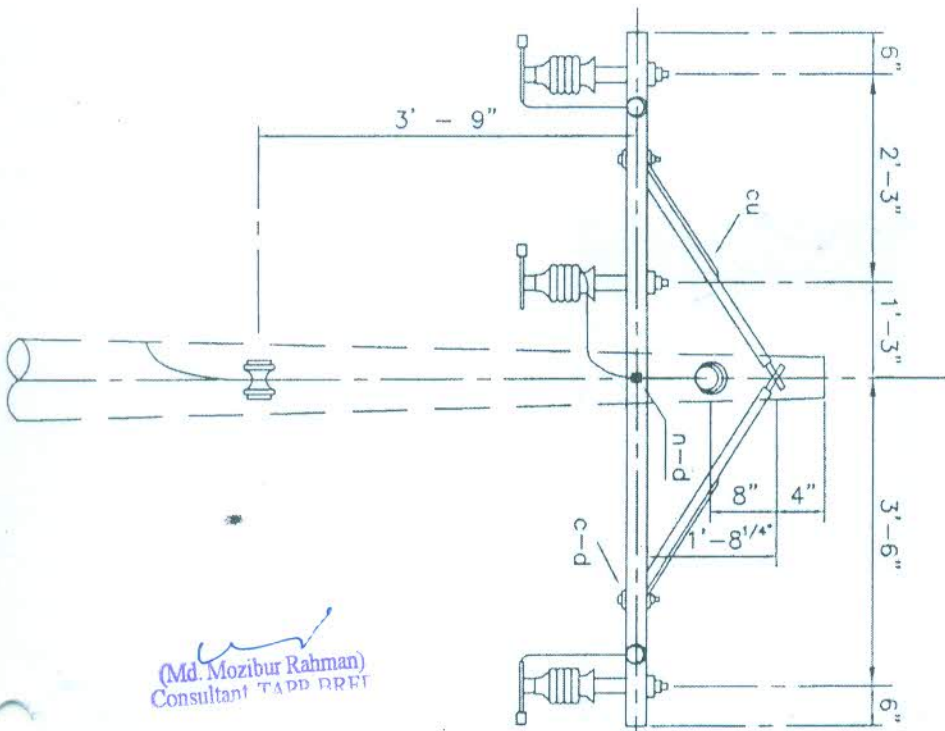
ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
c	B 4/115	4	Bolt, Machine, 1/2" x 6	n	B 27/28	3	Bolt, double arming 5/8" x required length
c	B 6/7/8	10	Bolt, Machine, 5/8" φ x required length	p	15/6	-	Connectors, as required
c	B 13/14/15/16/17	2	Bolt, Machine, 3/4" φ x required length	aa	B 53	6	Nut, eye, 5/8"
d	B 48	4	Washer, round, 1- 1/2" diameter	aq	-	-	Jumpers, as required
d	B 46/118	19	Washer, square, 2 1/4"	da	B 72	1	Bolt single upsel
d	B 49	2	Washer, cueved, 3 x 3"	cm	C3/2	1	Spool insulator, 1, 3/4" groove diameter
B	X-7	2	Crossarm, channel, steel 4" x 2" x 2" x 1/4" x 8'-0"	cg	-	1	Air break switch assembly
c	B 40	6	Log, screw, 1/2" x 6	cu	B 42	2	Brace, crossarm, 60' spon
k	C-10	12	Insulator, suspension, 11KV	ek	B 50	24	Locknuts, 5/8" φ
l	B 81/132	6	Clamp, deadend	ek	B 51	4	Locknuts, 1/2" φ
				ek	B 119	2	Locknuts, 1/4" φ

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV SECTIONALIZING AIR REAK SWITCH

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-15 A Sheet No. 2 of 2

ITEM NO.	MATERIAL	ITEM NO.	MATERIAL
c 1	Bolt, machine, 5/8" req'd length	ek	Locknuts, as required
c 4	Bolt, machine, 1/2" x req'd length	n 3	Bolt, double arming 5/8" req'd length
d 14	Washer, square, 2-1/4"	sj 3	Switch, recloser by-pass
d 4	Washer, round 1-3/8"		
g 2	Crossarm, 3-1/2"x4-1/2"x8'-0"		
Cu 2	Brace 60" span		
k 12	Insulator, suspension		
l 6	Clamp, deadend		
p	Connectors as required		
oa 8	Nut, eye 5/8"		
bo 2	Shackle anchor		
o 4	Bolt, eye, 5/8" req'd length		
s 2	Clevis, secondary swinging		
cm 2	Spool insulator, 1-3/4" or 3" dia groove		
bn 4	Clamp, loop deadend		



(Md. Mozibur Rahman)
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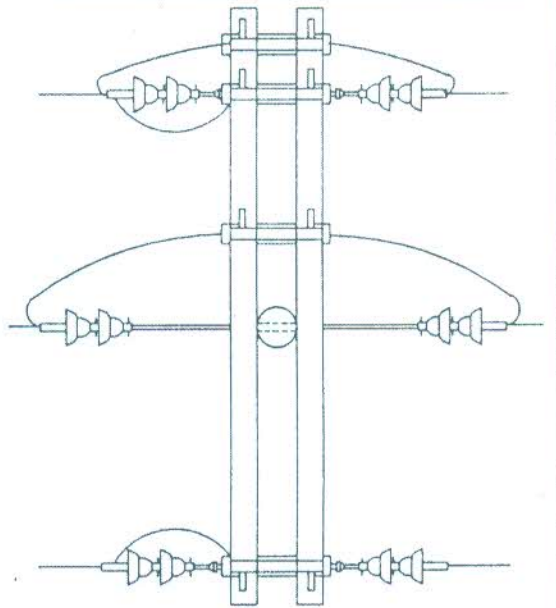
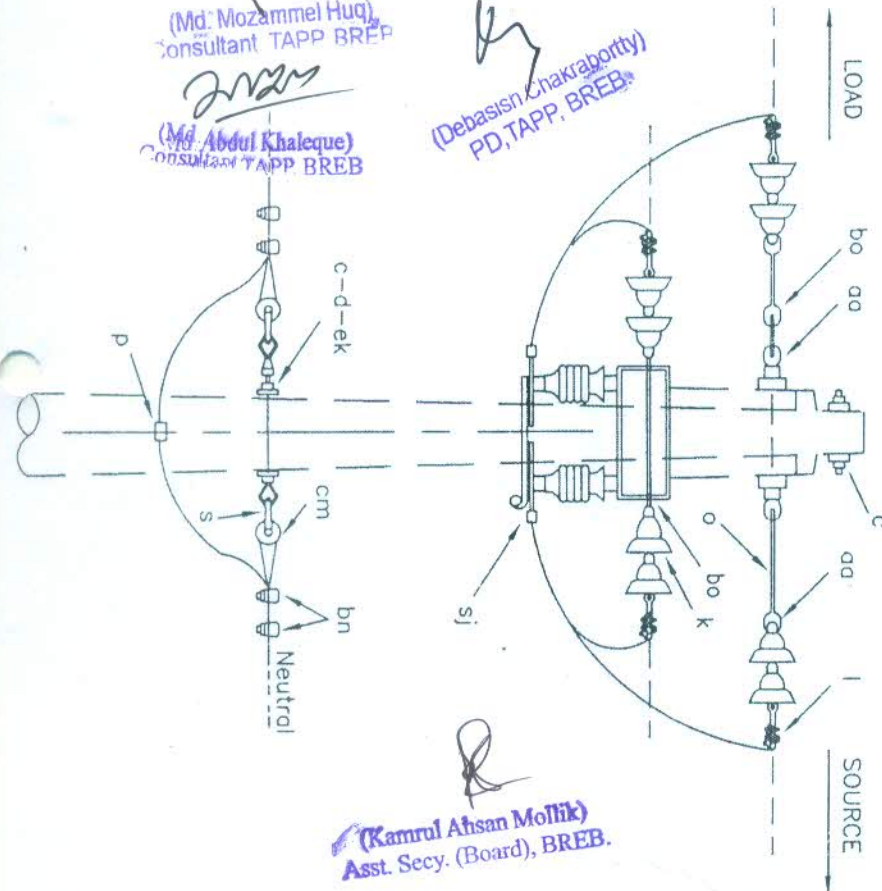
(Md. Ahsanul Haque)
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Asst. Secy. (Board), BREB.



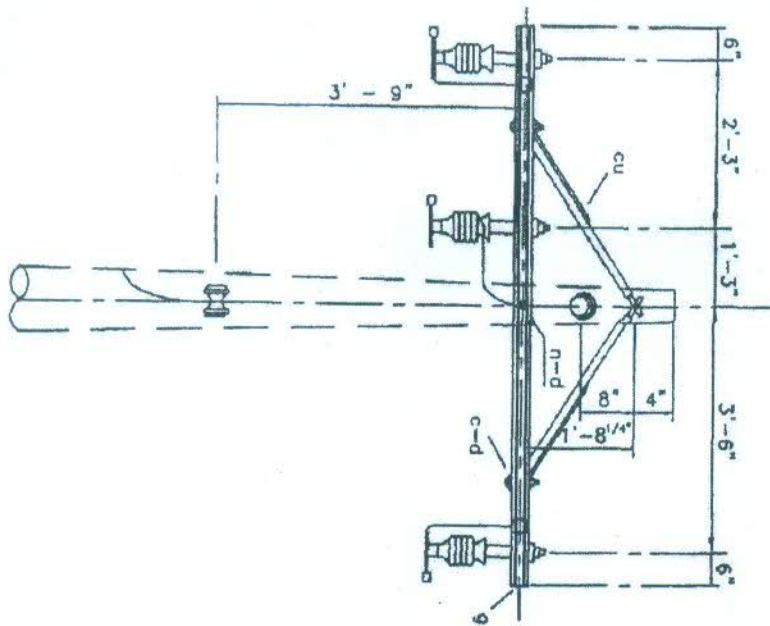
৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV THREE SECTIONALIZING DISCONNECT SWITCHES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-16

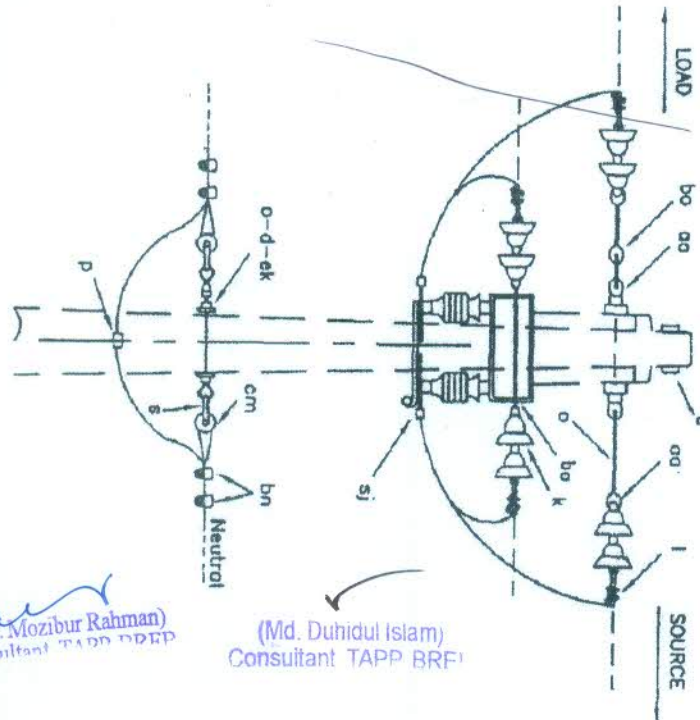
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



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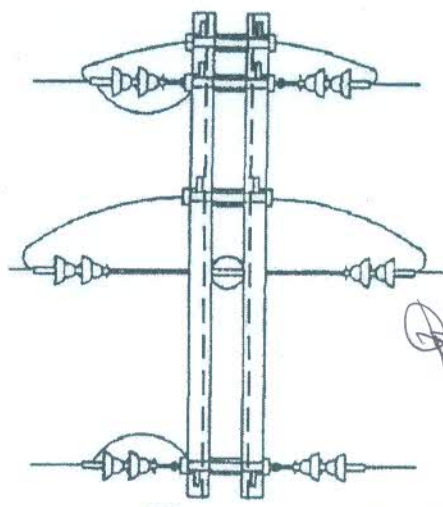
(Debasish Chakraborty)
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(Md. Mozibur Rahman)
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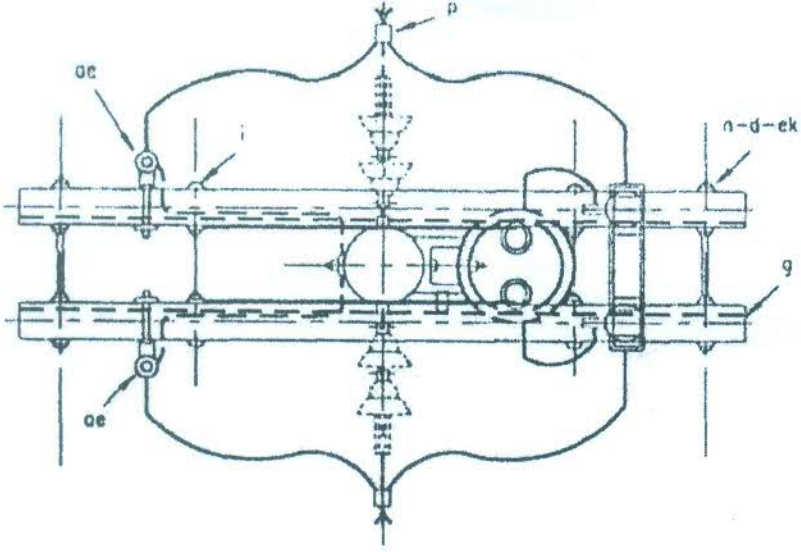
ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
c	B 6/7/8	1	Bolt, Machine, 5/8" x required length	aa	B 53	6	Nut, eye, 5/8"
c	B 4	4	Bolt, Machine, 1/2" x required length	bo	B 55	6	Shackle anchor
d	B 46	3	Washer, square, 2 1/4"	o	B 18/19/20	2	Bolt, eye, 5/8" x required length
g	X-7	2	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"	s	B 73	2	Clevis, secondary swinging
cu	B 45	2	Brace 60" span, pair	cm	C 2/3	2	Spoal insulator, 1-3/4" or 3" dia groove
k	C 10	12	Insulator, suspension	bn	B 85	4	Clamp, loop deadend
l	B 81/132/133	5	Clamp, deadend	ek	B 50	17	Locknuts, 5/8"φ
p	I 5/6	8	Connectors, as required	n	B 26/27/28	3	Bolt, double arming, 5/8" x required length
o	B 22	2	Bolt, EYE, 5/8" x 18" length	sj	H 18.2/18.6	3	Switch, recloser by-pass

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL (X7) CROSSARM CONSTRUCTION-SINGLE DEADEND

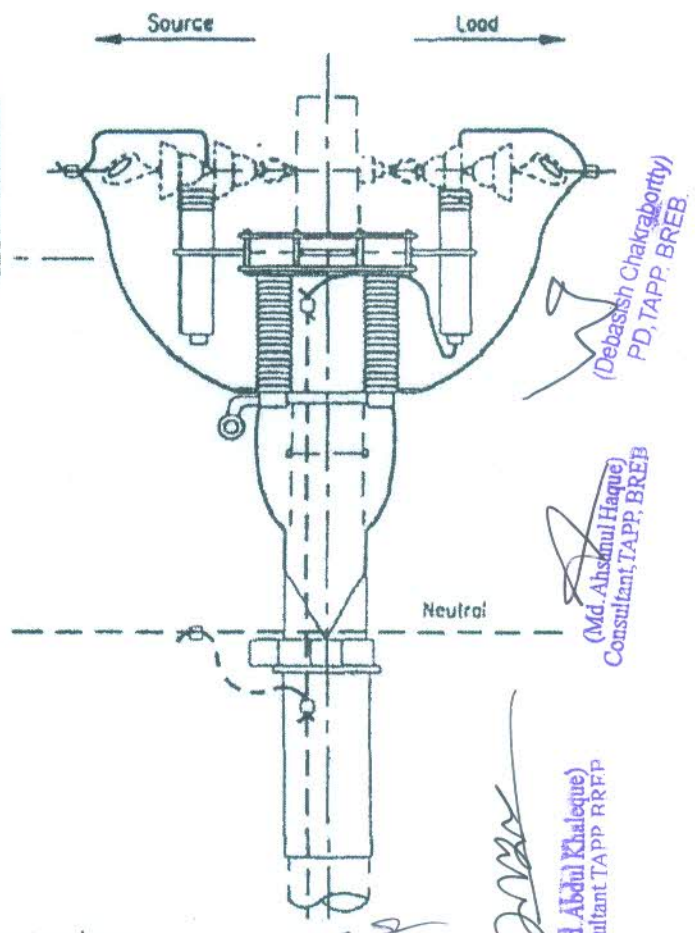
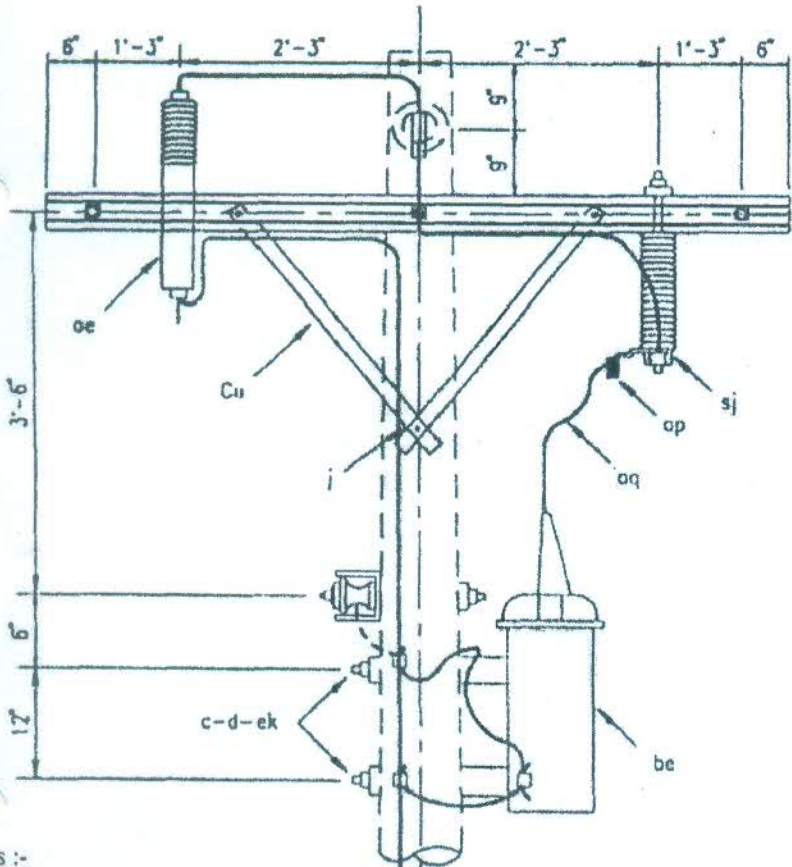
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-16A

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০



Notes :-

1. Equipment is installed in the constructed line, materials required for the installing of equipment are shown.
2. Brace holes at both end should be 11/16"φ
3. The recloser terminal bushing connected directly to the coil should be connected to the source.
4. Each recloser tank shall have two connections to ground

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(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Huq)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant TAPP BREB

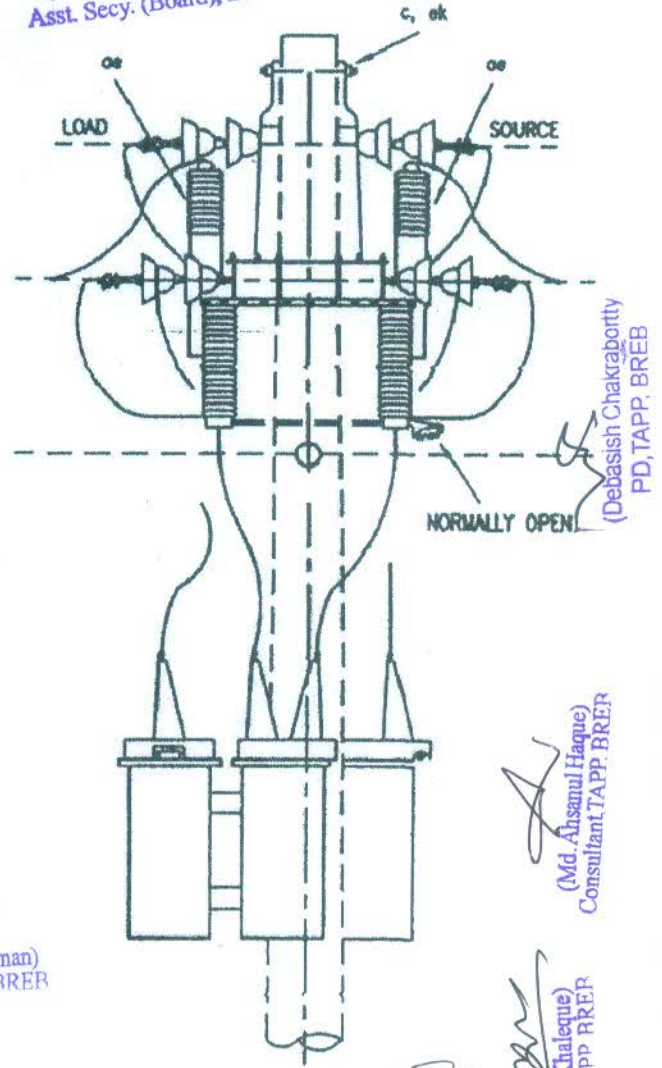
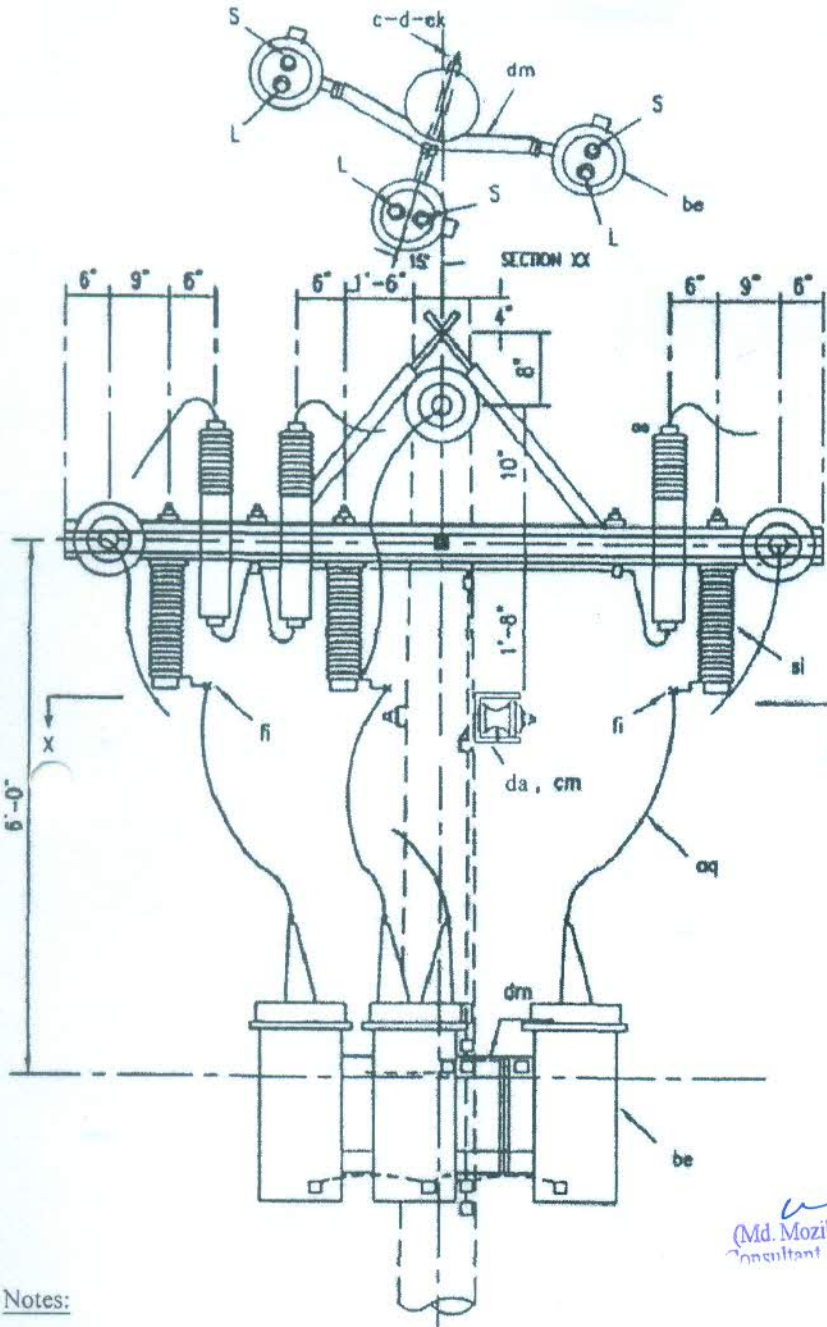
ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
c	B 6/8	5	Bolt, Machine, 5/8"	ae	H 2.009	2	Lightning arrester
d	B 46/118	3	Washer, square, 2 1/4" (A7-1)	ap	I 24	2	Hot Line clamp, #4/0x#3 Top
g	X-7	2	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"	aq	D 6	-	Jumpers, as required
n	B 26/28	3	Bolt, double arming	be	H 8	1	Recloser, oil circuit
p	13/14	6	Connector, as required	sj	H 16	1	Switch, Recloser by-pass
p	I 35	2	Adaptor, Hotline #4/0 x #3 Top	cu	B 42	2	Brace, 28"
				ek	B 50	17	Locknuts, as required

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL (X7) CROSSARM CONSTRUCTION-SINGLE DEADEND

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-23

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.



(Debasish Chakraborty)
PD, TAPP, BREB

(Md. Ahsanul Haque)
Consultant TAPP, BREB

(Md. Abul Khaleque)
Consultant TAPP, BREB

(Md. Mozibur Rahman)
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(Md. Duhidul Islam)
Consultant TAPP, BREB

(Md. Mozammel Haq)
Consultant TAPP, BREB

Notes:

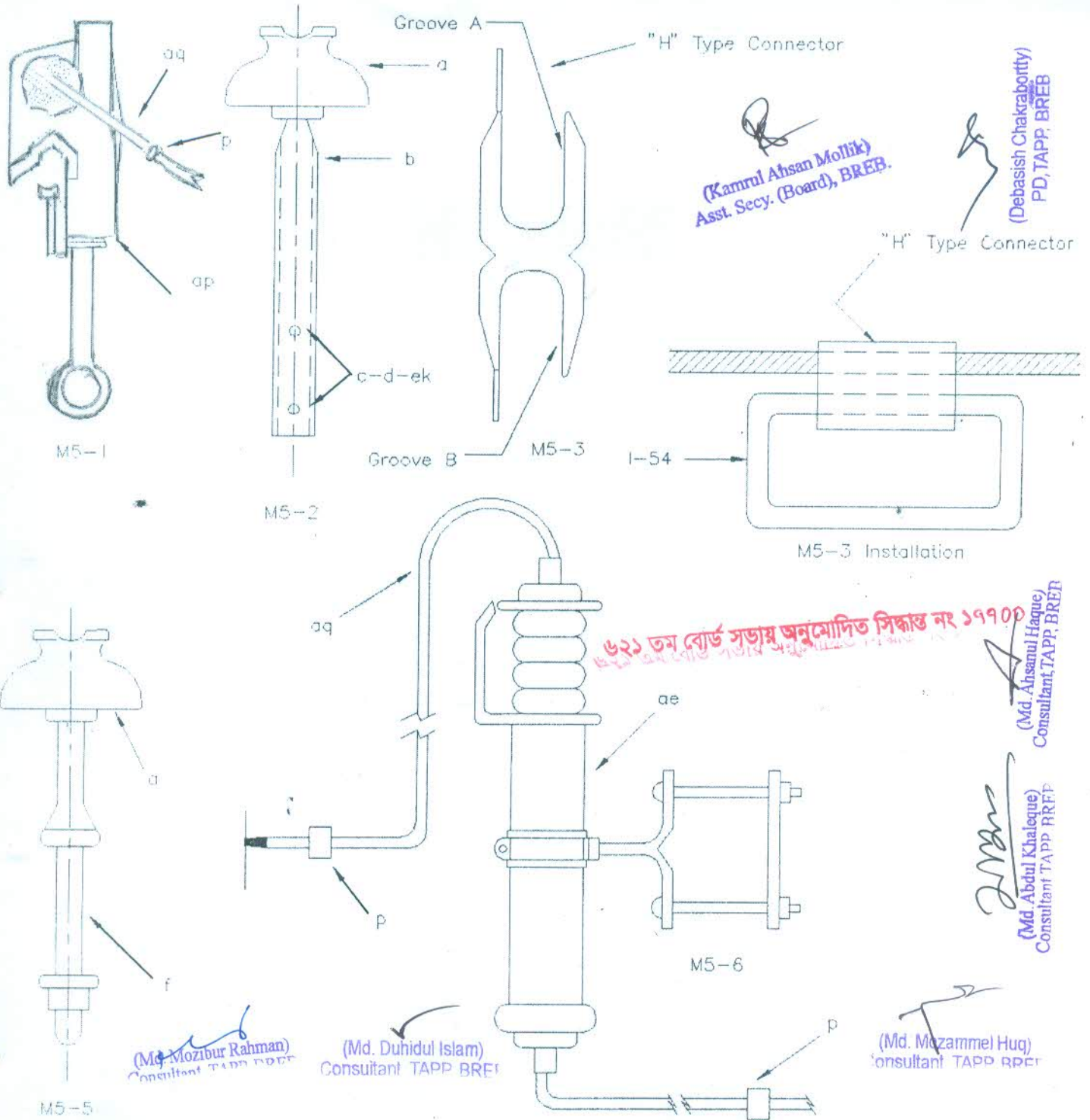
1. The recloser terminal bushing connected directly to the coil (normally the bushing nearest the operating handle) should be connected to the Source.
2. For this installation a driven ground rod is required. Specify separately as M2-11.
3. Each recloser shall have two connections to ground.
4. Item dm, cluster bracket, is a standard transformer hanger, REB Item B-87.
5. Rotate recloser head casting so that the operating handle may be operated by a lineman on the pole.

ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
dm	B 87	1	Bracket, cluster type	i	B81/132	6	Clamp, deadend
ek	B 50	18	Locknuts	cm	C3	1	Spool, Insulator, 1-3/4" dia
fi	I 35	6	Connector, hot line, top assembly	nb	26/27/28	3	Double arm bolt
si	H 16	3	Switch, recloser by-pass	p		-	Connectors, as required
a	B 19	2	Bolt, eye, 5/8" x req'd length	aa	B33	6	Nut, eye, 5/8"
c	B 6/7/8	8	Bolt, Machine, 5/8" x req'd length	ae	H2.009	6	Lighning arrester
d	B 46/118	1	Washer, Square, 2-1/4"	aq	D6	-	Jumpers, standard as required
g	X-7	2	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"	be	H8	3	Recloser
k	C10	12	Insulator, Suspension, 6" dia	da	B 72	1	Bracket, secondary
				cu	B 42	2	Brace, crossarm, 60" span
				aq	D8		Jumpers, 12.8 meter, copper

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL (X7) CROSSARM CONSTRUCTION-SINGLE DEADEND

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M3-25A

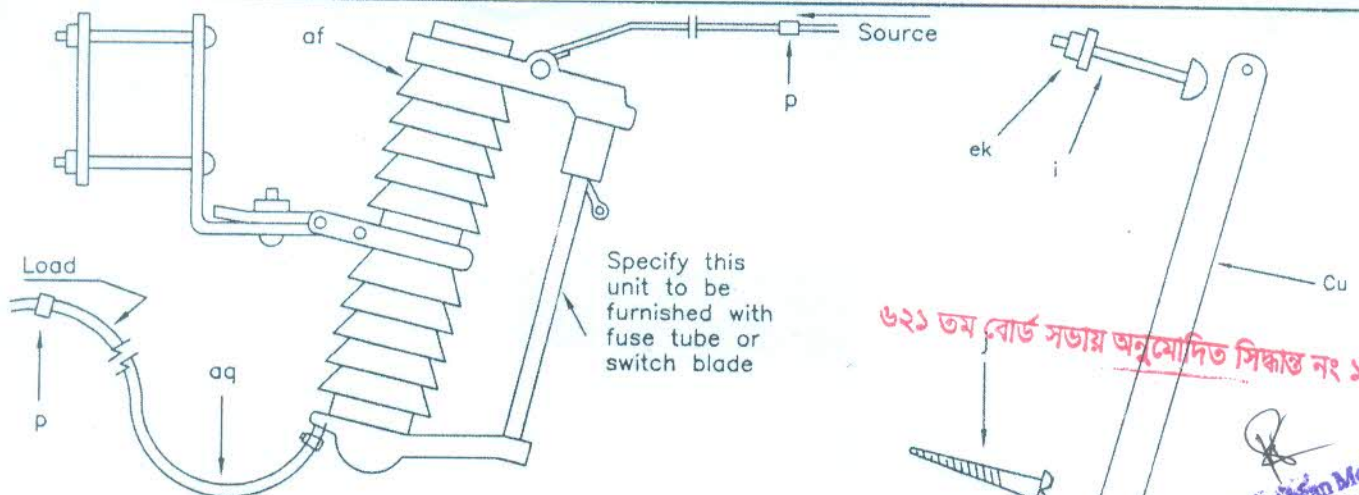


ITEM	ITEM NO	MATERIAL	M5-1	M5-2	M5-3	M5-5	M5-6
c	B6/7/8	Bolt, machine, 5/8" x required length		1			
d	B46/118	Washer, 2 1/4" square		2			
a	C1	Insulator, pin type		1		1	
b	B3	Pin, pole top 20"		1			
f	F1	Pin, crossarm, steel 5/8" x 10 3/4"				1	
g	I35/54	Adapter, hot line clamp (I-54)			1		
p	I5/16	Connector	1				2
ae	B50	Locknuts 5/8" bolt size		2			
ae	H2.009	Lightning Arrester					1
e	B15/19/20	Bolt, eye, 5/8" x req'd length		2			
ap	I24	Clamp, hot line	1				
aq		Jumper as required	1				1

BANGLADESH RURAL ELECTRIFICATION BOARD

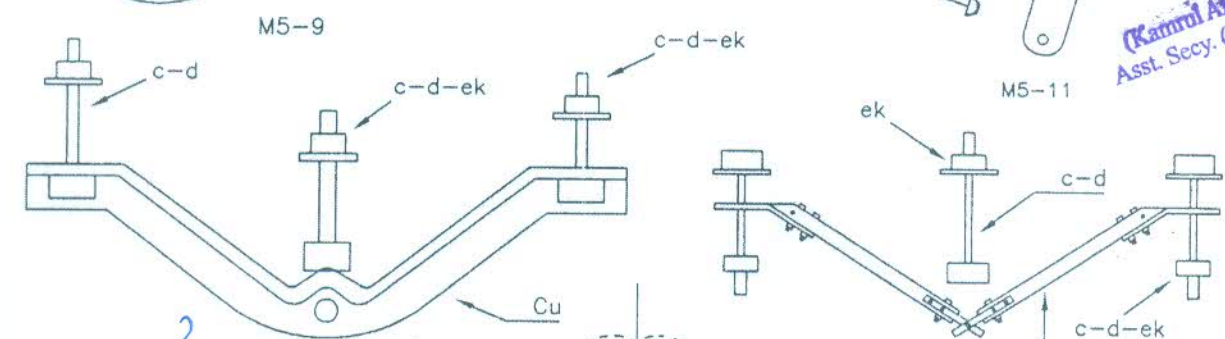
Unit Description: 6.35/11 KV MISCELLANEOUS PRIMARY ASSEMBLIES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M5-1 To M5-8



৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

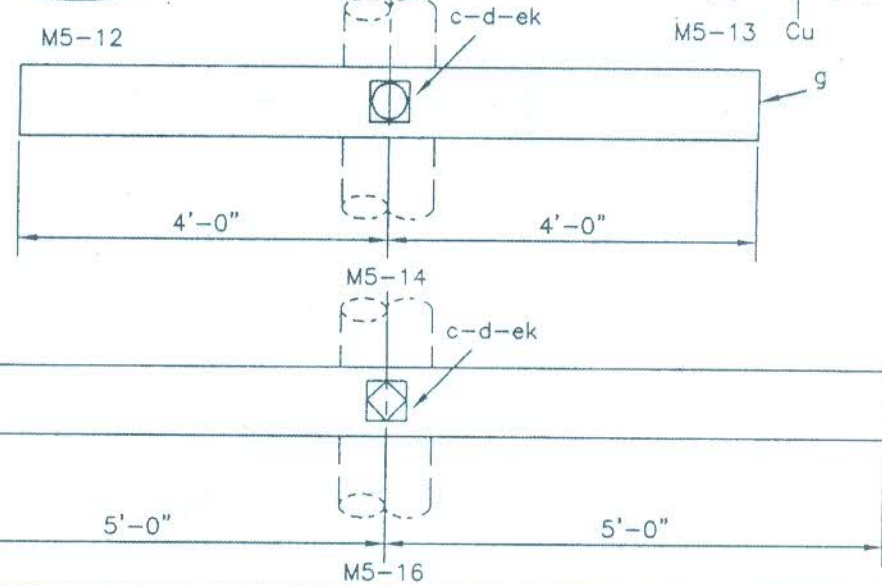
(Kamrul Ahsan Mollah)
Asst. Secy. (Board), BREB.



(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Duhdul Islam)
Consultant TAPP BREB

(Md. Mozammel Haq)
Consultant TAPP BREB



(Debashish Chakraborty)
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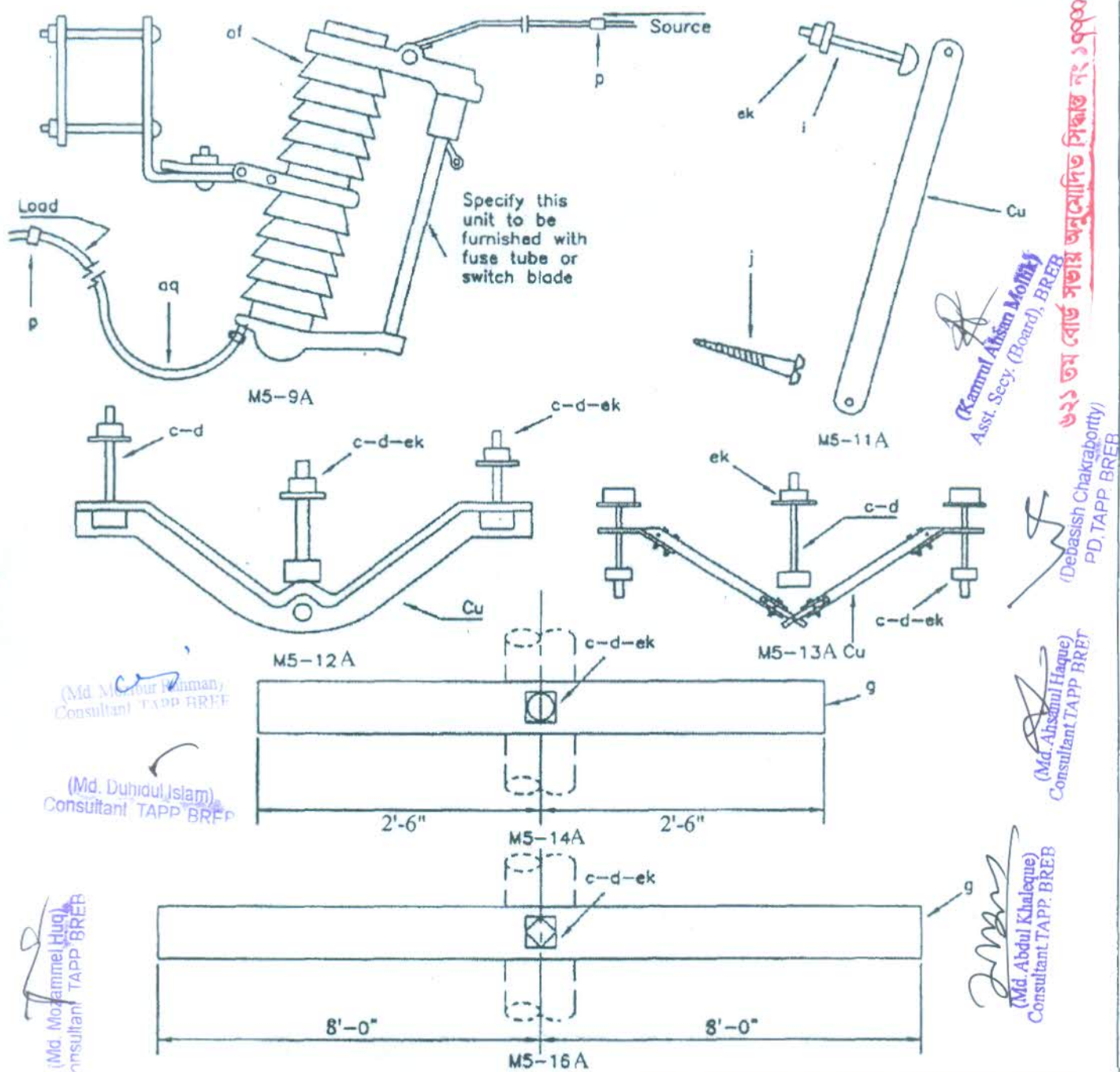
ITEM	ITEM NO	MATERIAL	M5-9	M5-11	M5-12	M5-13	M5-14	M5-16
c		Bolt, machine, 5/8" x required length			1	1	1	1
c		Bolt, machine, 1/2" x req'd. length			2	2		
d		Washer, sq. 2 1/4"			1	1	2	2
d		Washer, round, 1 3/8" dia.			2	2		
g		Crossarm, 3 1/2" x 4 1/2" x 8'-0"					1	
g		Crossarm, 3 3/4" x 4 3/4" x 10'-0"						1
Cu		Brace, flat, steel, 28"		1				
Cu		Brace, angle, steel, 60" span			1			
i		Bolt, carriage, 3/8" x 4 1/2"		1				
i		Screw, lag, 1/2" x 4"		1				
p		Connector	2					
af		Cutout, single-shot	1					
aq		Jumper	2					
Cu		Brace, wood, 60" span				1		
ek		Locknuts		1	3	3	1	

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV MISCELLANEOUS PRIMARY ASSEMBLIES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M5-9 to M5-16

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



(Md. Moinur Rahman)
Consultant TAPP BREB

(Md. Duhrul Islam)
Consultant TAPP BREB

(Md. Mozammel Haque)
Consultant TAPP BREB

(Md. Ahsanul Haque)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant TAPP BREB

(Kamrul Ahsan Mofij)
Asst. Secy. (Board), BREB

৩২২ তম বোর্ড সভায় অনুমোদিত সিকিউ নং: ১৭৭০০
(Debasish Chakraborty)
PD, TAPP, BREB

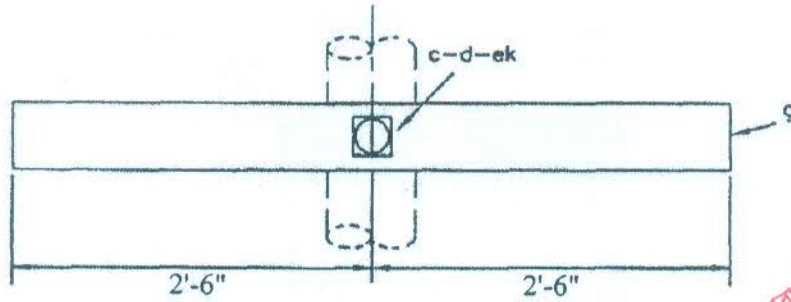
ASSEMBLY UNIT								
ITEM	MAT. CODE	MATERIAL	M5-9A	M5-11A	M5-12A	M5-13A	M5-14A	M5-16A
c	B 6/7/8	Bolt, Machine, 5/8" x req'd length			1	1	1	1
c	B 4	Bolt, Machine, 1/2" x req'd length			2	2		
d	B 46	Washer, Square, 2-1/4"			1	1	1	1
d	B 48	Washer, round, 1-3/8" dia			2	2		
g	X-6	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 5'-0"					1	
g	X-7	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"						1
cu	-	Brace, flat, steel, 28" span		1				
cu	-	Brace, angle, steel, 60" span			1			
i	-	Bolt, carriage, 3/8" x 4 1/2"		1				
j	-	Screw, log, 1/2" x 4"		1				
p	-	Connector	2					
af	-	Cutout, single shot	1					
aq	-	Jumper	2					
cu	-	Brace, wood, 60" span				1		
ek	-	Locknuts		1	3	3	1	1

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL (X7) CROSSARM CONSTRUCTION-SINGLE DEADEND

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M5-9A To 16A

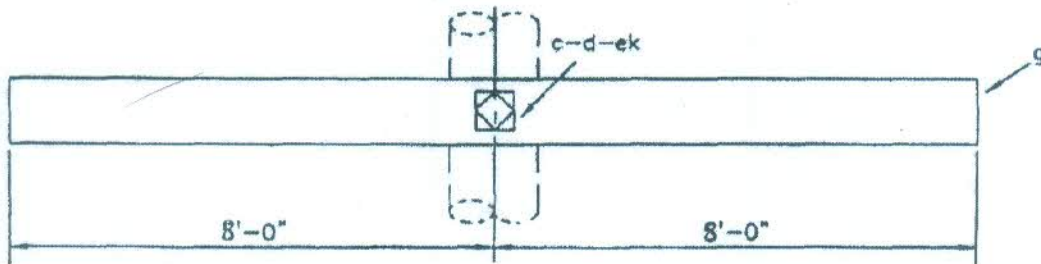
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



M5-14B

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.



M5-16B

(Debasish Chakraborty)
PD, TAPP, BREB

(Md. Ahsanul Haque,
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(Md. Mozibur Rahman)
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(Md. Duhidul Islam)
Consultant TAPP, BREB

(Md. Mozammel Haq)
Consultant TAPP, BREB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB

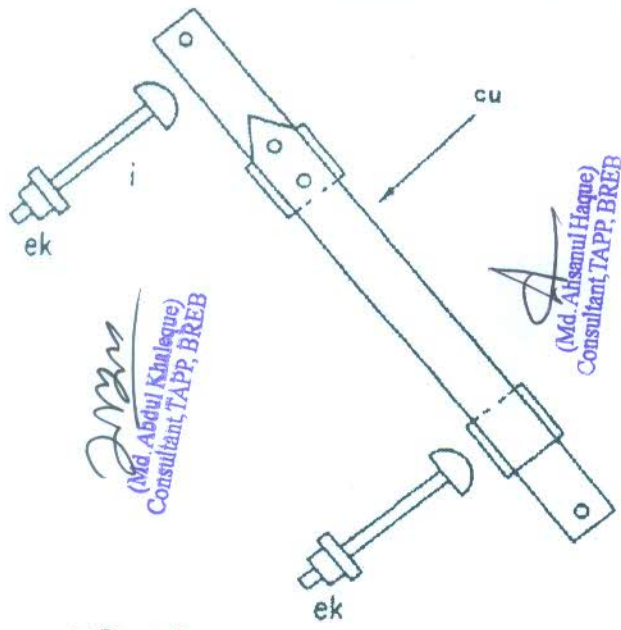
ITEM	MAT. CODE	MATERIAL	ASSEMBLY UNIT	
			M5-14 B	M5-16 B
c	B 6/7/8	Bolt, Machine, 5/8" x req'd length	1	1
c	B 4	Bolt, Machine, 1/2" x req'd length		
d	B 46	Washer, Square, 2-1/4"	1	1
d	B 48	Washer, round, 1-3/8" dia		
g	X-6	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 5'-0"	1	
g	X-7	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"		1
cu	-	Brace, flat, steel, 28" span		
cu	-	Brace, angle, steel, 60" span		
i	-	Bolt, carriage, 3/8" x 4 1/2"		
j	-	Screw, log, 1/2" x 4"		
p	-	Connector		
af	-	Cutout, single shot		
aq	-	Jumper		
cu	-	Brace, wood, 60" span		
ek	-	Locknuts	1	1

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL (X6/X7) CROSSARM CONSTRUCTION-SINGLE DEADEND

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M5-14B to M5-16B

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

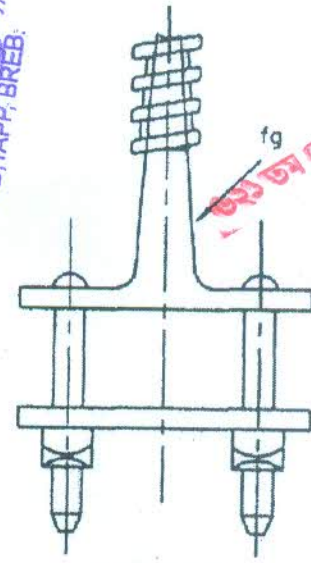


M5-17

(Md. Abdul Khaleque)
Consultant, TAPP, BREB

(Md. Alisamul Haque)
Consultant, TAPP, BREB

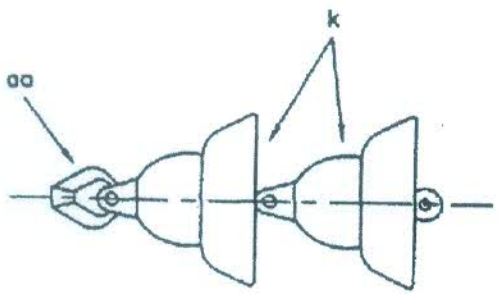
(Debasish Chakraborty)
PD, TAPP, BREB



M5-18

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB

(Md. Mozammel Haq)
Consultant TAPP BREB



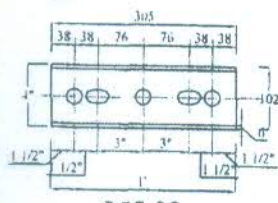
M5-20



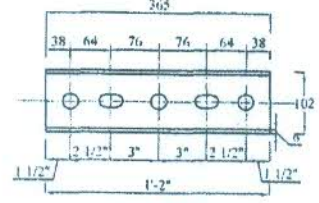
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(Md. Mozibur Rahman)
Consultant TAPP BREB

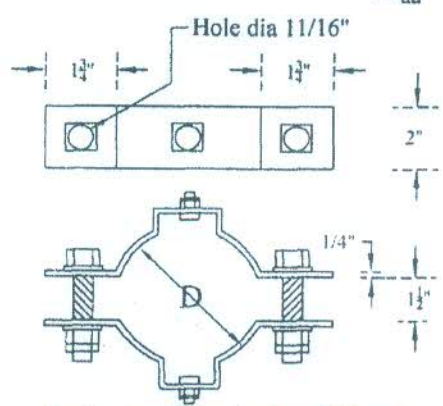
(Md. Duniul Islam)
Consultant TAPP BREB



M5-23



M5-24



Detail - A : Galvanized Steel Clamp

M5-22



M5-19

(Md. Mozammel Haq)
Consultant, TAPP, BREB

ITEM	MAT. CODE	MATERIAL
e	B 6/7/8	Bolt, Machine, 5/8" x req'd length
d	B 46	Washer, Square, 2-1/4"
e l	B 95	Bolt, m/c, 5/8" x 1 1/2"
k	C 10	Insulator, Suspension
ea	C 12	Insulator, post type, 1 3/4" stud
eb	-	Bracket, for post type Insulator
ec	-	Bracket, offset, neutral, Insulated
ek	B 50	Locknuts
cu	B 41/42/43/44	Brace, wood, 28"
aa	B 53	Eye nut
ba	B 55	Shackle, anchor
a	B 18/19/20	Bolt, eye, 5/8" x req'd length
fa	B 125/131	Pin, Jumper stand-off
fq	B 97	Pin, crossarm, steel, clamp type
-	-	4-way pole band with nut bolt & locknuts complete
-	-	Plate, arming 14" or 12" x 4" x 1/4"

ASSEMBLY UNIT							
M5-17	M5-18	M5-19	M5-20	M5-21	M5-22	M5-23	M5-24
2		1		2			
		1		1	1		
			2				
2		1			1		
1							
			1	1			
				1			
	1						
					1		
						1	
							1

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV MISCELLANEOUS PRIMARY ASSEMBLIES

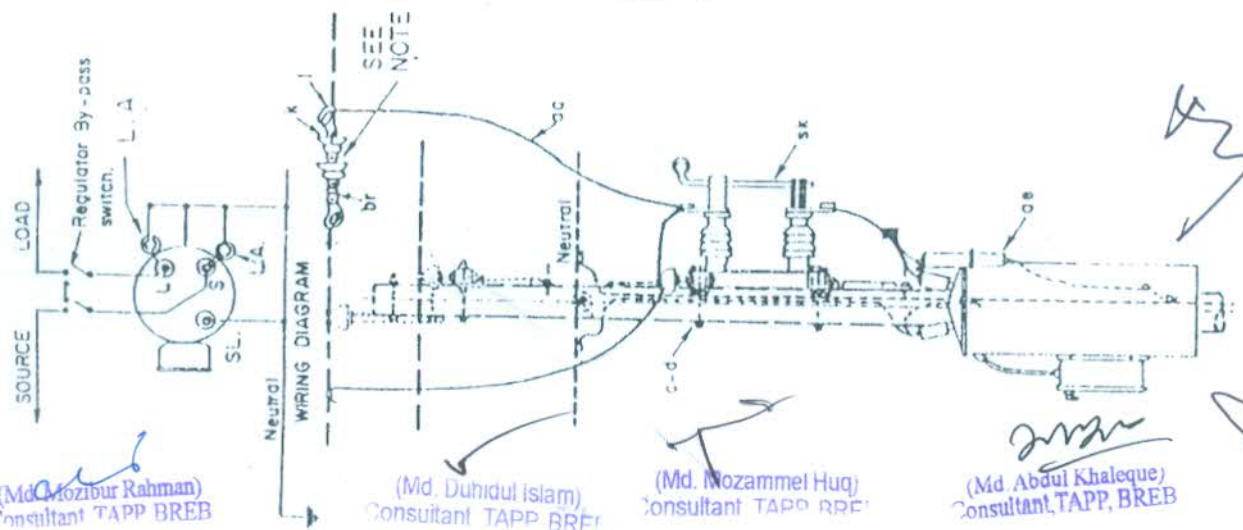
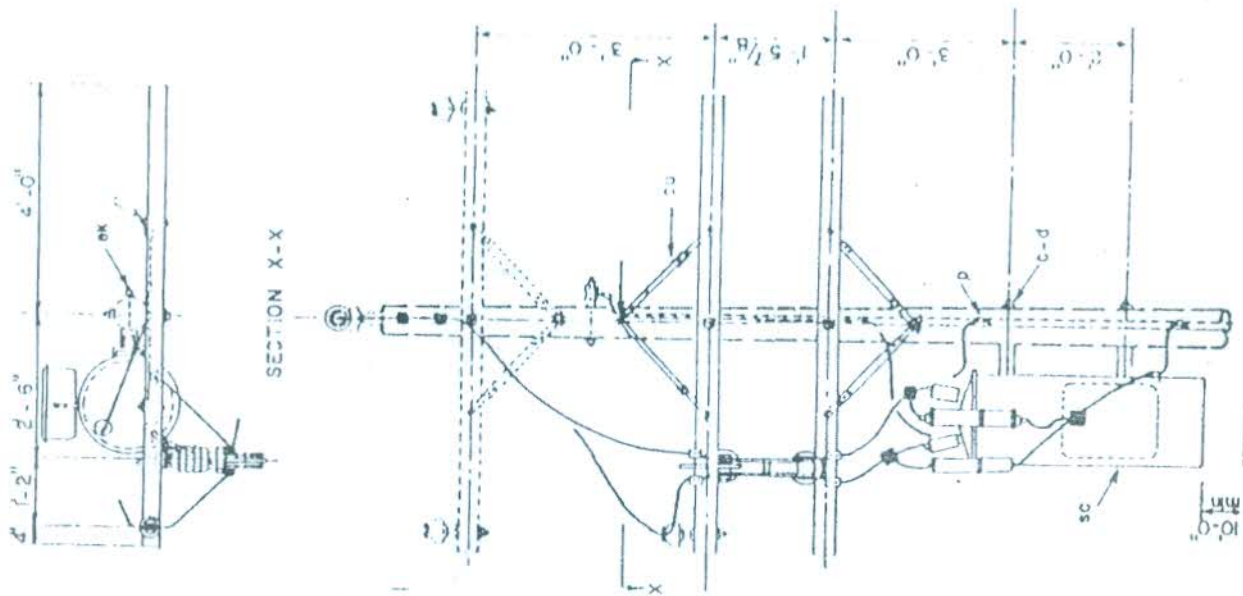
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M5-17 TO 5-24

ITEM NO	MATERIAL
1	Regulator, air type
2	Bolt, machine, 1/2" x 5"
3	Bolt, machine, 5/8" x 6 1/2"
4	Washer, round, 1 3/8" dia
5	Washer, square, 2 1/4"
6	Pin, crossarm, 5/8" x 10 3/4"
7	Crossarm, 3 1/2" x 4 1/2" x 8-0"
8	Bolt, carriage, 3/8" x 4 1/2"
9	Screw, lag, 1/2" x 4"
10	Insulator, suspension
11	Locknuts, as reqd
12	Clamp, deadend
13	Connectors, as reqd
14	Jumpers, string, 3/8" x 3 1/4"
15	Chain link, 5/8" x 3 1/4"
16	Lightning arrester
17	Brace, 28
18	Regulator, step type
19	Regulator, by-pass switch

NOTES:

1. For ease of installation these suspension insulators may be relocated either to the crossarm or the pole top position. If the opening point is relocated, the phase conductor must be double deenergized; refer to assembly drawing CS for dimensions and installation details.

৬৩৩ ভা. ১০৬-১৩৩য় অনুমোদিত শিফট নং ১৭৭০০০
 (Kamrul Ahsan Mollah)
 Asst. Secy. (Board), BREB



(Md. Mozibur Rahman)
 Consultant TAPP BREB

(Md. Duhiqul Islam)
 Consultant TAPP BREB

(Md. Mozammel Haq)
 Consultant TAPP BREB

(Md. Abdul Khaleque)
 Consultant TAPP BREB

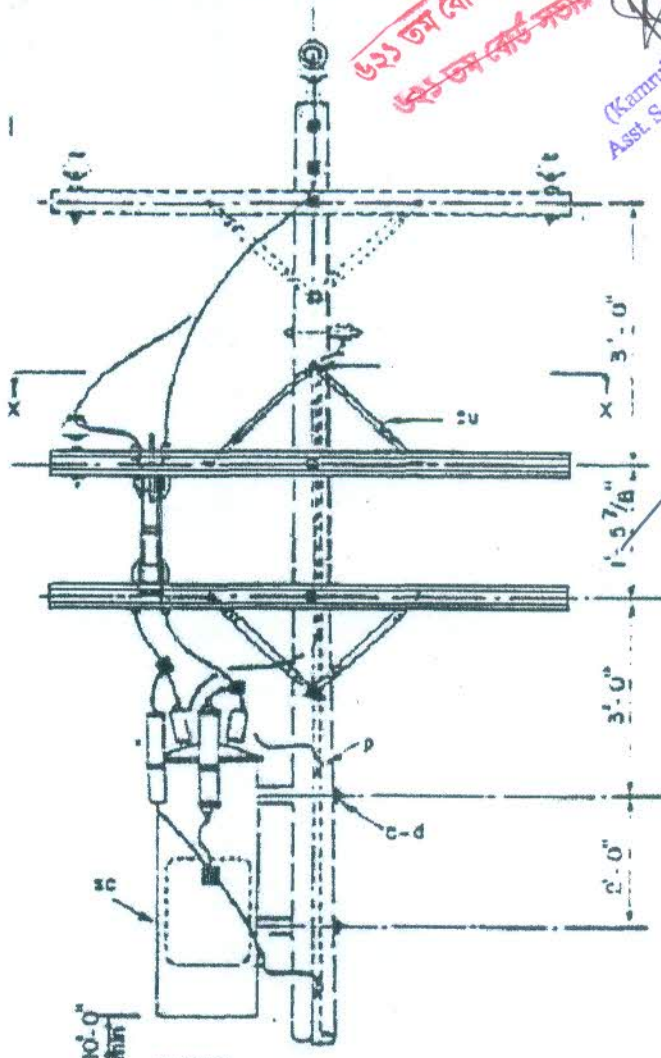
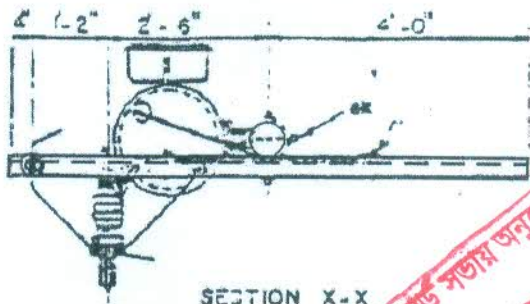
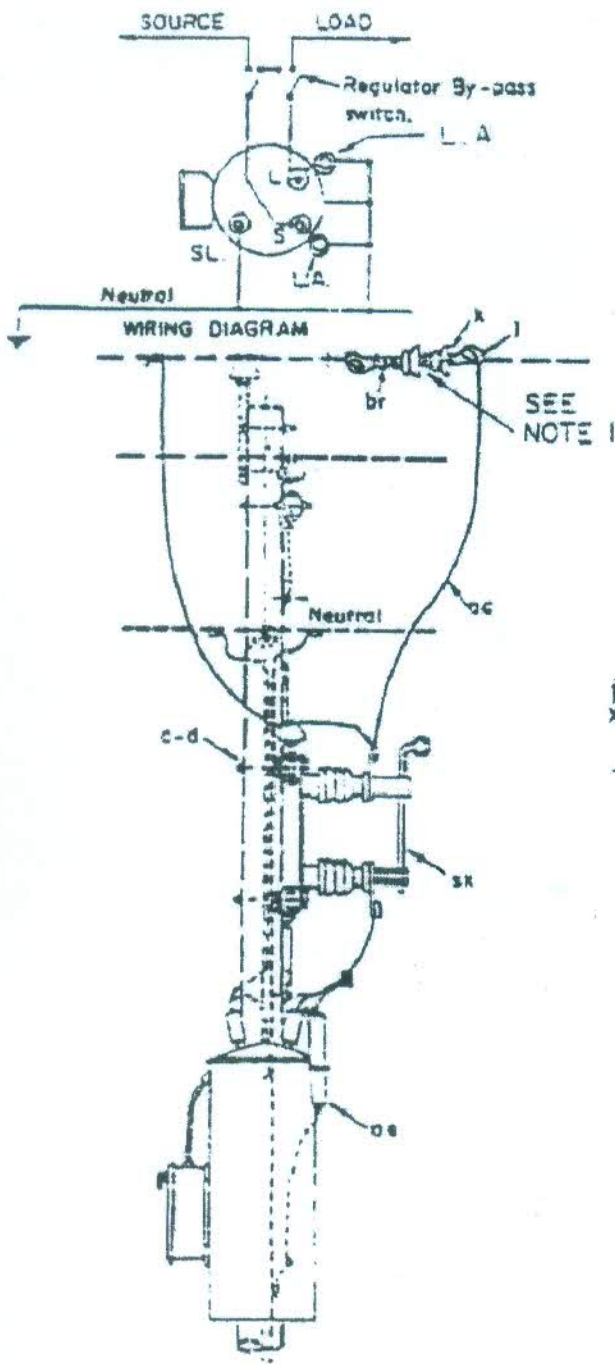
(Md. Ahsanul Haque)
 Consultant TAPP BREB

(Debasish Chakraborty)
 PD, TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV VOLTAGE REGULATOR POLE MOUNT

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M7-11



৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৯৯০
 ৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৯৯০

(Kamrul Ahsan Mollik)
 Asst. Secy. (Board), BREB.

(Debasish Chakraborty)
 PD, TAPP, BREB

(Md. Ahsanul Haque)
 Consultant TAPP, BREB

(Md. Abdul Khaleque)
 Consultant TAPP, BREB

(Md. Mozibur Rahman)
 Consultant TAPP, BREB

(Md. Duhidul Islam)
 Consultant TAPP, BREB

(Md. Mozammel Haq)
 Consultant TAPP, BREB

Note :-

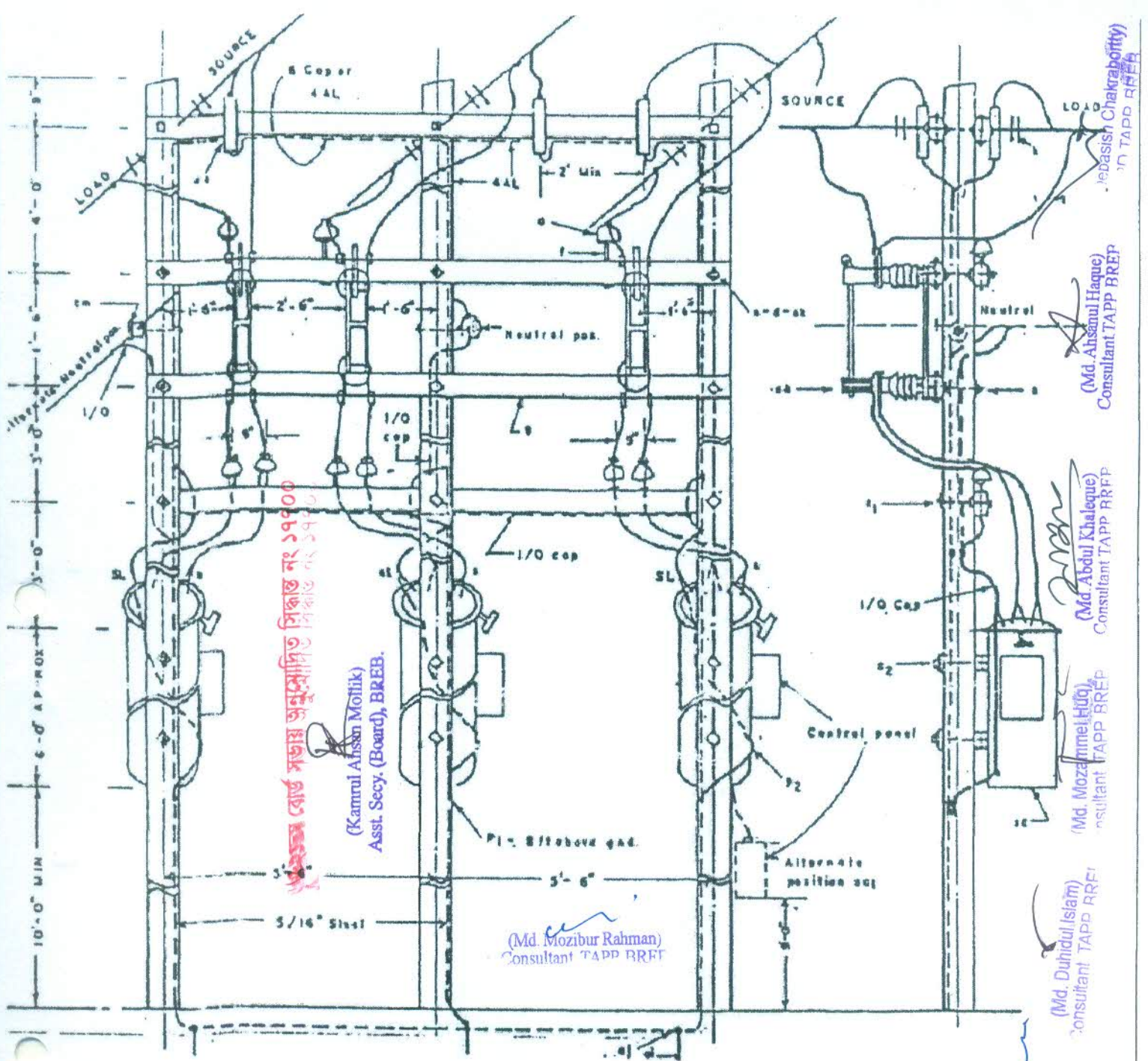
1. For each of position these suspension insulators may be relocated either to the crossarm or the pole top position. If the opening point is relocated, the phase conductor must be double deadended; refer to assembly drawing C8 for dimensions and installation details.

ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
k	C 10	02	Insulator, suspension type	ek	B 50	24	Locknuts, as required
a	C 1	01	Insulator, pin type	l	B 81/132/133	02	Clamp, deadend
c	B 4	04	Bolt, machine, 1/2" x 6"	p	1 3/4/5/6	-	Connector as required
c	B 6/7/8	10	Bolt, machine, 5/8" x required length	aq	D 2/3/26	-	Jumper, standard, as required
d	B 48	08	Washer, round, 1-3/8"φ	br	B 96	01	Chain link, 5/8" x 3/4"
d	B 46	06	Washer, round, 2 1/4"φ	ae	H 2.009	02	Lightning, arrester
f	B 1	01	Pin, crossarm, 5/8" x 10 1/4"	cu	B 41/42	04	Brace, 28", steel
g	X-7	02	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"	sc	K 1	01	Regulator, stap type
				sk	H 15.5	01	Regulator, by pass switch

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL (X7) CROSSARM CONSTRUCTION-SINGLE DEADEND

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M7-11A



সিক্স সিক্স নং ১৭৭০০
সিক্স সিক্স নং ১৭৭০০

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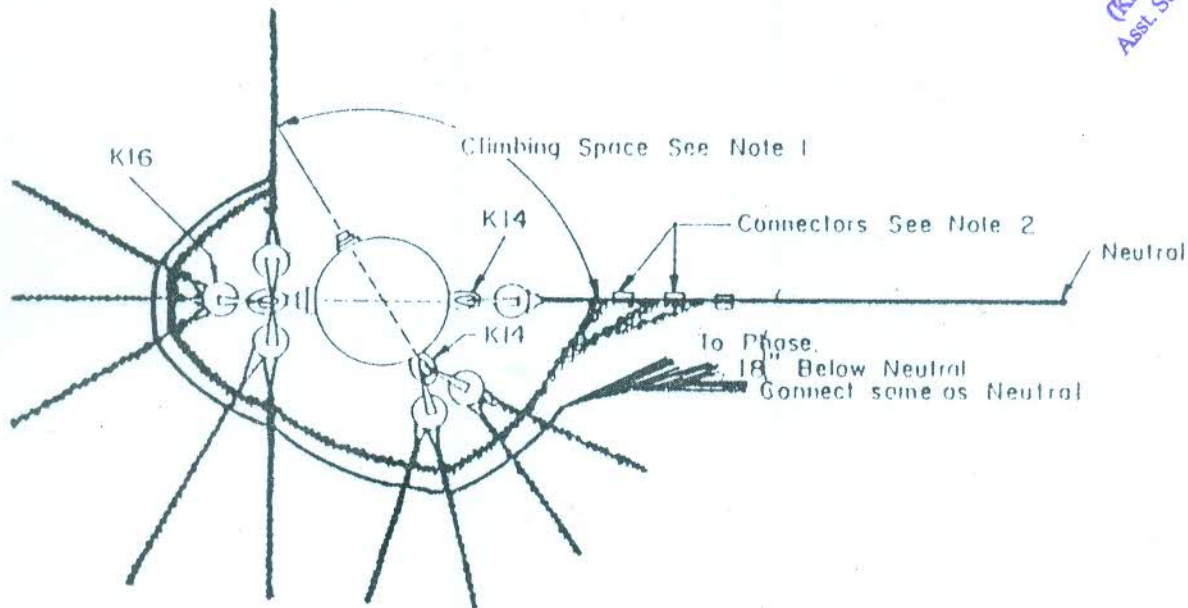
ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
a	C 1	09	Insulator, pin type	a l	B 65/129/130	03	Rod, ground 5/8" min. dia
k	C 10	12	Insulator, suspension type	aj	B 80	03	Clamp, ground rod
f	B 1	09	Pin, crossarm, 5/8" x required length	av	D 4	-	Ground wire, as required
n	B 26/28	06	Bolt, double arming, 5/8" x required length	qe	D 3/26	-	Jumper, standard, as required
c 1	B 6/7/8	07	Bolt, machine, 5/8" x required length	p	1 3/4/5	-	Connector as required
c 2	B 14/15/16	06	Bolt, machine, 3/4" x required length	sc	K 1	03	Regulator, step type
c 3	B 3/4	12	Bolt, machine, 1/2" x required length	sk	H 15.4	03	Regulator, by pass switch 11KV
d	B 48	12	Washer, round, 1-3/8"φ	p2	-	03	Ground connecting lug on regulator tank
d	B 46	30	Washer, round, 2 1/4"φ	ek	B 50	35	Locknuts, 5/8"
g	X-7	06	Crossarm, steel channel 4" x 2" x 2" x 1/4" x 8'-0"	ek	B 119	06	Locknuts, 3/4"
l	B 81/132/133	06	Clamp, deadend	ek	B 51	12	Locknuts, 1/2"
aa	B 53	06	Nut, eye 5/8"	xx	R 9	03	Poles, 35' class-4
cm	C 2/3	01	Insulator, spool	sc1	-	03	Remote control kit & hardwares----
da	B 72	01	Bolt, single upset 5/8" x required length				
ae	H 2.009	06	Lightning, arrester				

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV 1-PHASE STEEL (X7) CROSSARM CONSTRUCTION-SINGLE DEADEND

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M7-13

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৩২৯ ভূমি বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

- NOTES:
1. The minimum lineman climbing space shall be one quadrant (quarter) of the pole. This quadrant must be maintained free of line hardware.
 2. Refer to Guideline M45-2, "Multiple Service Connection Guide For Domestic Consumers" for connector code number identification.
 3. K19 and K20 service units may be substituted for K14 and K16 units.

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BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 230/400 V GUIDE LINE FOR MULTIPLE SERVICE ASSEMBLIES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-5

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

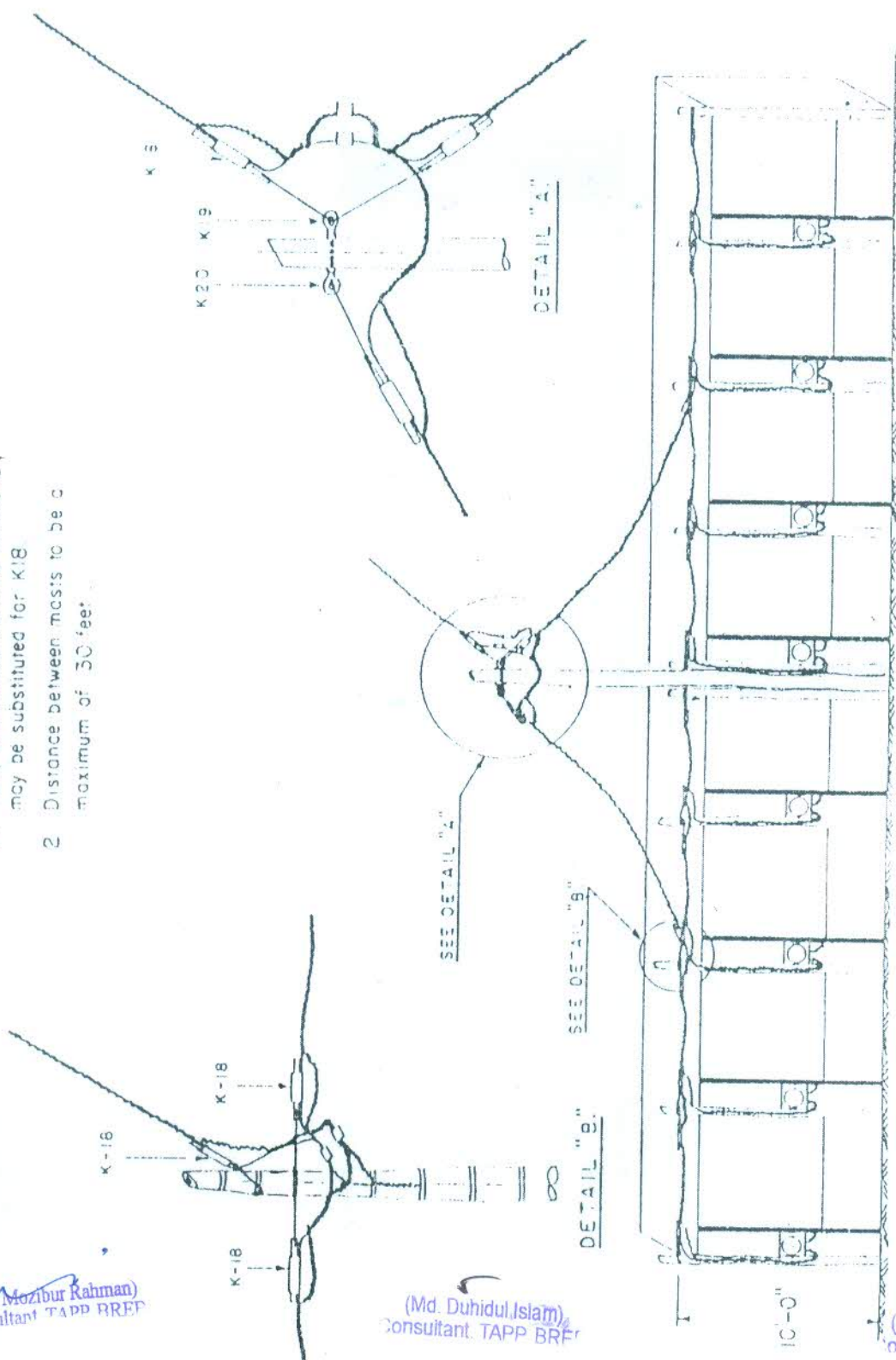
NOTE

1. K-21, preformed service deadend, may be substituted for K18
2. Distance between masts to be a maximum of 30 feet.

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৬৯৯ জম কোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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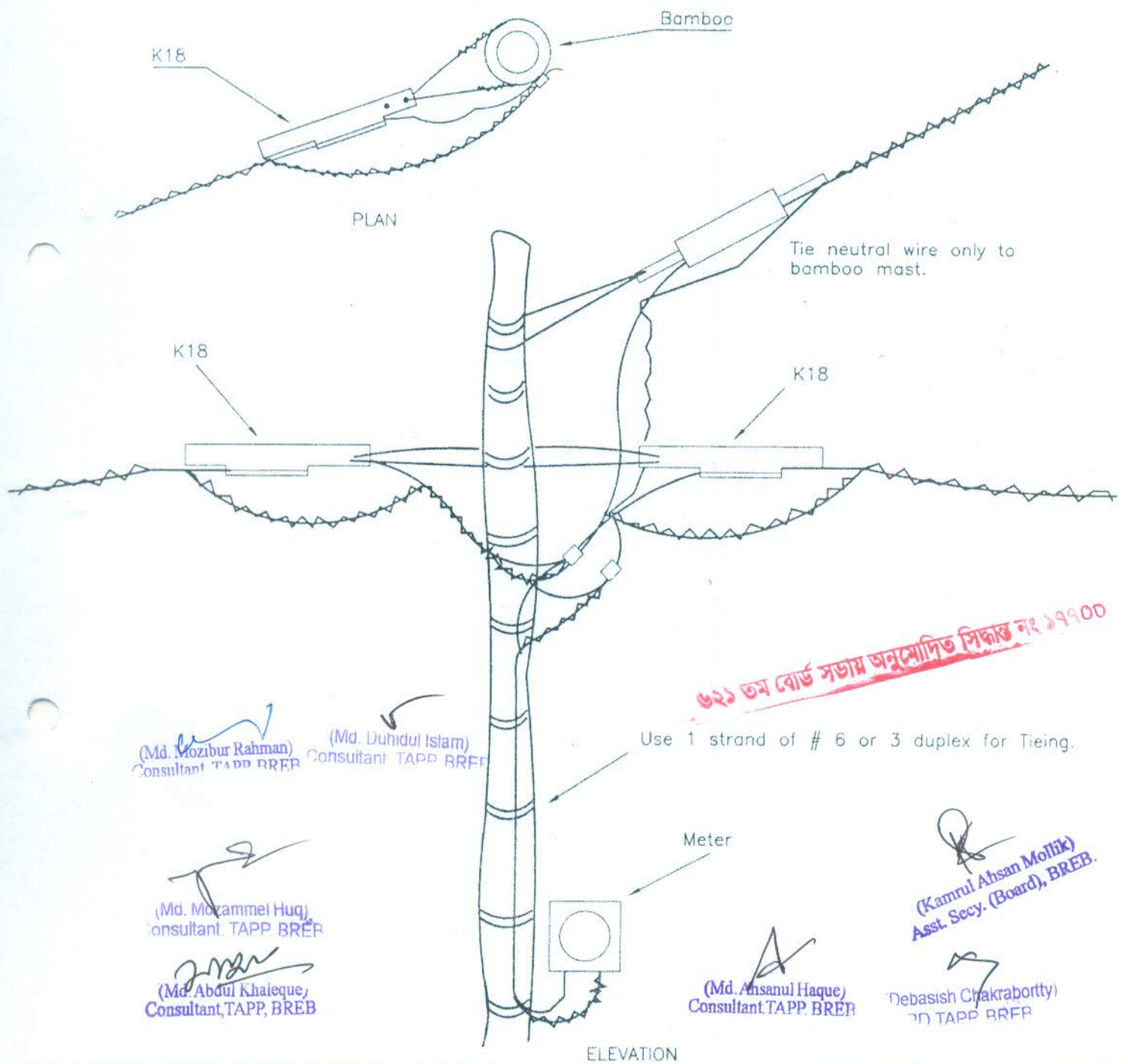
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BANGLADESH RURAL ELECTRIFICATION BOARD				
Unit Description: BAZAR AREA SECONDARY (LT) EXAMPLE				
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-6
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020				

NOTE : K21, performed service deadend, may be substituted for K18.

Use one strand from ACSR # 6 or # 3 to tie K18 to bamboo.



৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: BAZAR AREA DETAIL DUPLEX INSTALLATION

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-7

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

OTHER ACCEPTED MEANS OF DEADENDING SERVICE CONDUCTORS MAY BE SUBSTITUTED FOR THOSE AS DEPICTED ON THIS GUIDELINE.

EYE BOLT OR SIMILAR ATTACHMENT FOR CONSUMER USE IN TERMINATING STEEL MESSAGERS CARRYING CONSUMERS OWNED SERVICE EXTENSION.

REB APPROVED WEATHERHEAD

1-1/4" GI CONDUIT

METER AND METER SOCKET TO BE SUPPLIED BY PBS

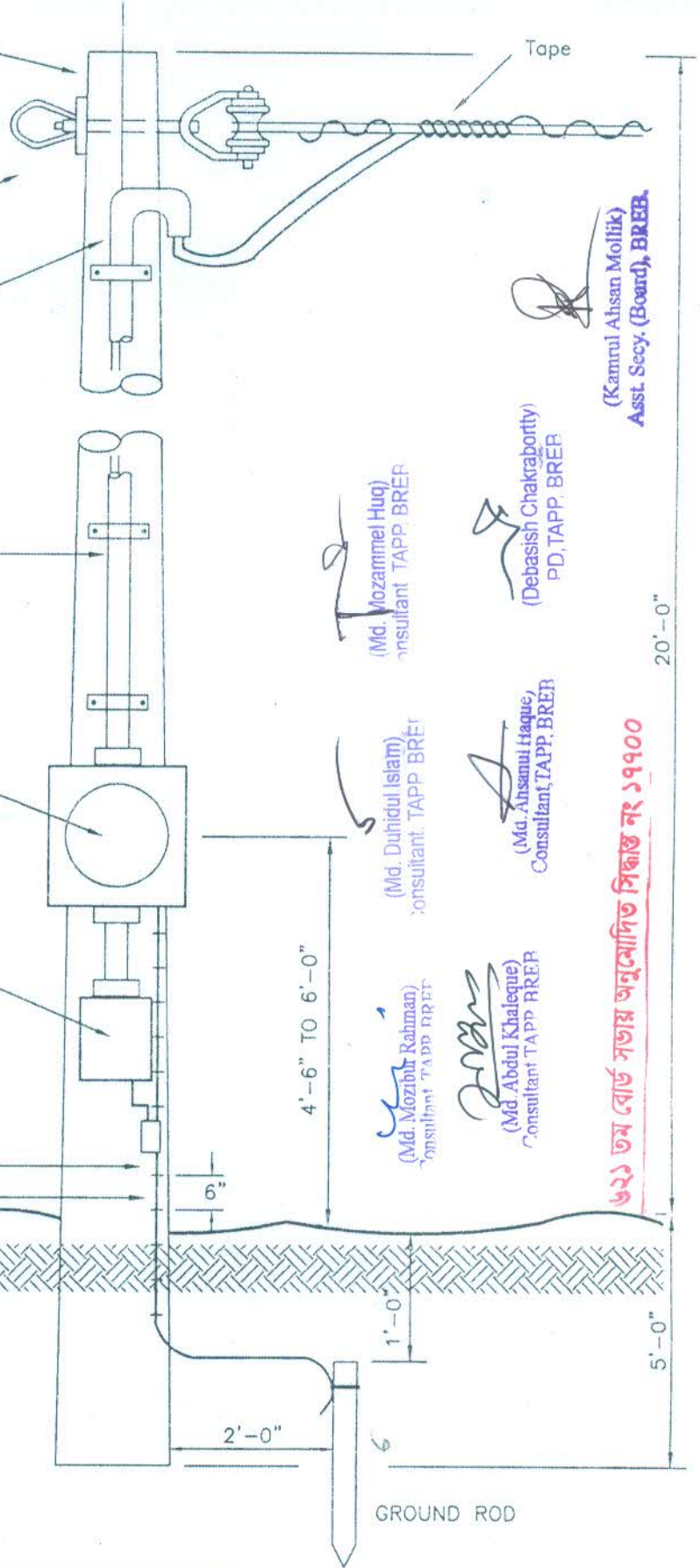
CONSUMER TO SUPPLY SWITCH AND LOAD SIDE WIRING FROM THE METER

CONSUMER TO SUPPLY GROUND ROD AND GROUND WIRE. MINIMUM LENGTH OF GROUND ROD SHOULD BE 6'-0"

GROUND WIRE STAPLES TO BE 6" APART

NOTES :

1. REFER TO PBS INSTRUCTION 300-19, DRAWINGS 92 AND 124 FOR FURTHER DETAILS.



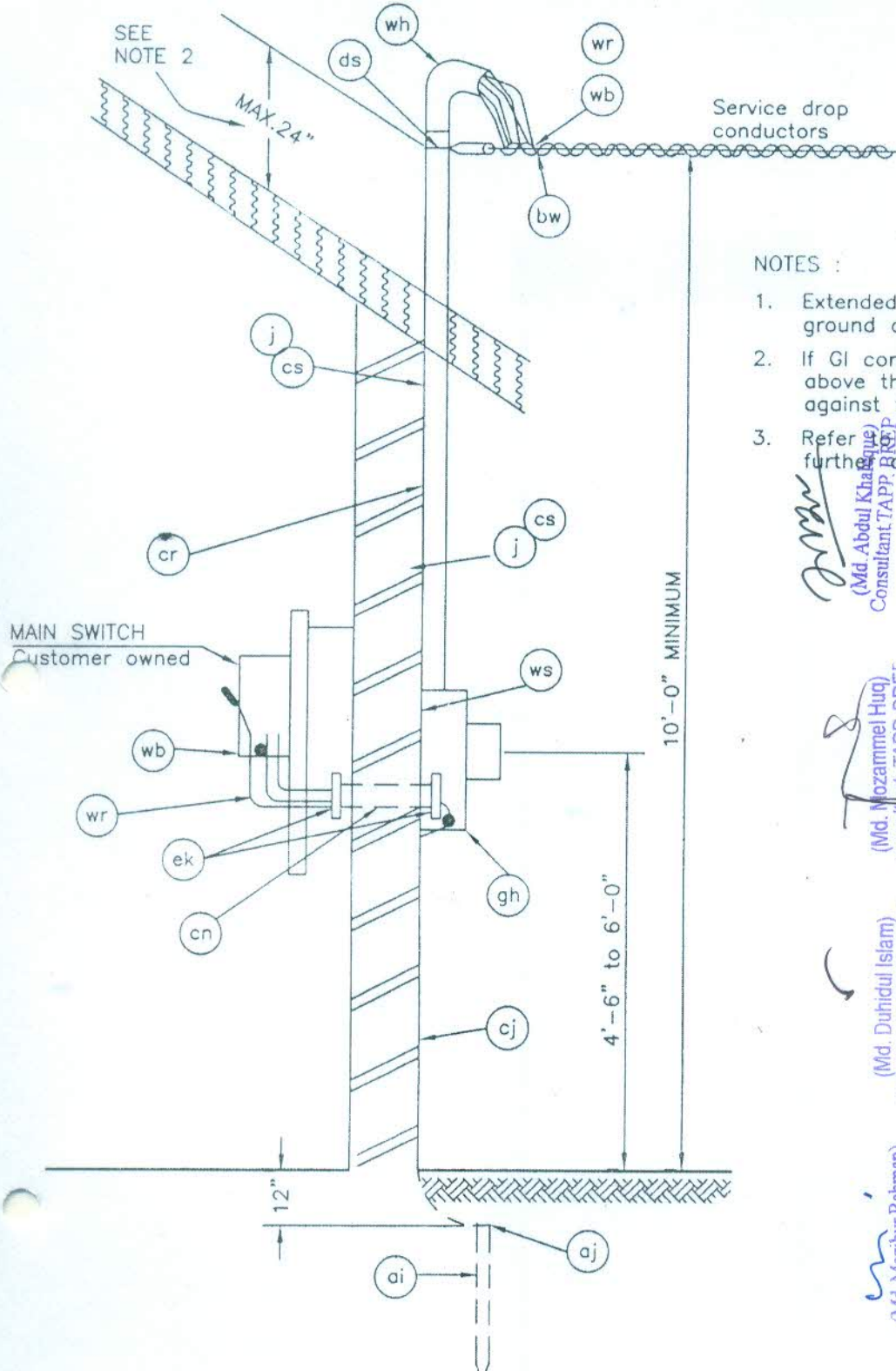
৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: METER POLE, TWO WIRE SINGLE PHASE SERVICE, SINGLE METER

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-8

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



- NOTES :
1. Extended GI conduit to obtain required ground clearance.
 2. If GI conduit is extended over 2'-0" above the roof it must be securely guyed against the strain.
 3. Refer to PBS instruction 300-19 if further details are required.

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৩২১ ডায় বস্তুনিষ্ঠ সিকিউ নং ১৭৭০০

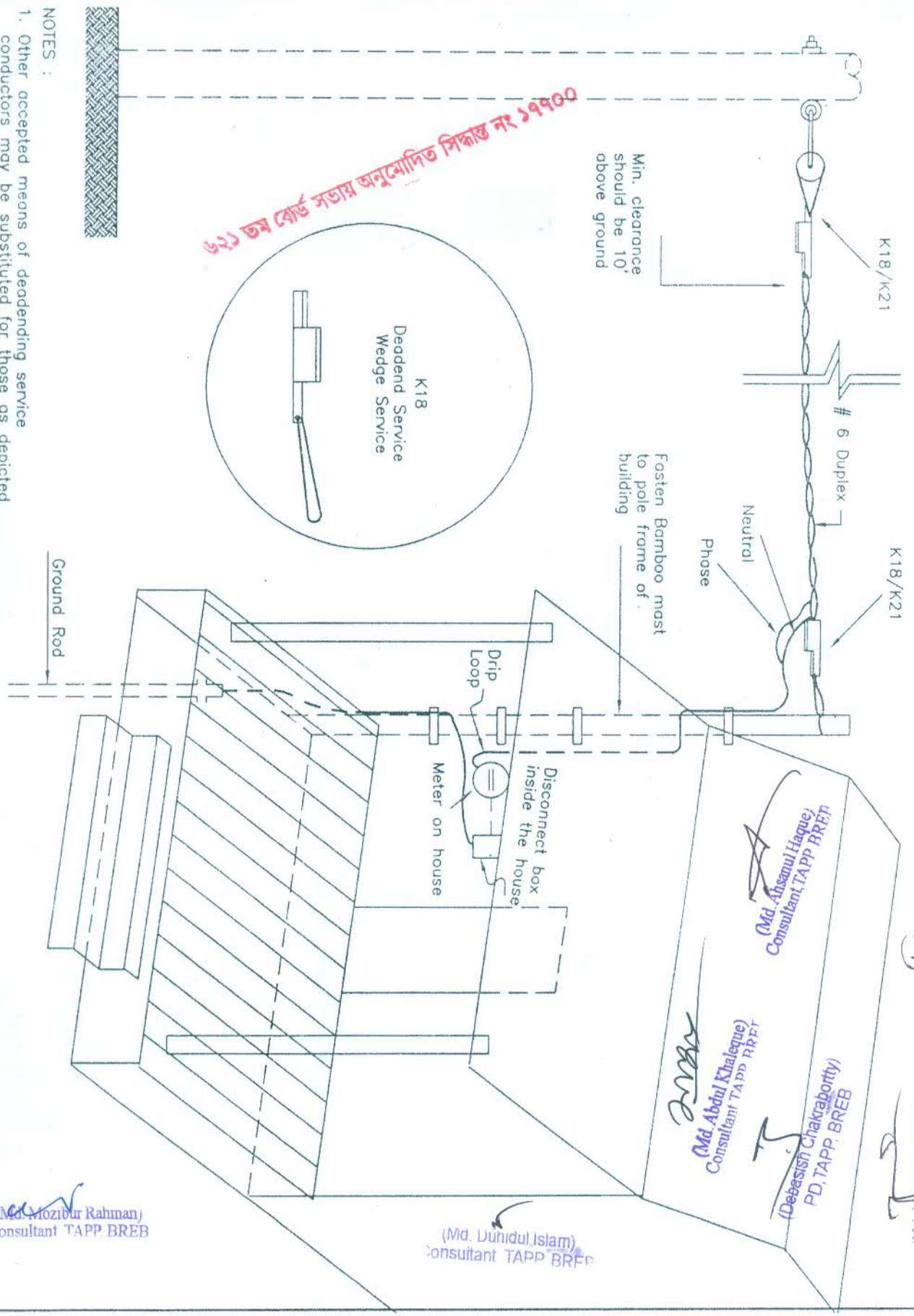
ITEM	MAT. CODE	NO	MATERIAL	ITEM	MAT. CODE	NO	MATERIAL
j	B40	4	Log screw, 3/8" x 3"	ds		1	Clevis, conduit type, insulated
ai	B65	1	Rod, ground, 5/8" x 6'0" min.	ek		2	Locknut, 2"
aj	B80	1	Clamp, ground rod (if required)	gh	J2/3	1	Meter, 100 amp
bw	E18	1	Service conductor deadend	wb		-	Conductor, black, 19/0.064
cj	N1	3	Ground wire, galvanized iron meter	wh		1	Weatherhead
cn		1	Conduit nipple, 2" (4" to 12" long)	wr		-	Conductor, red, 19/0.064
cr		-	Conduit, GI, rigid, 2" x req'd length	ws		6	Wood screw, No. 9
cs		2	Conduit straps				

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 3-PHASE, 4-WIRE GROUNDED WYE METER LOOP 230/400 CLASS-100 METERS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-9

৬২১ ভব কোর্ট সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০



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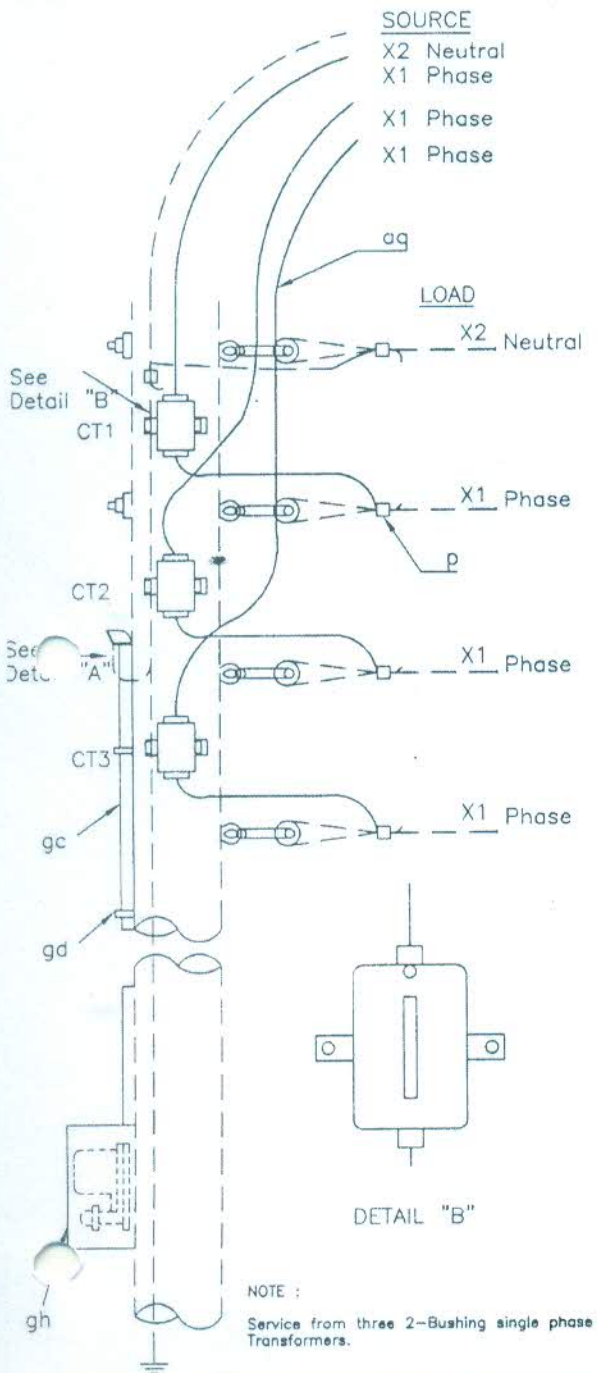
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: RESIDENTIAL, TWO WIRE SINGLE PHASE SERVICE, 230 VOLTS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-11

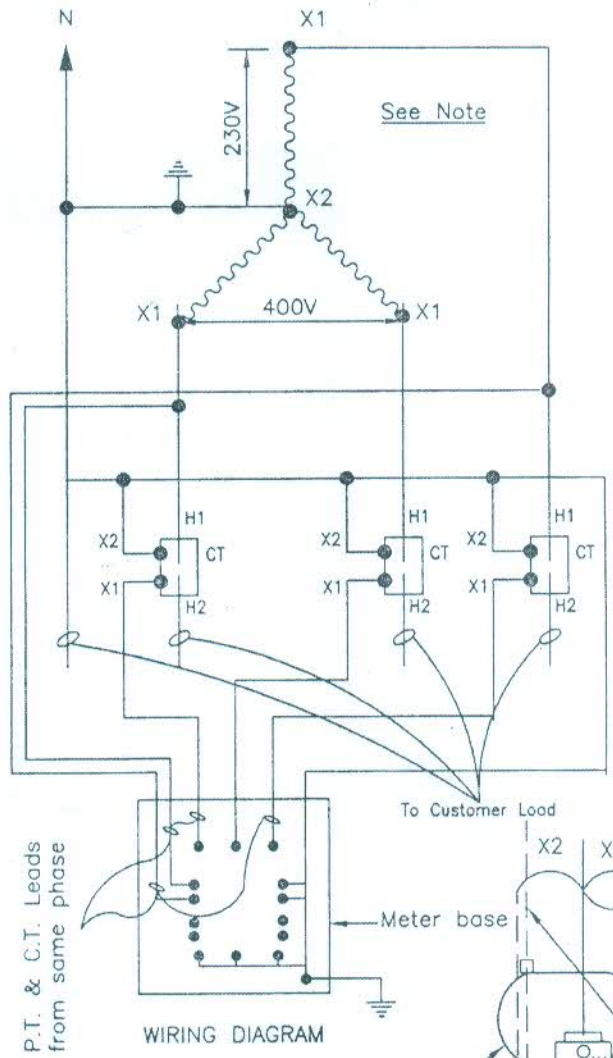
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

- NOTES :
1. Other accepted means of deadending service conductors may be substituted for those as depicted on this guideline.
 2. Refer to PBS Instruction 300-19, drawing Z2A thru Z2D for further details.



NOTE :
Service from three 2-Bushing single phase Transformers.

ITEM	NO.	MATERIAL
i	6	Screw, laq
p		Connector, as req'd
aq		Jumpers, as req'd
gc		Conduit, 1-1/4", as req'd.
gd		Straps, conduit, as req'd
gh	1	Meter & Meter Base
sd	3	Transformer, current
sm	1	Wire No. 12 insulated
		Service head

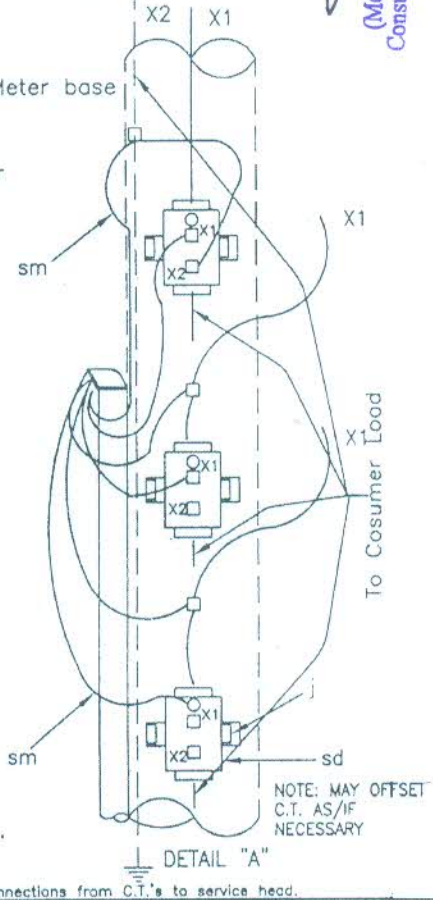


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স্বচ্ছতা বোর্ড সভায় অনুমোদিত সিকার্ড নং ১৭৭০

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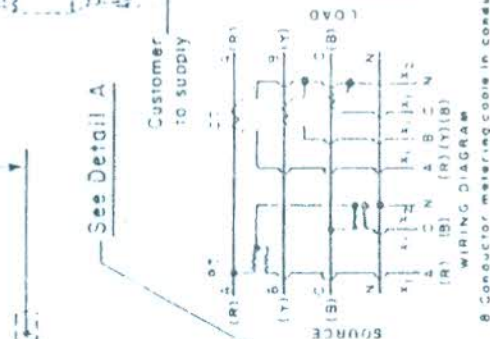
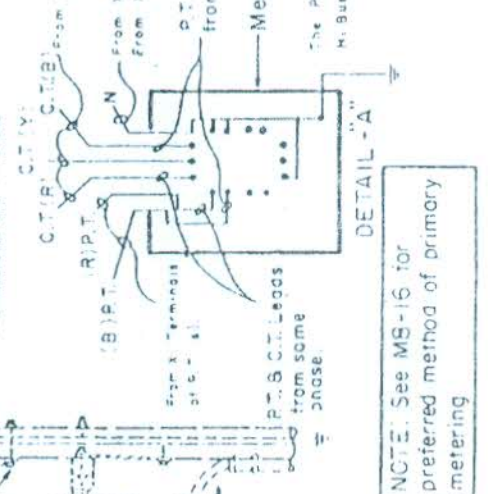
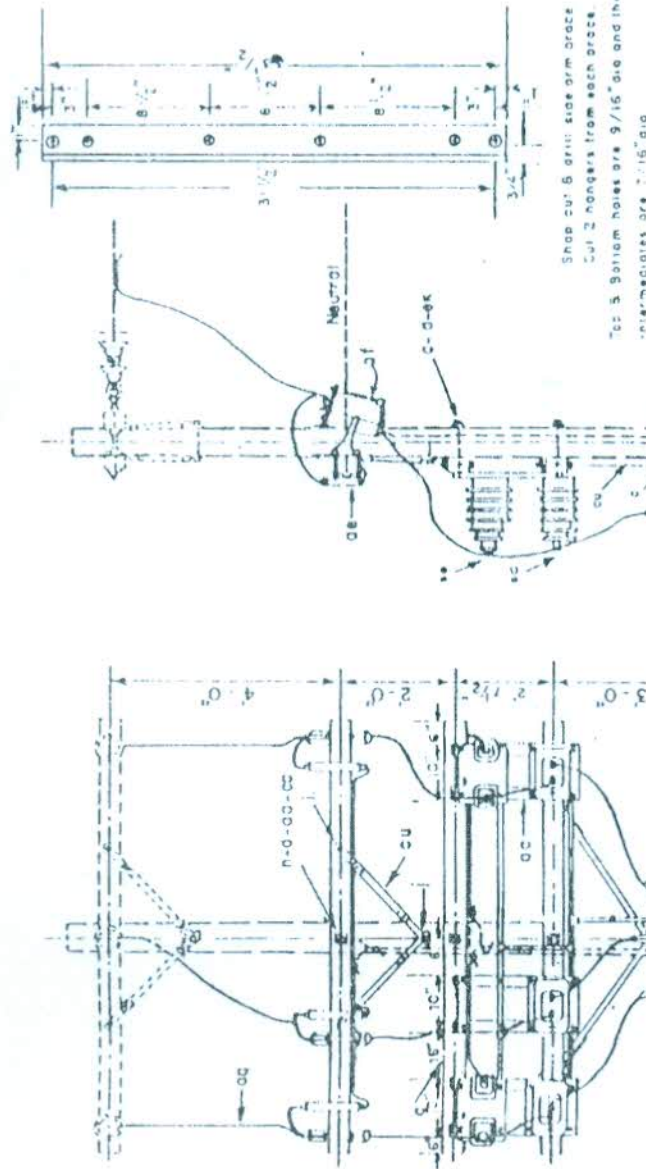
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: **SECONDARY METERING GUIDE 3-PHASE 230/400 4-WIRE GROUNDED WYE**

Date of Origin	Reviewed by	Approved by	Revision no.	Unit Designation
July 1979	BREB	BREB Board	6	M8-12

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

ITEM NO	MATERIAL
c	15 Bolt, machine, 5/8 x reqd length
c	14 Bolt, machine, 1/2 x reqd length
d	122 Washer, 5/8, 2 1/2"
d	14 Washer, 1/2, 3/8 dia
g	3 Crossarm, 3 1/2 x 1/2 x 6-0
g	2 Bolt, carriage 3/8 x 1 1/2"
h	1 Screw, 1/2 x reqd length
n	1 Bolt double arming 5/8 x reqd. ln
p	1 Connectors, as reqd.
qg	1 Nut, eye, 5/8"
qg	1 Jumper, primary, bare, as reqd.
qf	3 C/Lead
cc	1 Leadend assembly, neutral
cu	1 Brace, 2B
cu	1 Brace, 5C, span
gh	1 Meter box, Meter
oe	1 Conduits, as reqd.
sc	3 Transformer, current
se	2 Transformer, potential
sv	1 Leads, as reqd.
qz	1 Lightning Arrester
qz	1 Metering cable as reqd
qc	3 Brace, 5/8 x 6 - "



০০৬৫২ নং নীতিমালা অনুযায়ী ১৯৭৯ সালে প্রণীত

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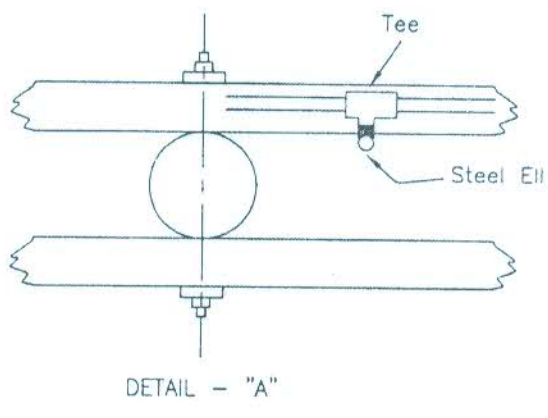
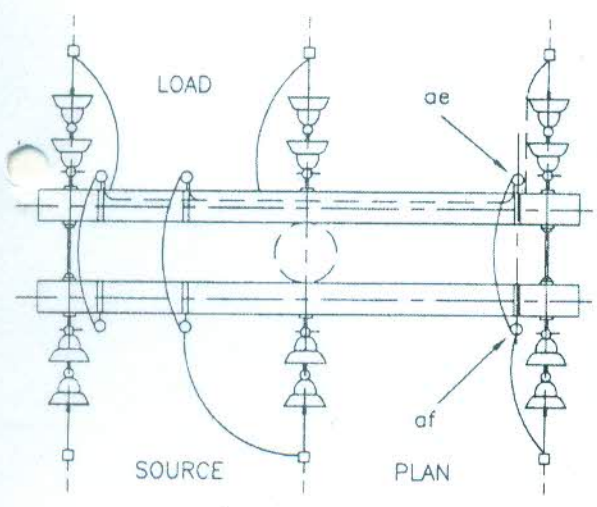
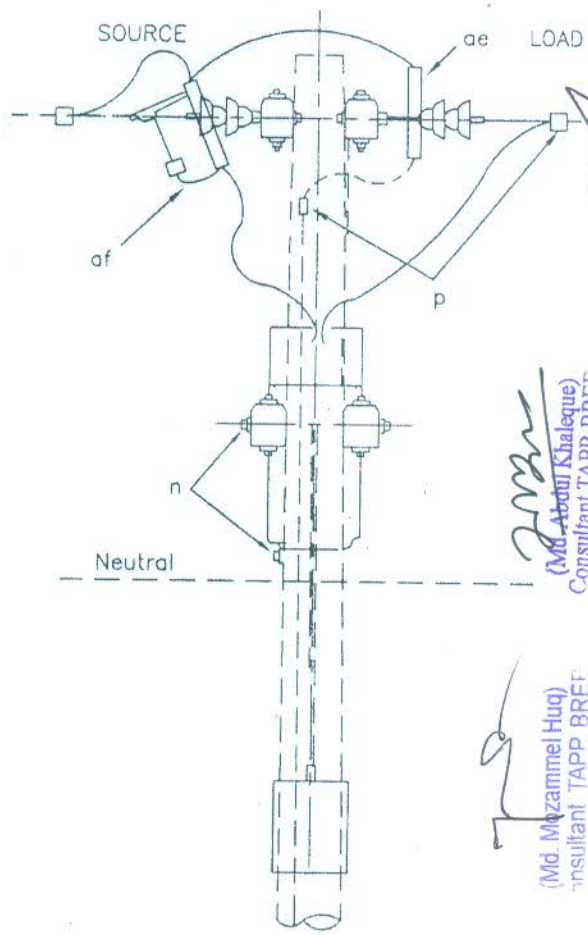
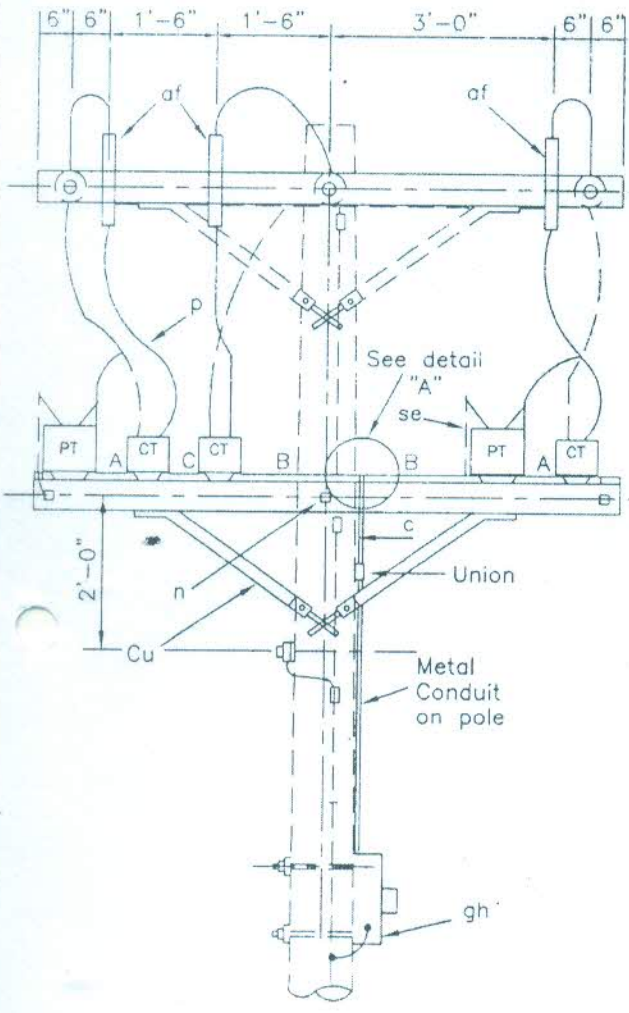
(Md. Muzammel Haq)
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BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV Primary Metering Guide 3-Phase 4-Wire Star

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-15

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



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৬২৯ ডায় বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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Asst. Secy. (Board), BREB.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV PRIMARY METERING 3-PHASE, 4-WIRE STAR

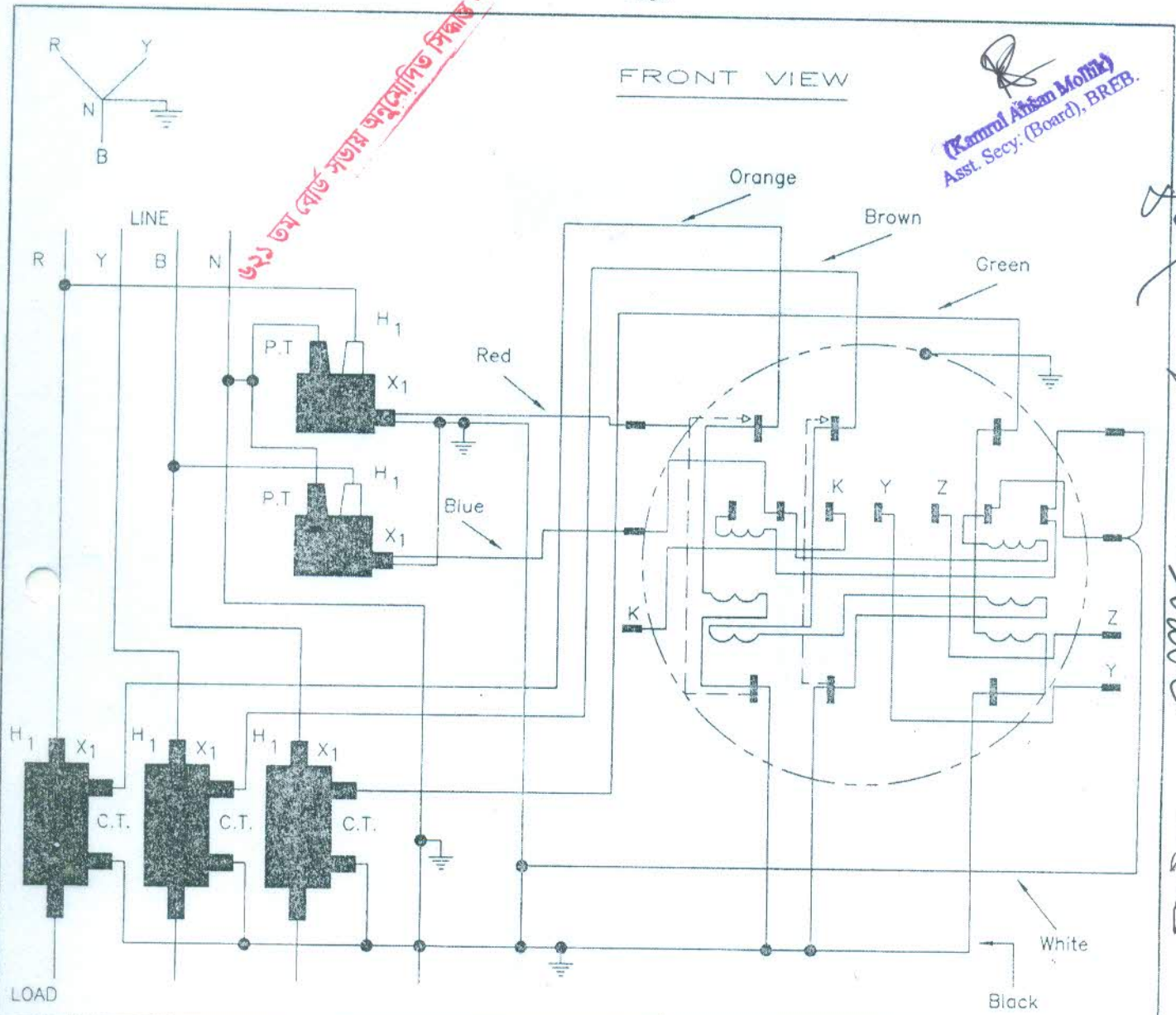
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-16

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

FRONT VIEW

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৬২২ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৯৯০



ITEM	MATERIAL CODE	NO	MATERIAL	ITEM	MATERIAL CODE	NO.	MATERIAL
c	B4	4	Bolt, machine 1/2" x 6"	af	H1.100	3	Cutouts 100 amps. & Mtg. brkt.
d	B48	4	Washers 1-3/8" dia	ae	H2.009	3	Lightning arresters & Mtg. brkt.
d		20	Washers 3/16" under woodscrew	ql	x2	2	10' crossarm
d	B46/118	10	Washer 2-1/4" x 2-1/4"	n	B26-28	4	Bolt, double arming 5/8" x req'd length
sd		6	C.T. Connectors	ek	B50		Locknuts 5/8" as req'd
sd	G13/14	3	C.T.'s ratio as req'd				Jumpers ACSR as req'd
se	G12	2	P.T.'s 6350/240 volts	al	B67		Staples
		20	Wood screws 1-1/4" min.	p	14-6		Connectors
A		2	10" long G.I. pipe 1" dia on arm	Cu	B44	2	28" steel brace-See Note 4
B		2	24" long G.I. pipe 1" dia on arm	ek	B51	4	Locknuts 1/2"
C		2	12" long G.I. pipe 1" dia on arm			1	Conduit as req'd on pole, straps
		1	1" G.I. Tee on arm	Cu	B45	2	60" Brace
		1	1" Street E 11 on arm	ga			Metering cable, std. colour code
		1	1" Union on pole	qh		1	Meter box, meter
af	H1.002	3	Fuse Barret				
af	H6.00	3	Fuse Barret				

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV PRIMARY METERING 3-PHASE, 4-WIRE STAR

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-16 Page 2 of 3

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

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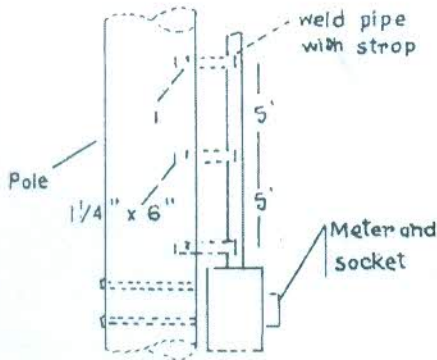
NOTES

- A1 May be used on C1, C7, C8, Which one separate units
- A2 Metering for : 1) Underground top to consumers pad-mounted transformers 2) Platform mounted banks in excess of 500 KVA.
- A3 PBS should furnish stand pipe and have strops welded to pipe of 5' intervals, see below sketch. Extensions must be fitted to C.T and P.T bases
- A4 The MB-16 may also be used for metering primary underground, as depicted on MB-15.

CONSTRUCTION PROCEDURE

* Note : This order of construction is very important in avoiding unnecessary labor

- B1 Mount cutouts and lighting or restors
- B2 Drill holes for 10' crossarms and brace Move neutral away from hole Do not cut neutral conductor
- B3 Gain pole for crossarms
- B4 Place crossarms at base of pole and fit double arming bolt
- B5 Remove junction boxes from CT's and PT's.
- B6 Connect junction boxes per drawing with pipe and fittings
- B7 As viewed from the source side Beginning with rightmost PT, install or fasten junction box to PT silling on crossarms,
- B8 Continue with CT's and other PT, finally connect leftmost CT.
- B9 Adjust CT's and PT's on crossarms.
- B10 Fasten PT's and CT's to crossarms with wood screws and washer on the front crossarm only
- B11 Make secondary connection to PT's and CT's -be sure to remove shunts from CT's
- B12 Raise completed structure by two twin block and tackles into position of pole install crossarm bolt and boxes
- B13 Make primary side connections to PT's and CT's
- B14 Seal covers of PT's and CT's
- B15 Install and faston stand pipe to pole
- B16 Install meter socket and make connections



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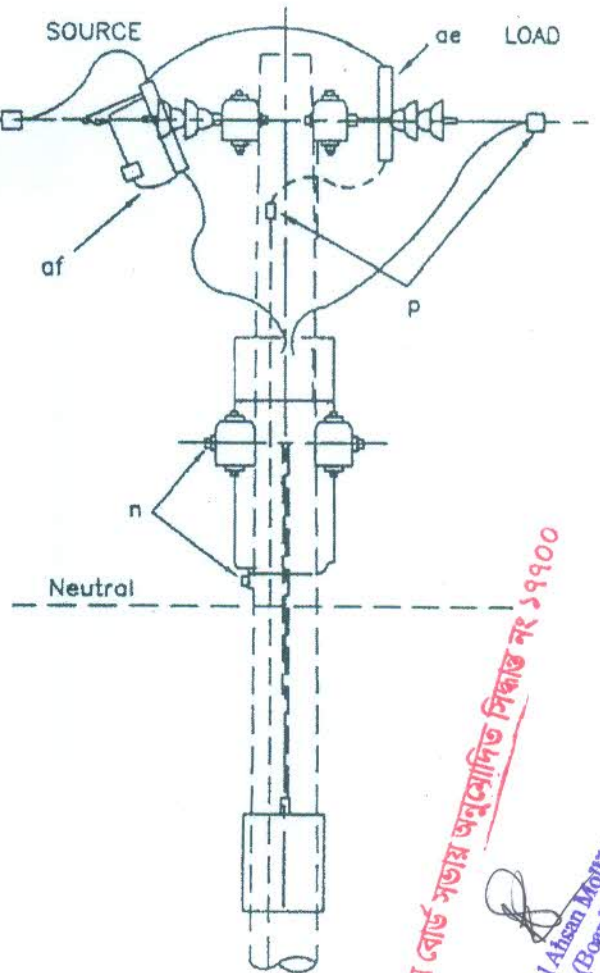
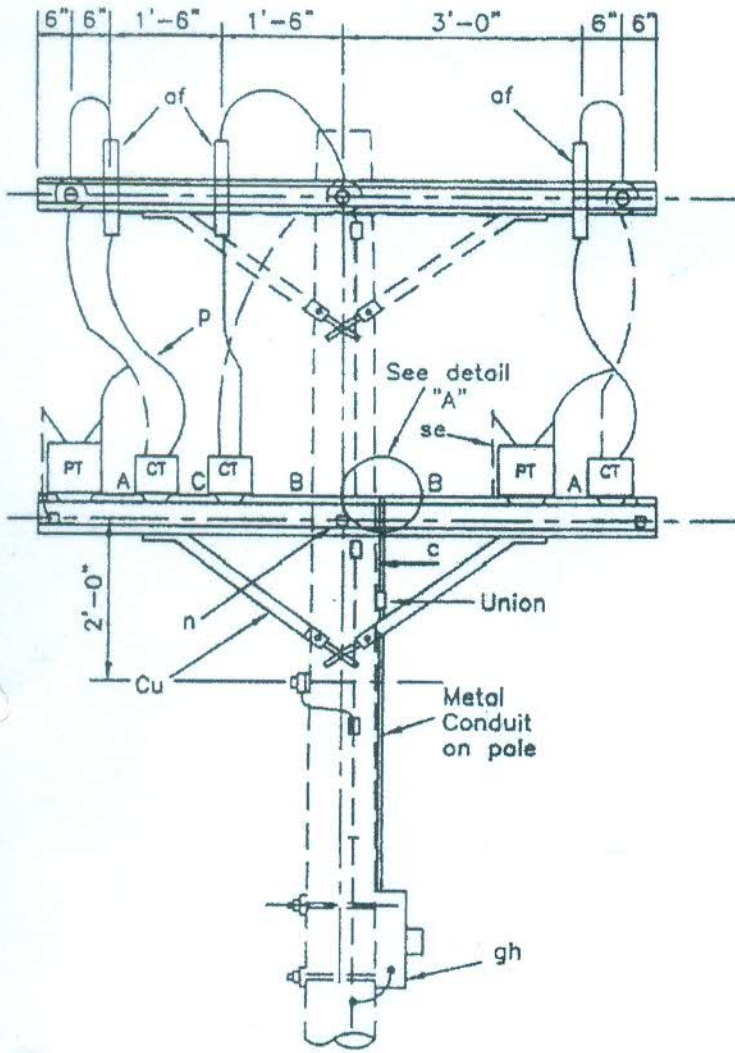
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জাতীয় বোর্ডে সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০
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 Asst. Secy. (Board), RBGB.

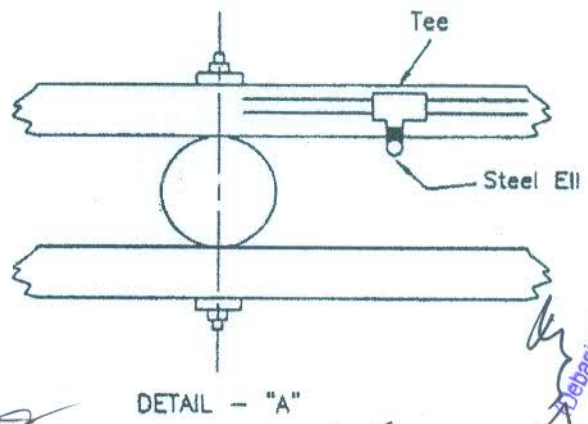
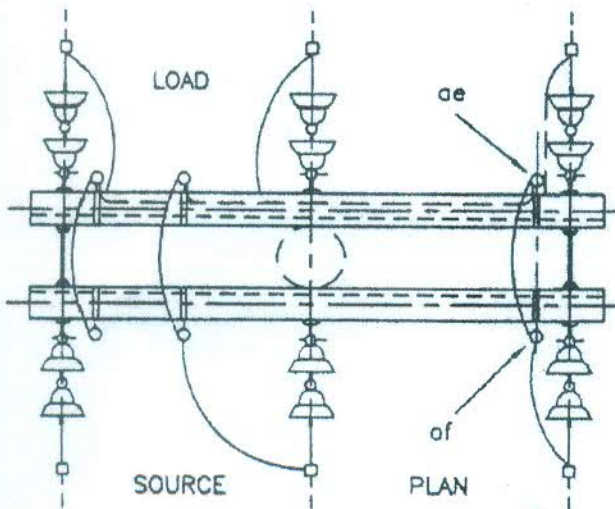
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV PRIMARY METERING 3-PHASE, 4-WIRE STAR

Date of Origin	Reviewed by	Approved by	Revision No	Unit Designation
July 1979	BREB	BREB Board	6	M8-16 Page 3 of 3
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020				



১৯৯০ সালে সত্যায়িত অনুমোদিত সিদ্ধান্ত নং ১৭৭০০
 (Kamrul Ahsan Mollik)
 Asst. Secy. (Board), BREB



(Md. Mozibur Rahman)
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(Md. Duhidul Islam,
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(Md. Mozammel Haq)
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(Md. Abdul Khaleque)
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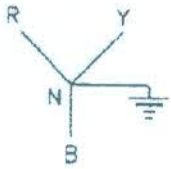
(Md. Ahsanul Haque)
Consultant TAPP BREB

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 PD, TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV PRIMARY METERING 3-PHASE, 4-WIRE STAR

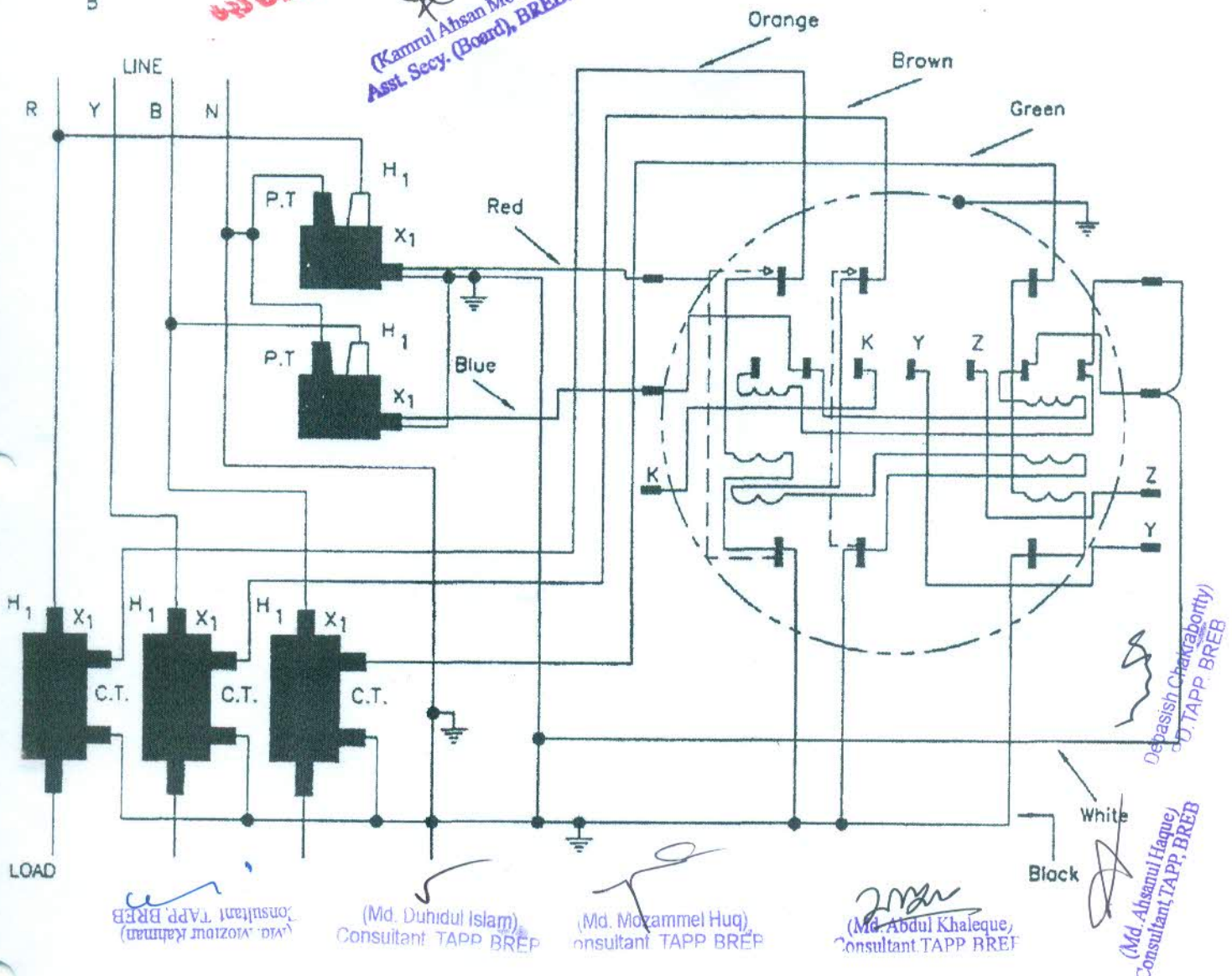
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-16A Sheet No. 1 of 3



৬২১ ভবন বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

FRONT VIEW



ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
d	B 48	4	Washer 1-3/8" dia	af	H1.100	3	Cutouts 100 amps. & Mtg. brkt.
d		20	Washer 3/16" under screw	ae	H2.009	3	Lightning arresters & Mtg. brkt.
d	B 46/118	10	Washer 2-1/4" x 2-1/4"	g	X-7	2	Crossarm, channel, steel, 4" x 2" x 2" x 1/2" x 8'-0"
sd	I 42	6	C.T. Connectors	n	B 26-28	3	Bolt, double ariming 5/8" x req'd length
sd	G 13/14	3	C.T.'s ratio as req'd	ek	B50	19	Locknuts 5/8" as req'd
se	G 12	2	P.T.'s 6350/240 volts	-	-	-	Jumpers ACSR as req'd
-	-	20	Screws 1-1/4" min.	al	B67		Staples, for wooden poles.
A	-	2	10" long G.I. pipe 1" dia on arm	p	14-6		Connectors
B	-	2	24" long G.I. pipe 1" dia on arm	cu	B 42	2	28" steel brace - See Note 4
C	-	2	12" long G.I. pipe 1" dia on arm	-	-	1	Conduit as req'd on pole, straps
-	-	1	1" G.I. Tee on arm	ga	-		Metering cable, std. colour code
-	-	1	1" Street E 11 on arm	gh	-	1	Meter box, meter
-	-	1	1" Union on pole	c	B 6/7/8	5	Bolt, Machine, 5/8" φ
af	H1.002	3	Fuse Barrel				
af	H16.00	3	Fuse link				

BANGLADESH RURAL ELECTRIFICATION BOARD

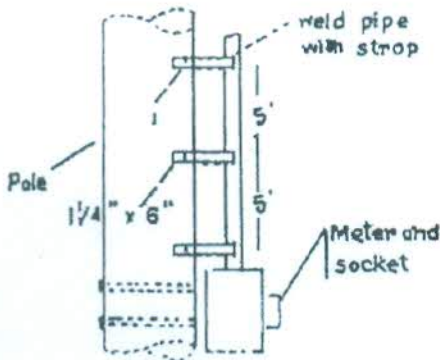
Unit Description: 6.35/11 KV PRIMARY METERING GUIDE THREE PHASE 4-WIRE STAR IN-LINE & X-FORMER BANK

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-16A Sheet No. 2 of 3

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

NOTES

- A1 May be used on C1, C7, C8. Which one separate units
- A2 Metering for : 1) Underground top to consumers pad-mounted transformers 2) Platform mounted banks in excess of 500 KVA.
- A3 PBS should furnish stand pipe and have strops welded to pipe of 5' intervals, see below sketch. Extensions must be fitted to C.T and P.T bases
- A4 The M8-16 may also be used for metering primary underground, as depicted on M8-15.



CONSTRUCTION PROCEDURE

Note : This order of construction is very important in avoiding unnecessary labor

- B1 Mount cutouts and lighting or arrestors
- B2 Drill holes for 8" crossarms and brace Move neutral away from hole Do not cut neutral conductor
- B3 Gain pole for crossarms
- B4 Place crossarms at base of pole and fit double arming bolt
- B5 Remove junction boxes from CT's and PT's.
- B6 Connect junction boxes per drawing with pipe and fittings
- B7 As viewed from the source side Beginning with rightmost PT, install or fasten junction box to PT silling on crossarms,
- B8 Continue with CT's and other PT, finally connect leftmost CT.
- B9 Adjust CT's and PT's on crossarms.
- B10 Fasten PT's and CT's to crossarms with screws and washer on the front crossarm only
- B11 Make secondary connection to PT's and CT's Be sure to remove shunts from CT's
- B12 Raise completed structure by two twin block and tackles into position of pole install crossarm bolt and boxes
- B13 Make primary side connections to PT's and CT's
- B14 Seal covers of PT's and CT's
- B15 Install and fasten stand pipe to pole
- B16 Install meter socket and make connections

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১৯৯৬ চন থেকে সত্যিকার অর্থনৈতিক পন্থায় নং ১৯৯০

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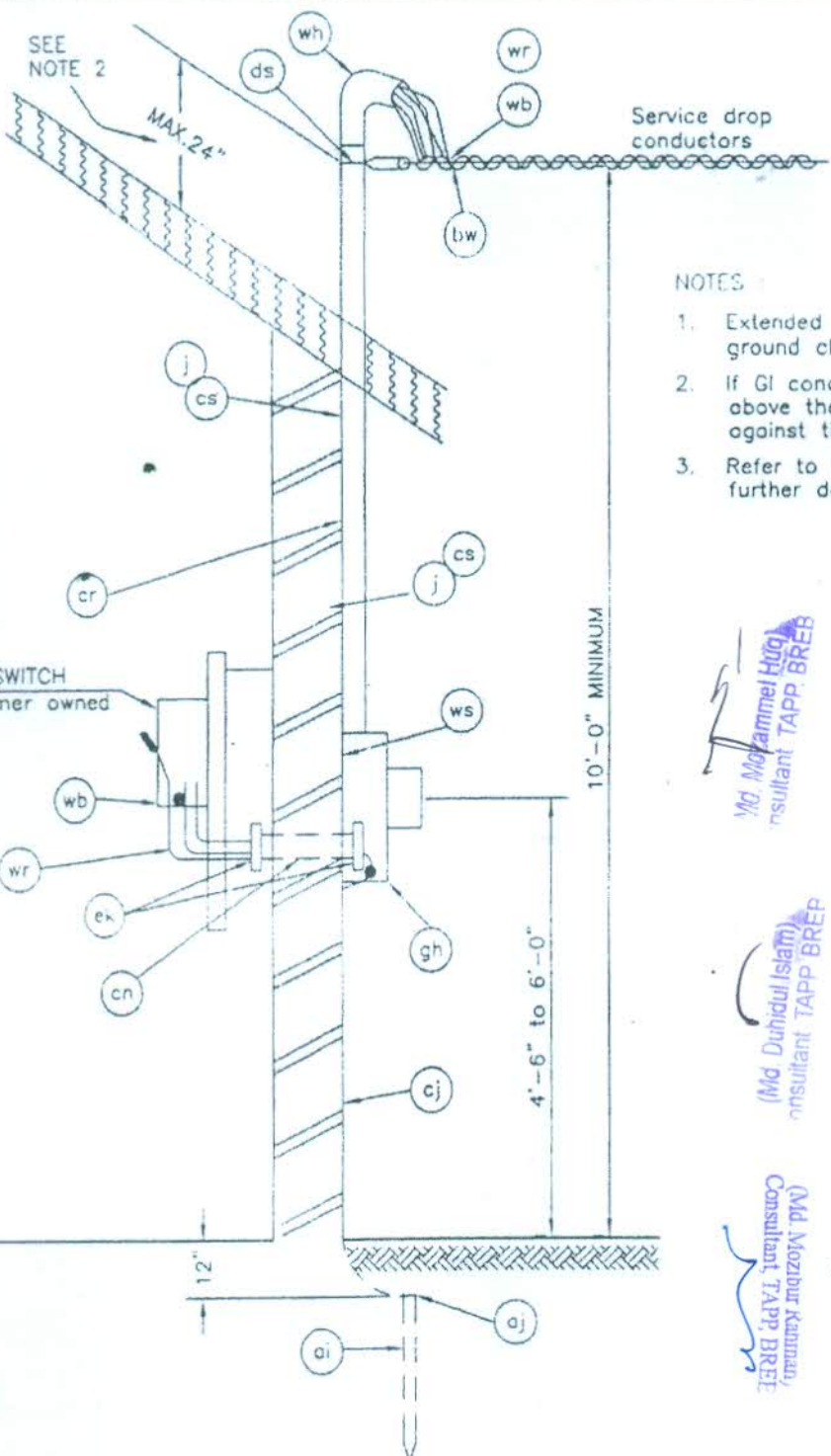
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BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV PRIMARY METERING INSTRUCTION NOTES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M8-16A Sheet No. 3 of 3

Revision Date: July 1980. June 1981. August 1989. July 1995. August 2013. February 2020



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- NOTES:
1. Extended GI conduit to obtain required ground clearance.
 2. If GI conduit is extended over 2'-0" above the roof it must be securely guyed against the strain.
 3. Refer to PBS instruction 300-19 if further details are required.

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১৯৯৯ চম বোর্ড সভায় অনুমোদিত নিকাশ নং ১৯৯০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

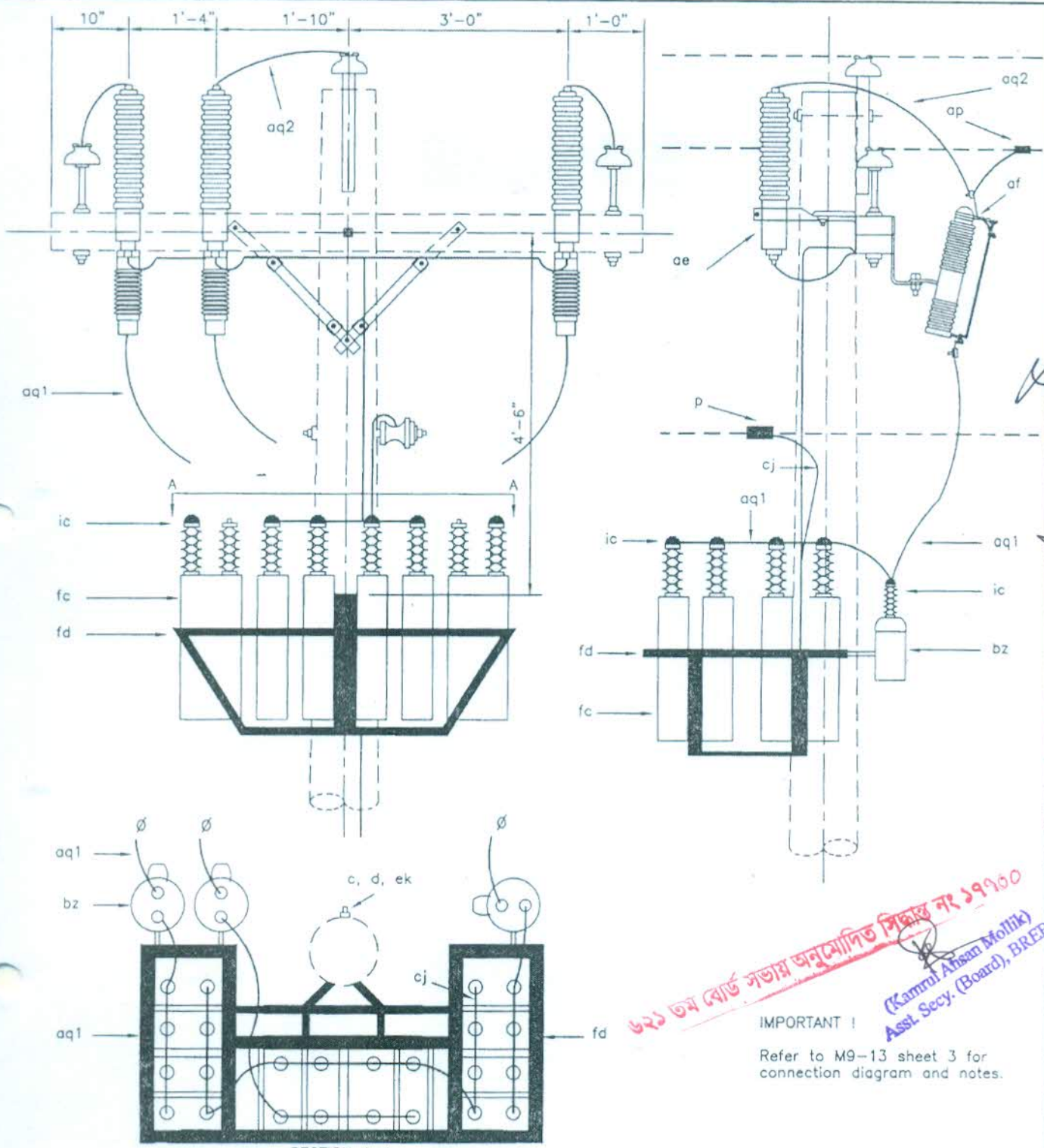
ITEM	MAT. CODE	NO	MATERIAL	ITEM	MAT. CODE	NO	MATERIAL
	B40	4	Log screw, 3/8" x 3"	ds		1	Clevis, conduit type, insulated
ai	B65	1	Rod, ground, 5/8"x6'0" min.	ek		2	Locknut, 2"
aj	B80	1	Clamp, ground rod (if required)	gh	J2/3	1	Meter, 100 amp
bw	E1B	1	Service conductor deadend	wb		-	Conductor, black, 19/0.064
cj	N1	3	Ground wire, galvanized iron meter	wh		1	Weatherhead
cn		1	Conduit nipple, 2" (4" to 12" long)	wr		-	Conductor, red, 19/0.064
cr		-	Conduit, GI, rigid, 2"xreq'd length	ws		6	Wood screw, No. 9
cs		2	Conduit straps				

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 3-Phase, 4-Wire Grounded Wye Meter Loop 230/400V Class 100 Meter

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M9

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



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(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

IMPORTANT !
Refer to M9-13 sheet 3 for connection diagram and notes.

ITEM	MATERIAL CODE	NO.	MATERIAL	ITEM	MATERIAL CODE	NO.	MATERIAL
c	B13/14/15/16/17	2	Bolt, machine, 3/4" x req'd length	fc	K-10	-	Capacitors (see note 9)
d	B46	2	Washer, square, 2-1/4", 13/16" hole	fd	B90	1	Bracket, mounting (see note 8)
ek	B50	2	Locknuts, 3/4"	bz		3	Oil switches (see note 1)
p	1 1/2/3/4	-	Connectors	aq1	D6	-	Jumper, primary, insulated
ae	H2	3	Surge Arrester	aq2		-	Jumper, primary, Bare
af	H1	3	Cutout (see note)	cj		-	Ground wire, No. 6 copper
ap		3	Hot line clamp and stirrup	ic		-	Insulating caps, as required

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 3-PHASE CAPACITOR INSTALLATION NON-AUTOMATIC SWITCHING, CLUSTER TYPE MOUNTING BRACKET

Date of Origin	Reviewed by	Approved by	Revision No	Unit Designation
July 1979	BREB	BREB Board	6	M9-13 Page 1 of 3

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

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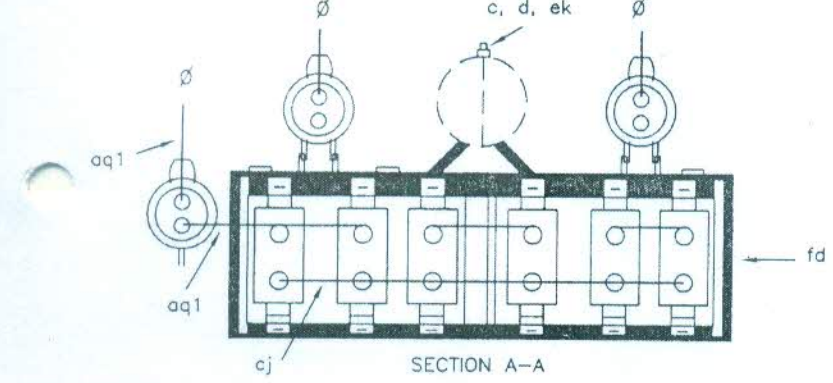
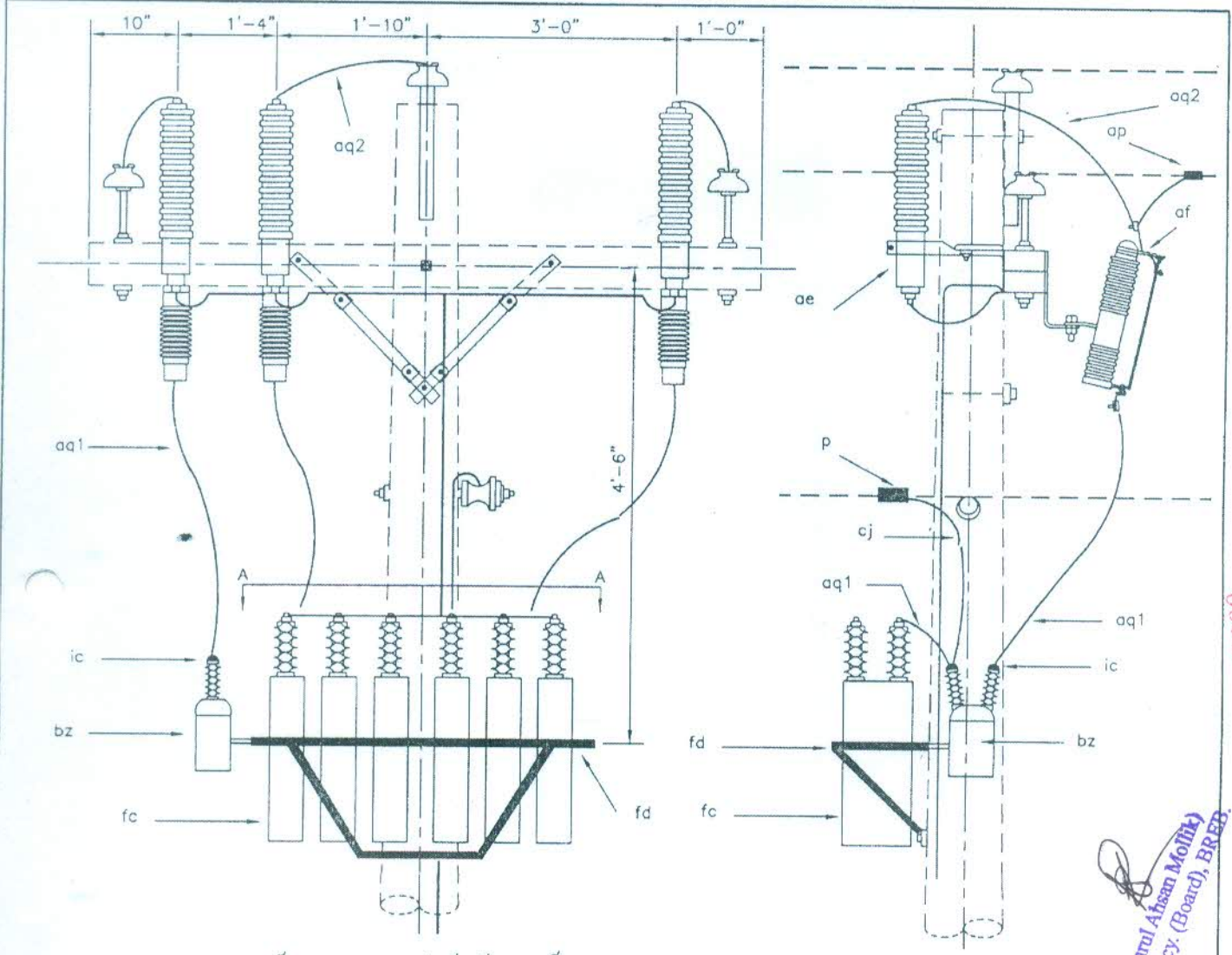
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100



IMPORTANT !
Refer to M9-13 sheet 3 for connection diagram and notes.

KVAR (per phase)	"T" FUSE	
	MAX.	MIN
50	15	12
100	25	20
150	40	30
200	50	40

ITEM	MATERIAL CODE	NO.	MATERIAL	ITEM	MATERIAL CODE	NO.	MATERIAL
c	B13/14/15/16/17	2	Bolt, machine, 3/4" x req'd length	fc	K-10	-	Capacitors (see note 9)
d	B46	2	Washer, square, 2-1/4", 13/16" hole	fd	B90	1	Bracket, mounting (see note 8)
ek	B50	2	Locknuts, 3/4"	bz		3	Oil switches (see note)
p	11/2/3/4	-	Connectors	aa1	D6	-	Jumper, primary, insulated
ae	H2	3	Surge Arrester	aa2		-	Jumper, primary, Bare
af	H1	3	Cutout (see note)	cj		-	Ground wire, No. 6 copper
ap		3	Hot line clamp and stirrup	ic		-	Insulating caps, as required

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১৯৮১ সালের ১১ই আগস্ট তারিখের নং ১৯৯০

BANGLADESH RURAL ELECTRIFICATION BOARD

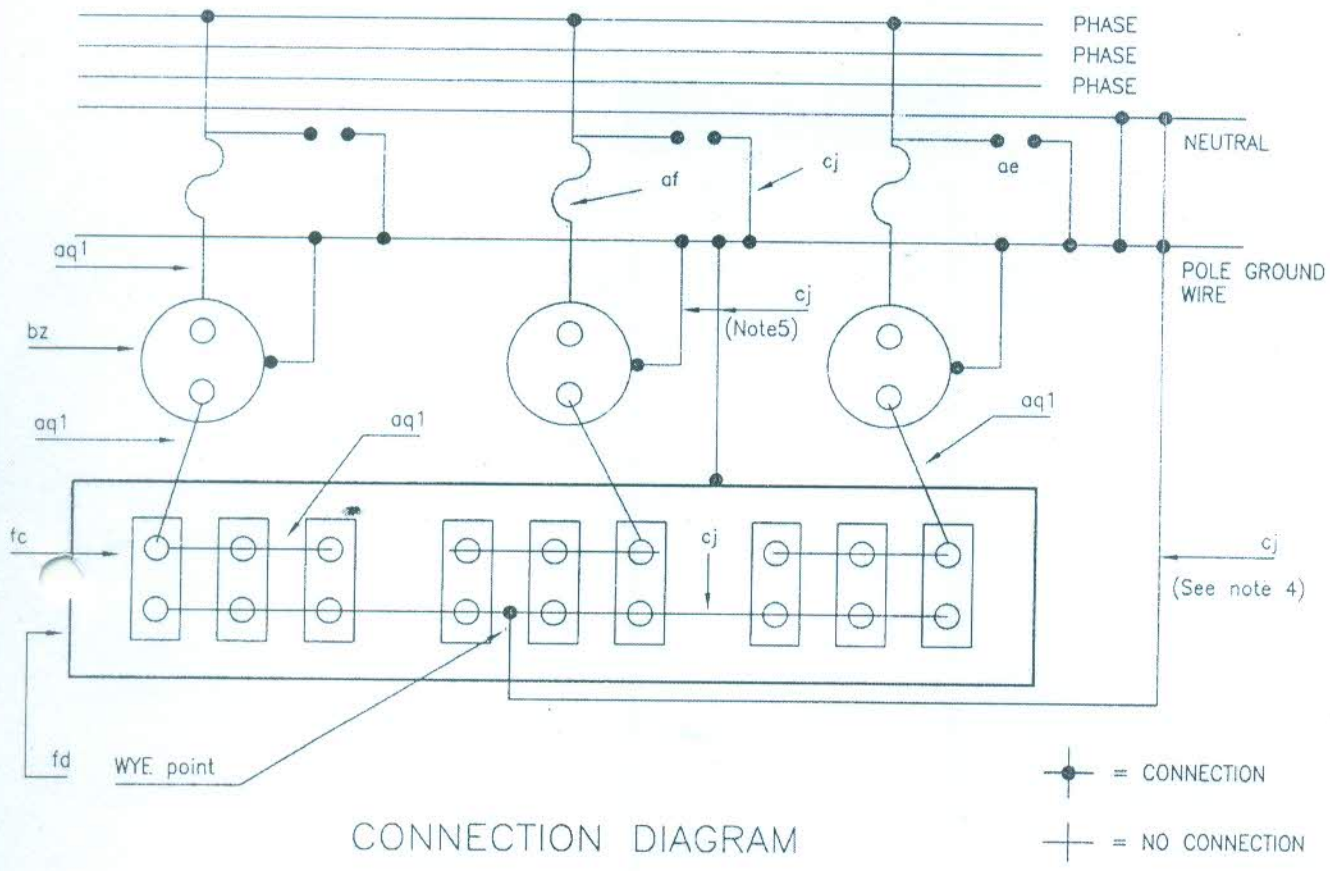
Unit Description: 3-PHASE CAPACITOR INSTALLATION NON-AUTOMATIC SWITCHING, IN-LINE TYPE MOUNTING BRACKET

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M9-13 Page 2 of 3

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

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CONNECTION DIAGRAM

- NOTES :
- Oil switches or load break cutouts are required to break capacitor load current. Conventional cutouts may be installed with oil switches. If oil switches are not available, load break (link break) cutouts must be installed.
 - Install insulating caps on oil switch and capacitor phase bushings. Insulated conductor to be used from the load side of the cutout to the oil switch, from the oil switch to capacitors and between same phase capacitor units.
 - A driven ground rod (M2-1) is required with this installation.
 - Install a separate continuous conductor, No. 6 bare copper, from the WYE point of the capacitor bank to the system neutral. Staple this conductor to the pole and also connect to the pole ground.
 - Ground the capacitor bracket and oil switches by connecting to the pole ground.
 - Install cutouts and surge arresters back-to-back using the two "L" shaped brackets from the crossarm mounting hardware.
 - Install arrester high and cutout low. See Guide Drawing M31.
 - Drawings depict two bushing capacitors, as per the Connection Diagram, remain the same.
 - Drawings depict cluster and in-line type capacitor brackets. Different brackets accommodate six, nine or twelve individual capacitor units. Minor variations in bracket style can be expected. All connections, as per the Connection Diagram, remain the same.
 - Specify number of capacitors and KVAR required per phase. Install equal amount of KVAR per phase. Add individual capacitor KVAR to get total KVAR installed.
 - Rotate oil switch head to position switch handle.
 - Install centre phase cutout on opposite side of pole from neutral conductor.
 - CAUTION : Capacitors retain a high voltage charge for a minimum of five minutes after de-energization. When planning work on or around capacitors, de-energize, wait five minutes, then ground the capacitor phase bushings. Remove this ground before re-energization.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 3-PHASE CAPACITOR INSTALLATION NON-AUTOMATIC SWITCHING CONNECTION DIAGRAM AND NOTES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M9-13 Page 3 of 3

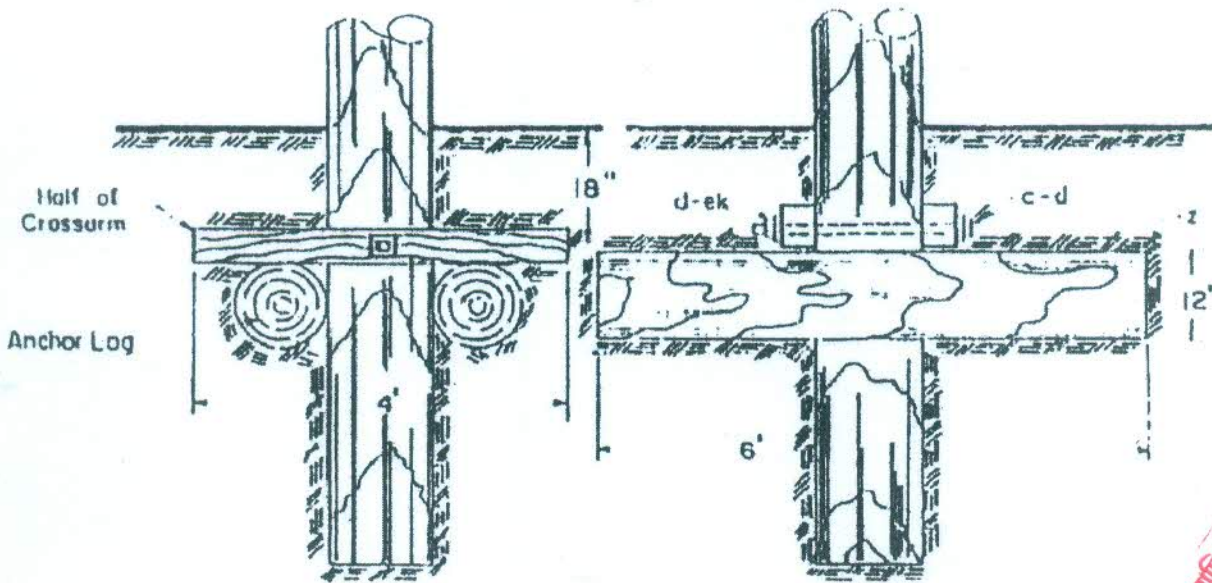
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

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৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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TO SUPPORT OR BRACE POLES IN FLOOD AREAS, TIDAL PLAINS, SWAMPS AND OTHER UNSTABLE SOILS

৬৯৯ ভা. বোর্ড সভার অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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(Debasis Chakraborty)
OD, TAPP BREB

Notes:-

1. To Supports poles in class 7 or class 8 soil condition.
(prove value or 200 inch-pounds or less as per soil test probe result)
2. Install the bog shoe logs in parallel with the line conductors.
3. Install the bog shoe logs to bear against undistrubed earth.
4. The backfill of the bog shoe logs must be tamped as thoroughly as possible.

ITEM	MAT. CODE	Qty.	MATERIAL	ITEM	MAT. CODE	Qty.	MATERIAL
c	B 9/10	1	Bolt, Machine, 5/8" x req'd length	z	Z 2	2	Anchor, creosoted log, 12" x 6'-0"
d	B 110	2	Washer square, 2 1/4"	ek	B 50	1	Locknut
g	XS-3	2	Crossarm, wooden 3 1/2" x 4 1/2" x 8'-0"				

BANGLADESH RURAL ELECTRIFICATION BOARD

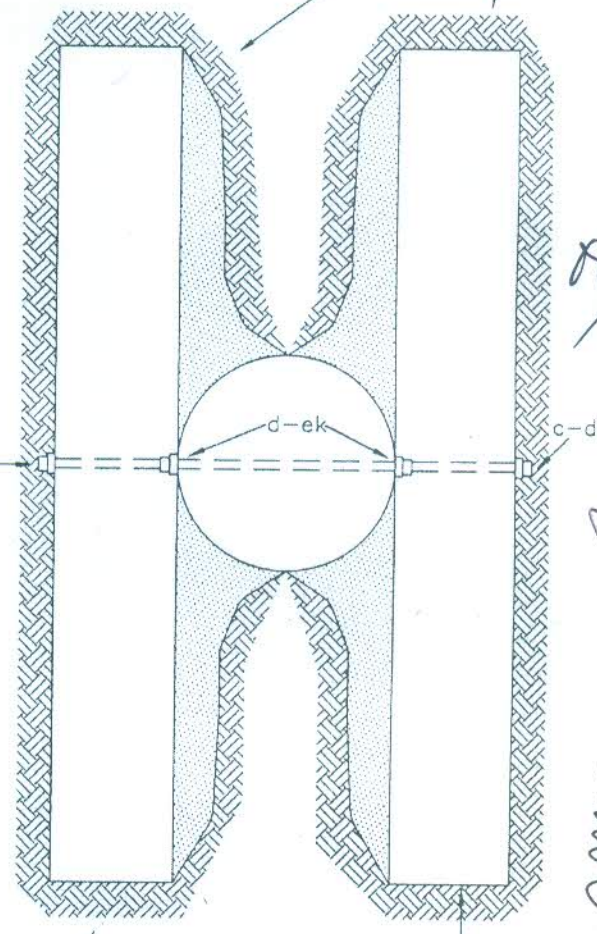
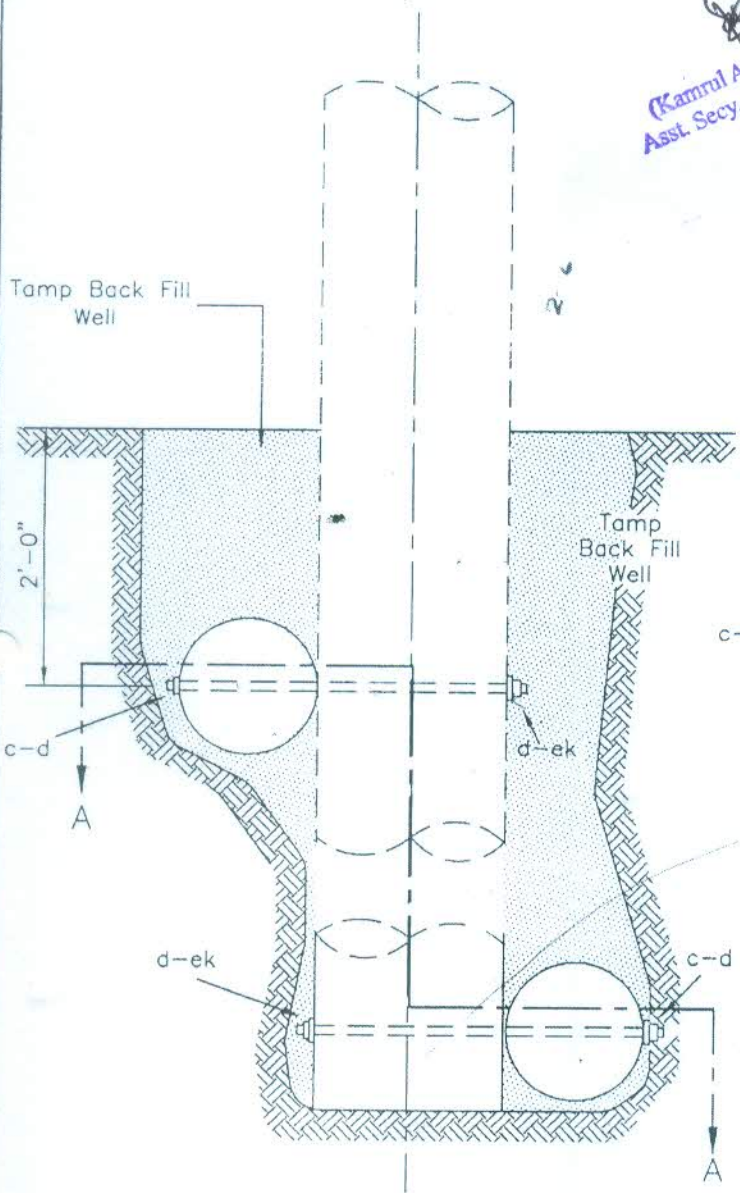
Unit Description: **POLE BOG SHOE**

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M17

DIRECTION OF STRAIN

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

Only treated logs should be used



SECTION A-A

Minimum log dimensions

	Length	Diameter
Top log	3'-6"	8"
Bottom log	3'-6"	8"

* Bottom log is excluded in M 18-1 assembly

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

Logs are to be fastened to predrilled holes in the pole.

ITEM	MATERIAL	MAT CODE	M 18	M 18-1
c	Bolt, machine, 5/8" x required length	B6/7/8	2	1
d	Washer, square, 2-1/4"	B46	4	2
ek	Locknuts, as required	B50	2	1
z	Log treated (Item # Z-1) (Same log as used for F2-1 Unit)		2	1

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: POLE STABILIZER LOGS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M18, M18-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

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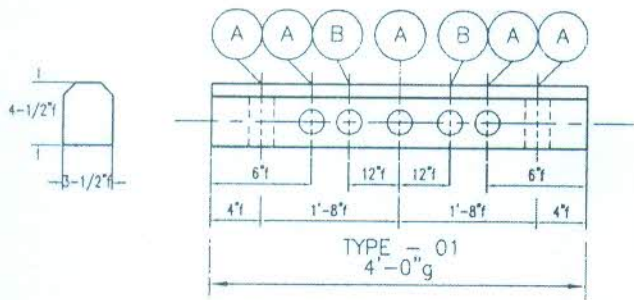
(Md. Ahsanul Haque)
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(Md. Abdul Khaleque)
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(Md. Mizammel Huq)
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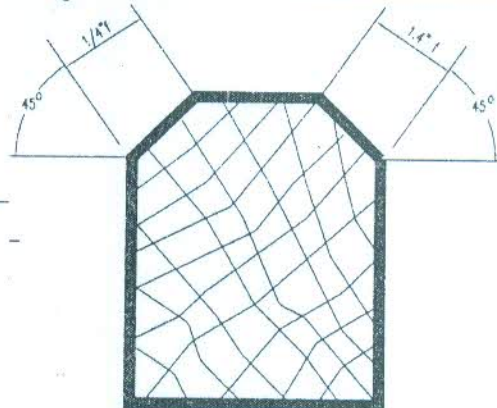
(Md. Dujidul Islam)
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(Md. Mozibur Rahman)
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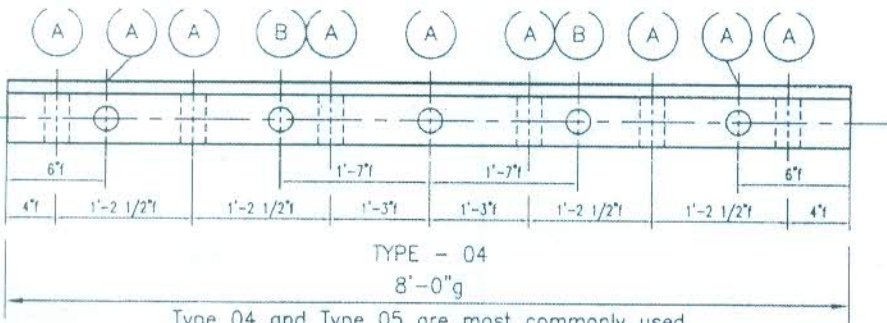
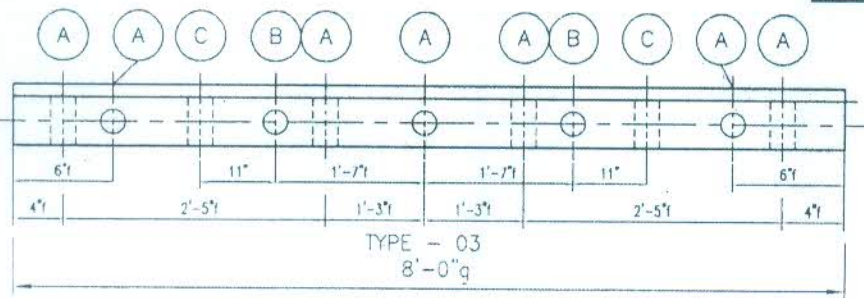
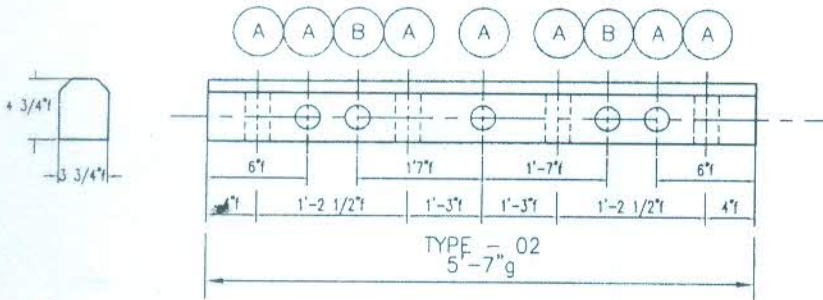


TOLERANCES
SIZE OF HOLES

NOMINAL	GO	NO GO	
(A)	11/16"	5/8"	3/4"
(B)	7/16"	3/8"	1/2"
(C)	9/16"	1/2"	5/8"

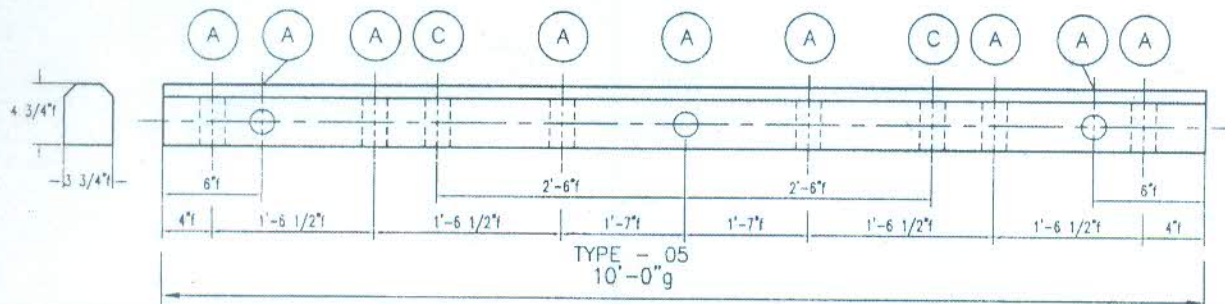


TYPICAL ENLARGED SECTION



f 1/8" ±
g 1/4" ±

Type 04 and Type 05 are most commonly used for REB construction



BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: **WOODEN CROSSARM DRILLING GUIDE**

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB BOARD	6	M19

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

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Asst. Secy. (Board), BREB.

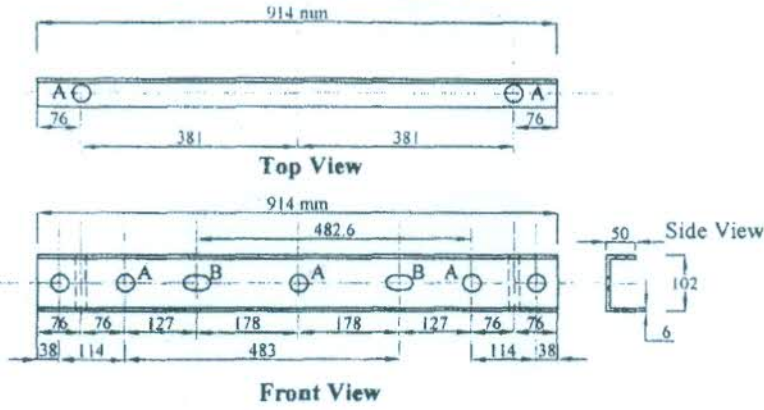
৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Debasish Chakraborty)
D.D. TAPP BREB

914 x 102 x 50 x 50 x 6 mm Steel Channel
(3'-0" x 4" x 2" x 2" x 1/4" Steel Channel)

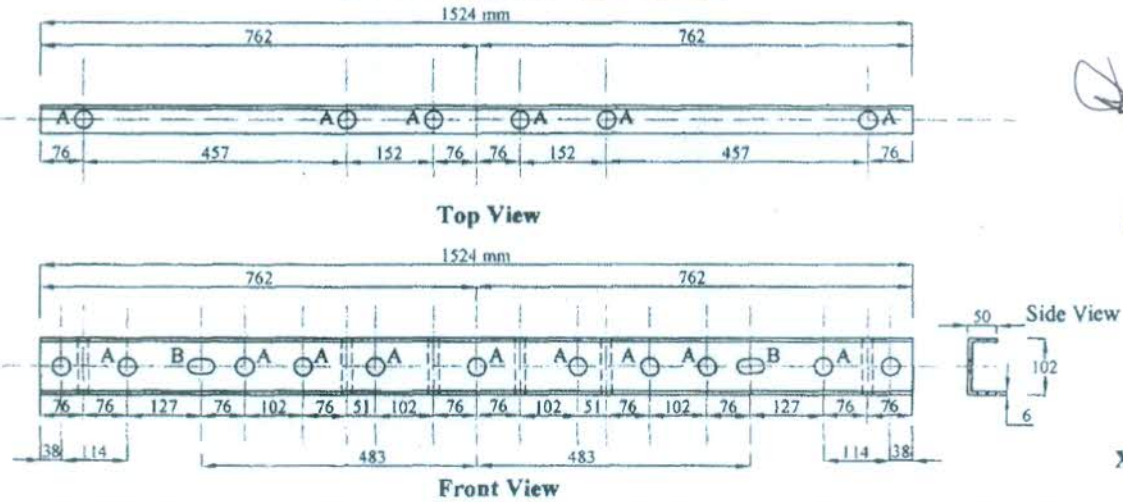
(Md. Akhannul Haque)
Consultant, TAPP, BREB

(Debasish Chakraborty)
PD, TAPP, BREB



X-5

1524 x 102 x 50 x 50 x 6 mm Steel Channel
(5'-0" x 4" x 2" x 2" x 1/4" Steel Channel)



X-6

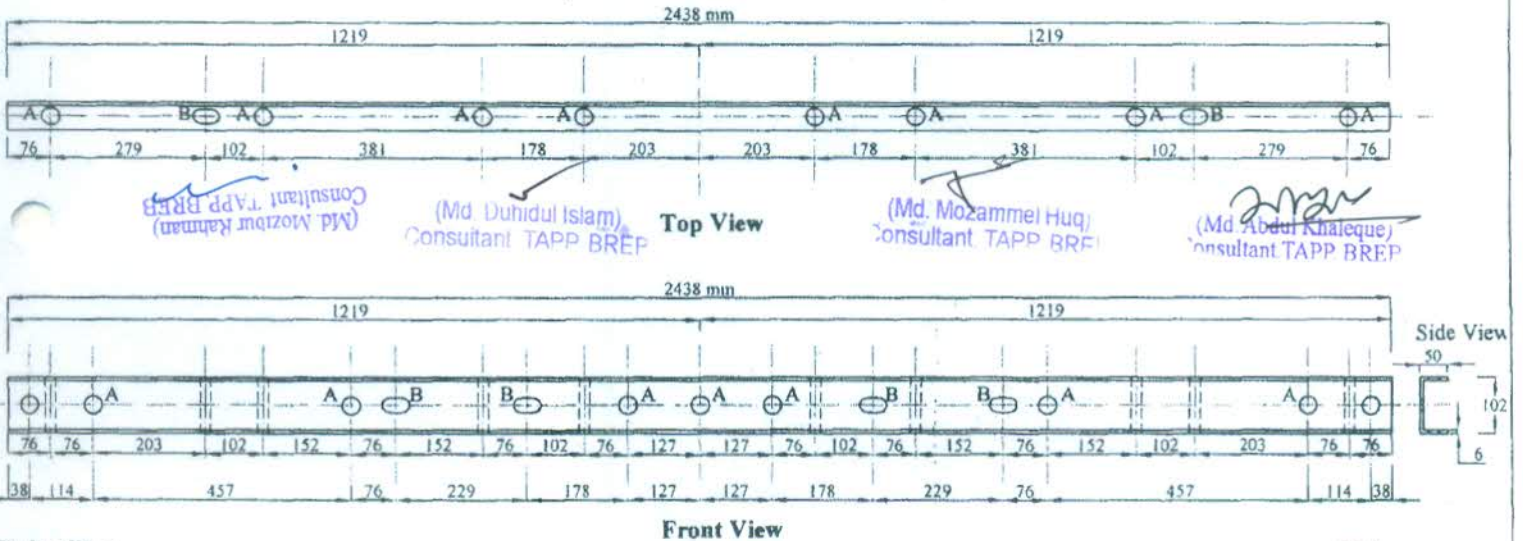
2438 x 102 x 50 x 50 x 6 mm Steel Channel
(8'-0" x 4" x 2" x 2" x 1/4" Steel Channel)

(Md. Mozibur Rahman) Consultant TAPP BREB

(Md. Duhidul Islam) Consultant TAPP BREB

(Md. Mozammel Haq) Consultant TAPP BREB

(Md. Abdul Khaieque) Consultant TAPP BREB



X-7

Holes Size:-

- A :- 18 mm ϕ (Circular).
- :- 40 mm x 18 mm ϕ (Elliptical).

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

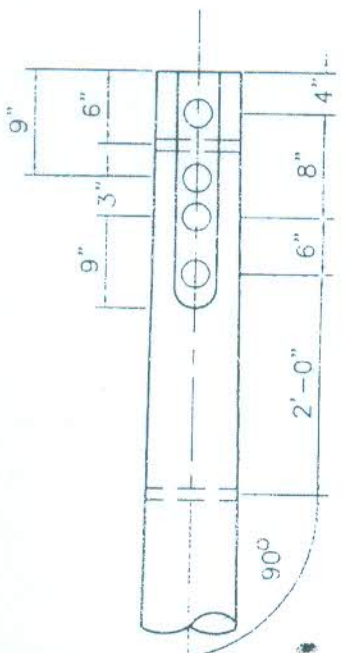
Note:-

No. of Holes & Locations As shown above.
All Dimensions are in Millimeter(mm).

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: **STEEL CROSSARM DRILLING GUIDE**

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M19A



Through-bolt holes must be parallel and in the same plane.

HOLES : Drill 11/16" diameter.

GAINS : Gains are to be flat with plane at right angles to bolt hole.

Neutral bolt hole must be at 90° angle with through-bolt holes.

All poles treated full-length must be bored, roofed and gained before treatment.

Roofs : flat

* Bottom of brand shall be :
 10' ± 1" from pole butt; 14' ± 1" mark for pole 55' and longer.

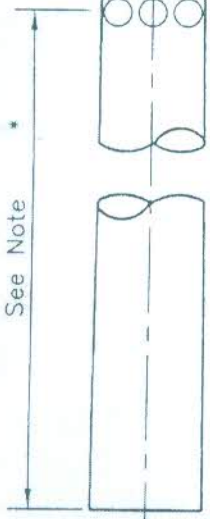
±

Manufacturer's Mark and date of Treatment, (month and Year).

Brand with proper length and class.

Brand with species, preservative code and retention.

See Note



Brand butt with proper length and class and charge No.

(Kamrul Ahsan Mollah)
 Asst. Secy. (Board), BREB.

(Md. Mozibur Rahman)
 Consultant TAPP, BREB.

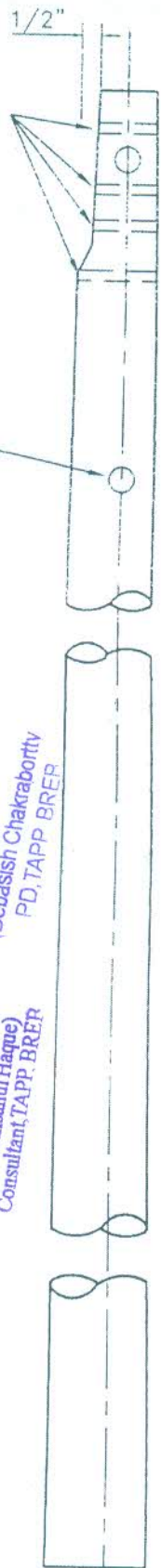
(Md. Duhidul Islam)
 Consultant TAPP, BREB.

(Md. Mozammel Huj)
 Consultant TAPP, BREB.

(Md. Abdul Khaleque)
 Consultant TAPP, BREB.

(Debasish Chakraborty)
 PD, TAPP, BREB.

(Md. Ahsanul Haque)
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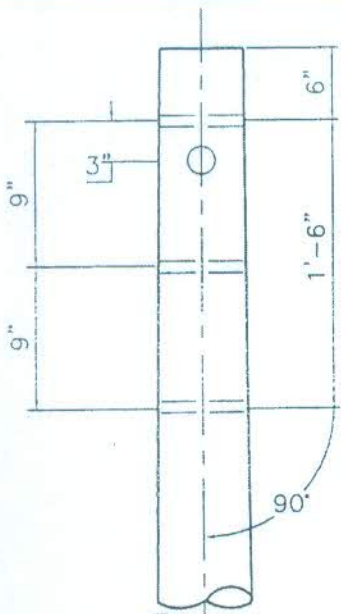
৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV POLE FRAMING GUIDE (30' AND LONGER)

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M20

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



Through-bolt holes must be parallel and in the same plane.

This hole shall be at 90° angle with other holes.

HOLES : Drill 11/16" diameter. angles to bolt hole.

(Kamrul Ahsan Mollick)
Asst. Secy. (Board), BREB.

All poles treated full-length must be bored, roofed and gained before treatment.

Roofs : flat

* Bottom of brand shall be 10' ± from pole butt.

Manufacturer's Mark and date of Treatment, (month and Year).

Brand with proper length and class.

Brand with species, preservative code and retention.

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭৩০

See Note

TOLERANCE :

Holes

On the gain ±1/8" from the centre lines of the holes

Location-measure from roof
Gain side ±1/4"
Opposite side ±1/2"
Diameter ±1/16"

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



Brand butt with proper length and class and charge No.

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TAPP BREB

(Md. Abdul Khaleque)
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(Md. Ahsanul Haque)
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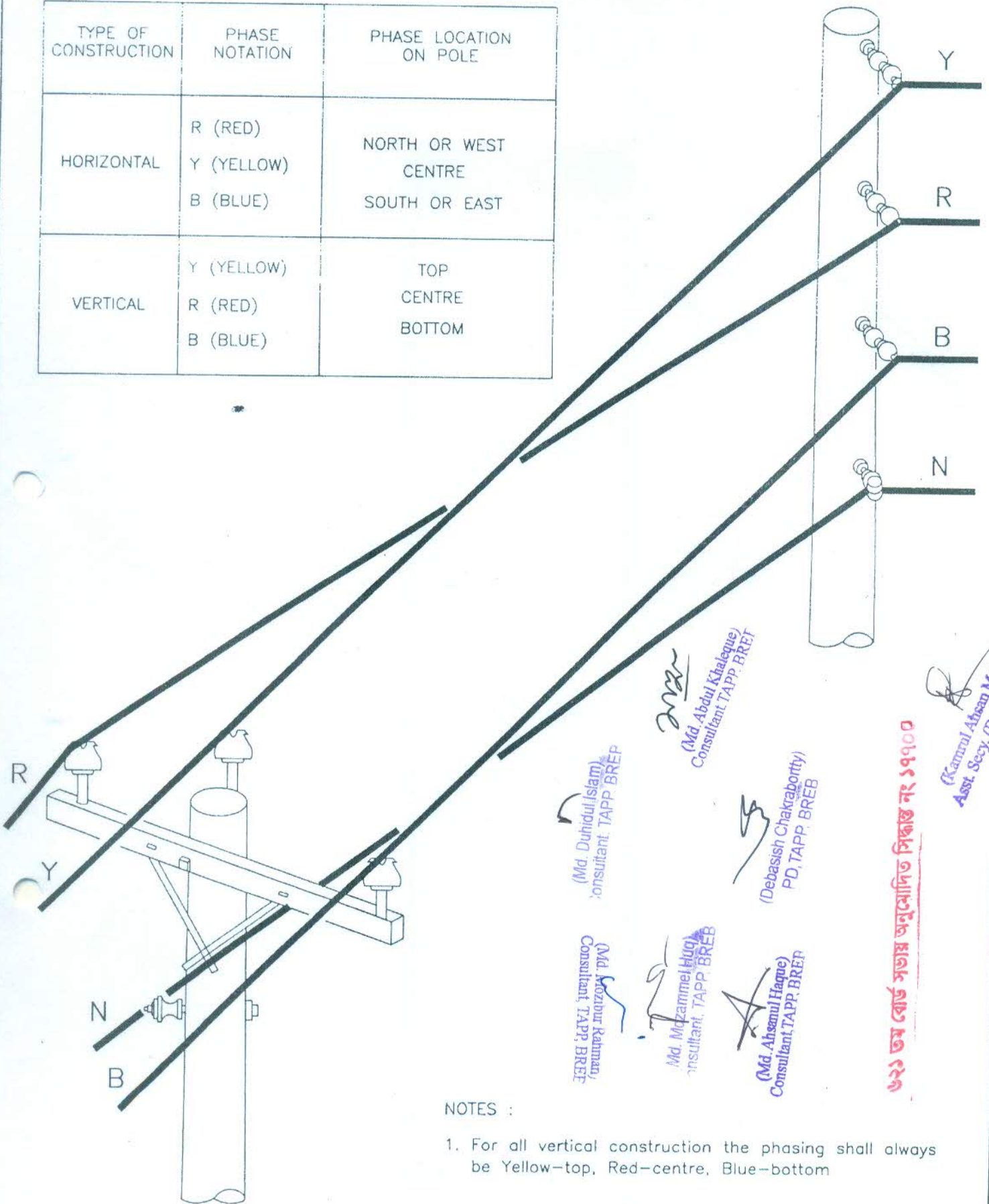
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV POLE FRAMING GUIDE (25' AND LONGER)

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M20-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

TYPE OF CONSTRUCTION	PHASE NOTATION	PHASE LOCATION ON POLE
HORIZONTAL	R (RED)	NORTH OR WEST CENTRE SOUTH OR EAST
	Y (YELLOW)	
	B (BLUE)	
VERTICAL	Y (YELLOW)	TOP CENTRE BOTTOM
	R (RED)	
	B (BLUE)	



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(Kamrul Ahsan Motin)
 Asst. Secy. (Board), BREB.

৬২১ তম বোর্ড সভায় অনুমোদিত সিক্সড নং ১৭৭০০

NOTES :

1. For all vertical construction the phasing shall always be Yellow-top, Red-centre, Blue-bottom

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: ANGLE CONSTRUCTION GUIDE CROSSARM TO VERTICAL CONSTRUCTION

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M21

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Debasish Chakraborty
PD, TAPP, BREB

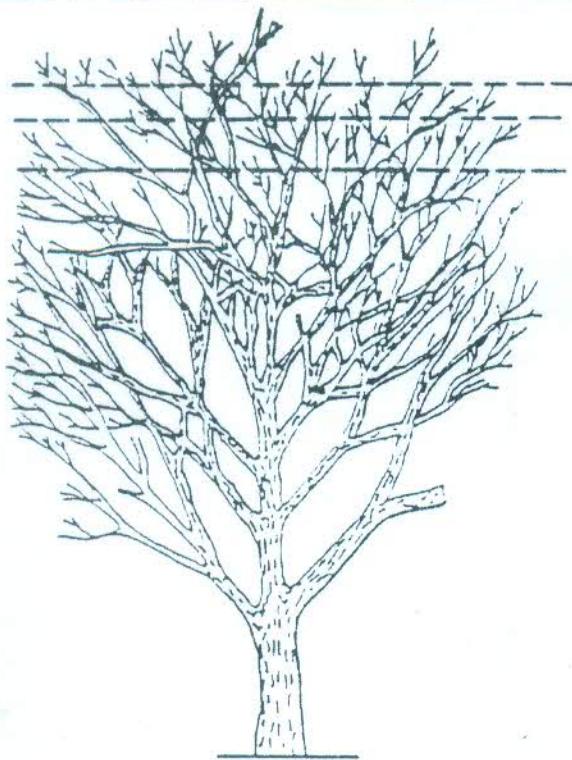
(Md. Ahsanul Haque)
Consultant, TAPP, BREB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB

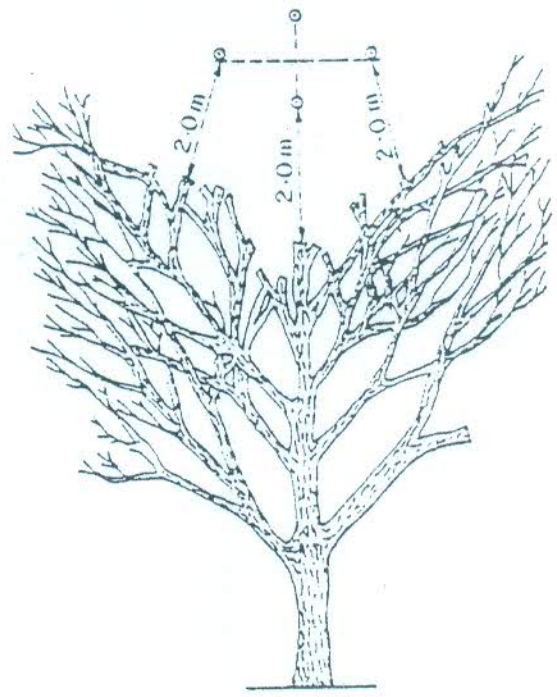
(Md. Mozammel Huj)
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(Md. Duhidul Islam)
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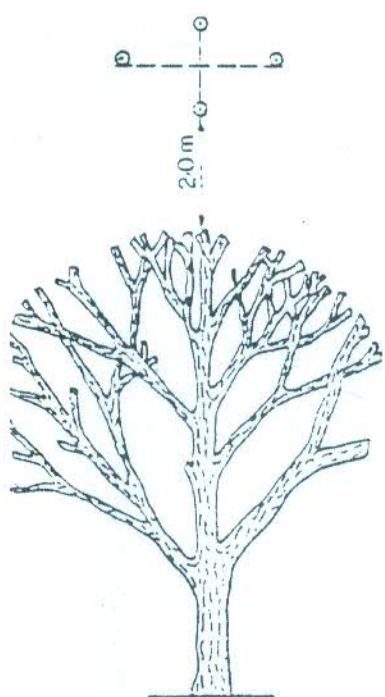
(Md. Mozammel Huj)
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Before Trimming



Wrong Way



Right Way

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

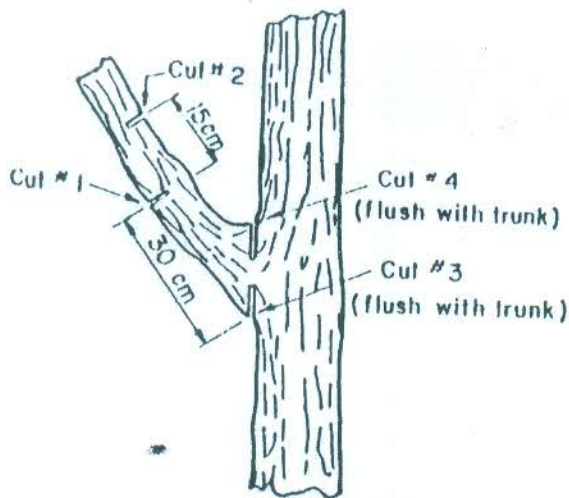
Note: No parts of tree should be closer than 2.0 m from open wiring. Trimming should leave tree with symmetrical appearance.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: TREE TRIMMING GUIDE

Date of Origin	Reviewed by	Approved by	Revision No	Unit Designation
July 1979	BREB	BREB Board	6	M22-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



Right Way

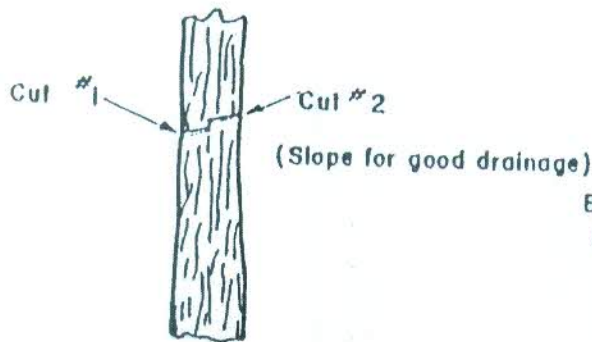


Wrong Way

Bark will strip down the trunk here

For small branches omit Cuts #1 and #2

REMOVAL OF HEAVY SIDE LIMB



Right Way



Wrong Way

Bark will strip down the trunk here

REMOVAL OF VERTICAL LIMB

Note: Coat final cut with tree paint.

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৬২৯ ডব্লিউ বোর্ড সভায় অনুমোদিত সিক্সট নং ১৭৭০০

(Kamrul Ahsan Mofiz)
Asst. Secy. (Board), BRER

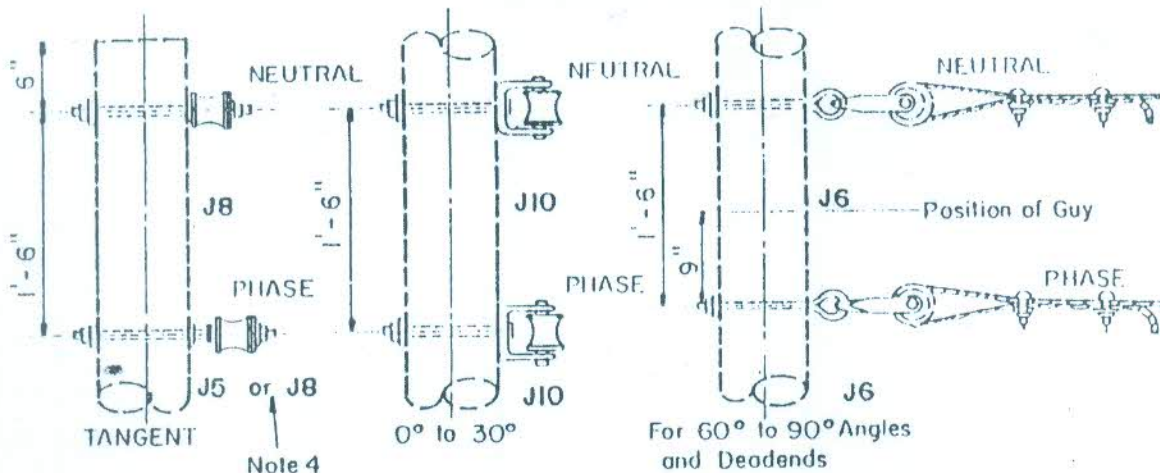
(Debasish Chakraborty)
PD, TAPP, BRER

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: TREE TRIMMING GUIDE

Date of Origin	Reviewed by	Approved by	Revision No	Unit Designation
July 1979	BRER	BRER Board	6	M22-2

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



OPEN WIRE SECONDARIES

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৫৯০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB

NOTES:

1. For secondary tap take-offs, install the take-off neutral 3" below the system neutral.
2. Minimum neutral to phase and phase to phase separation shall be 18" for spans up to 300 feet. Increase this separation to 24" for spans in excess of 300 feet but less than 400 feet.
3. If secondary is located under primary on same pole line these assemblies shall be installed no higher than the primary neutral position.
4. Double upset bolts (B36, B37, B38) are no longer being procured. The J8 unit (single upset bolt) may be substituted for the J5 unit.
5. On a primary conductor deadend pole where the LT secondary phase conductor is also deadended, there sometimes may occur a down guy/secondary conductor conflict wherein minimum clearances between the secondary conductors and the guy wire cannot be maintained. For this situation, the neutral conductor may be installed on either a J8 or J10 secondary unit and the phase conductor deadended on a J10 secondary unit. Refer to Guide Drawing M27-2 for pictorial details

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Consultant, TAPP BREB

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Consultant TAPP BREB

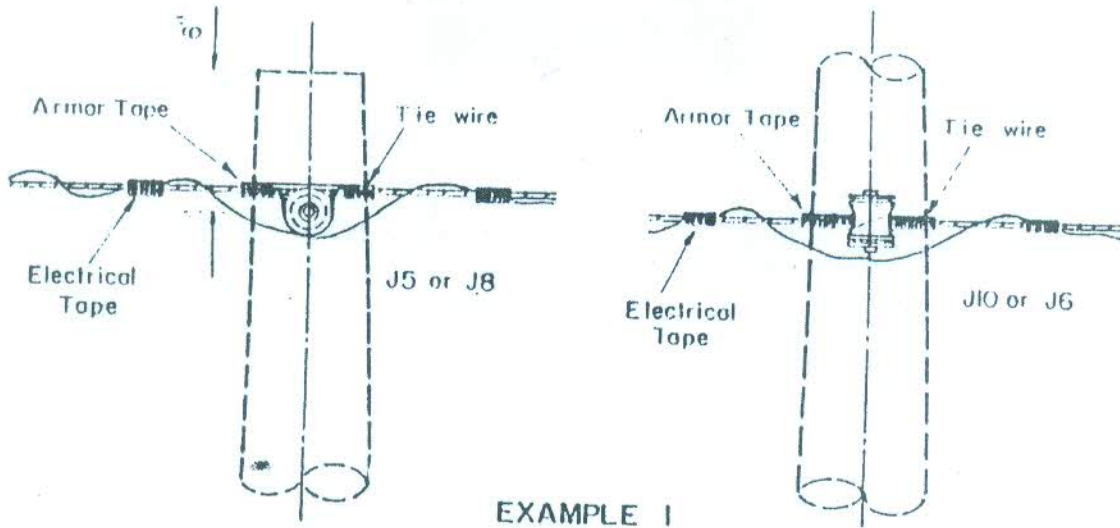
(Md. Ahsanul Haque)
Consultant TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

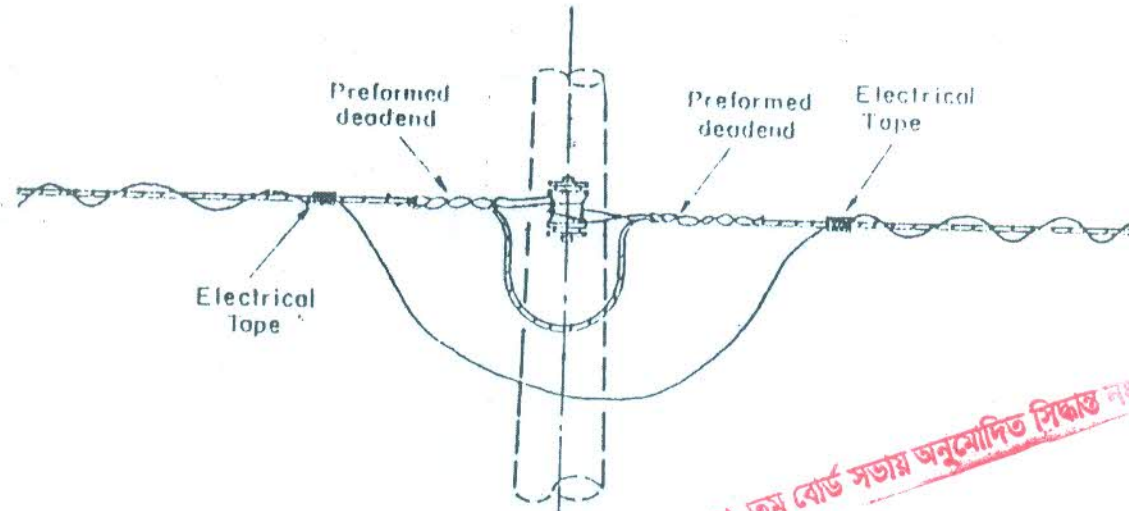
Unit Description: INSTALLATION GUIDE FOR OPEN WIRE SECONDARY

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M24

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



EXAMPLE 1



EXAMPLE 2

NOTES :

1. Multiplex secondaries are used only for special circumstances that are to be approved by the System Engineering and Design Directorate.
2. For service take-offs, or in anticipation of service take-offs, double deadend the multiplex neutral messenger. Make a stock loop for both the neutral and phase conductors six to eight inches below spool insulator. Refer to guideline M45-22, Multiple Service Connection Guide for connections.

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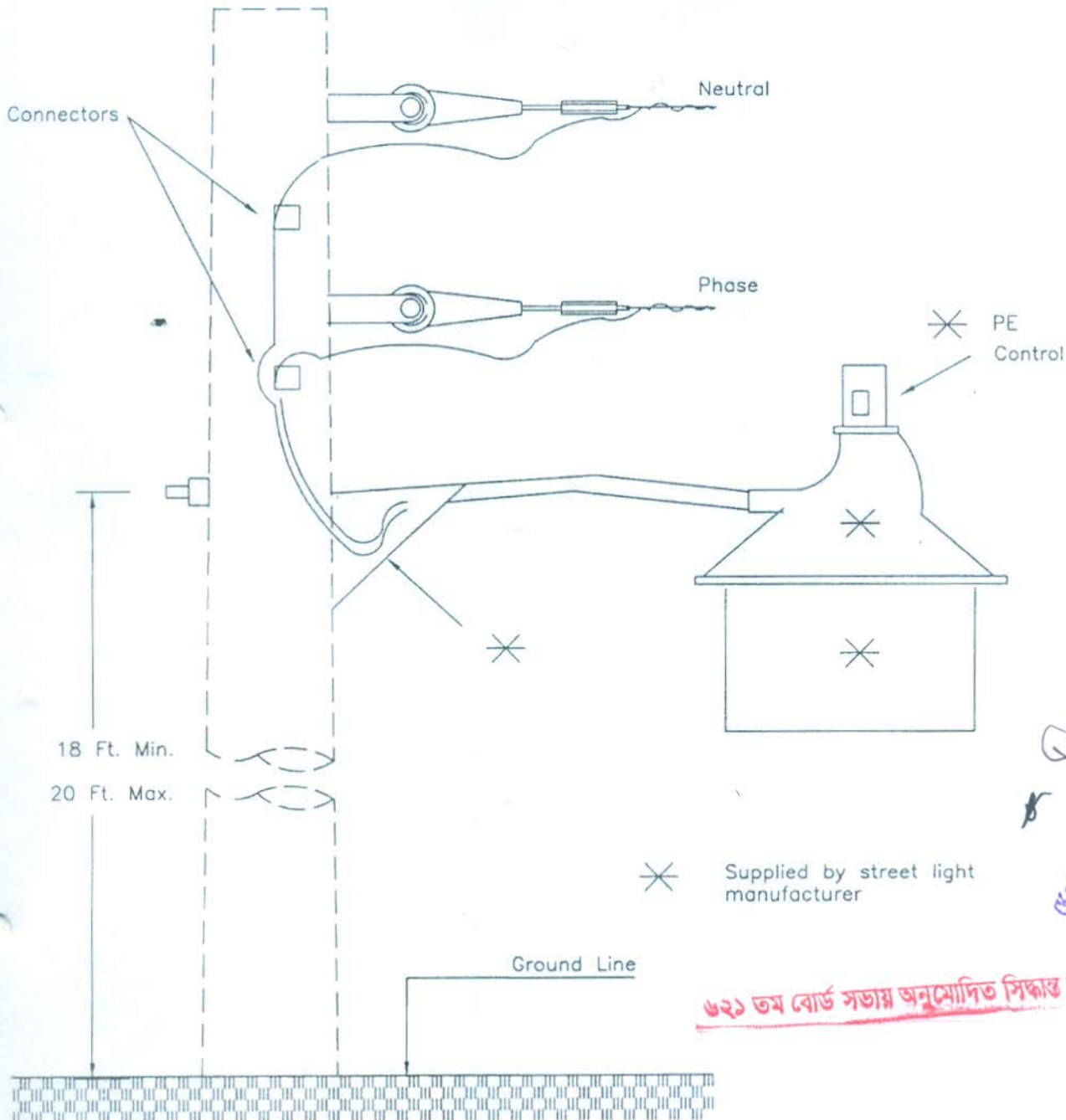
৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭৪০
Asst. Secy. (Board), BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: INSTALLATION GUIDE FOR MULTIPLEX CABLE SECONDARY

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M24-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



*(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB*

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

*(Md. Mozibur Rahman)
Consultant TAPP BREB*

*(Md. Duhidul Islam)
Consultant TAPP BREB
(Deputy Secretary)
PD, TAPP, BREB.*

*(Md. Mozammel Haq)
Consultant TAPP BREB*

*(Md. Abdul Khaleque)
Consultant TAPP BREB*

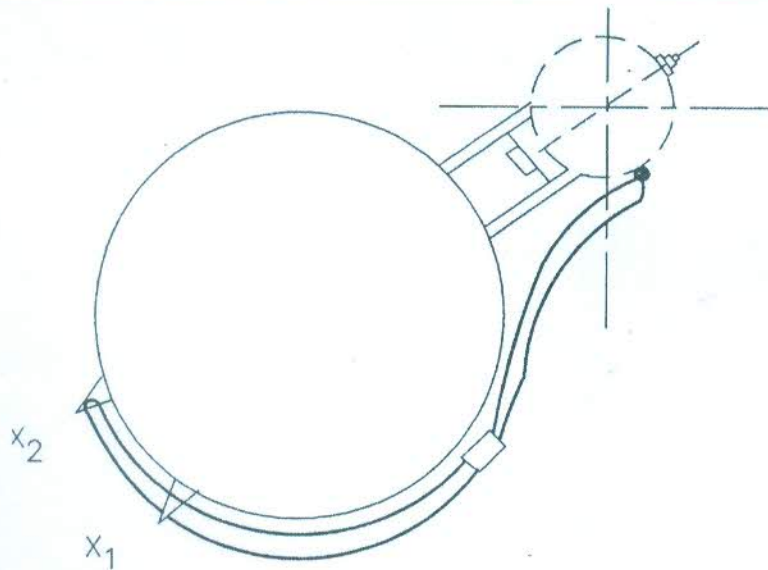
*(Md. Ahsanul Haque)
Consultant TAPP BREB*

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: SECURITY LIGHT INSTALLATION GUIDE

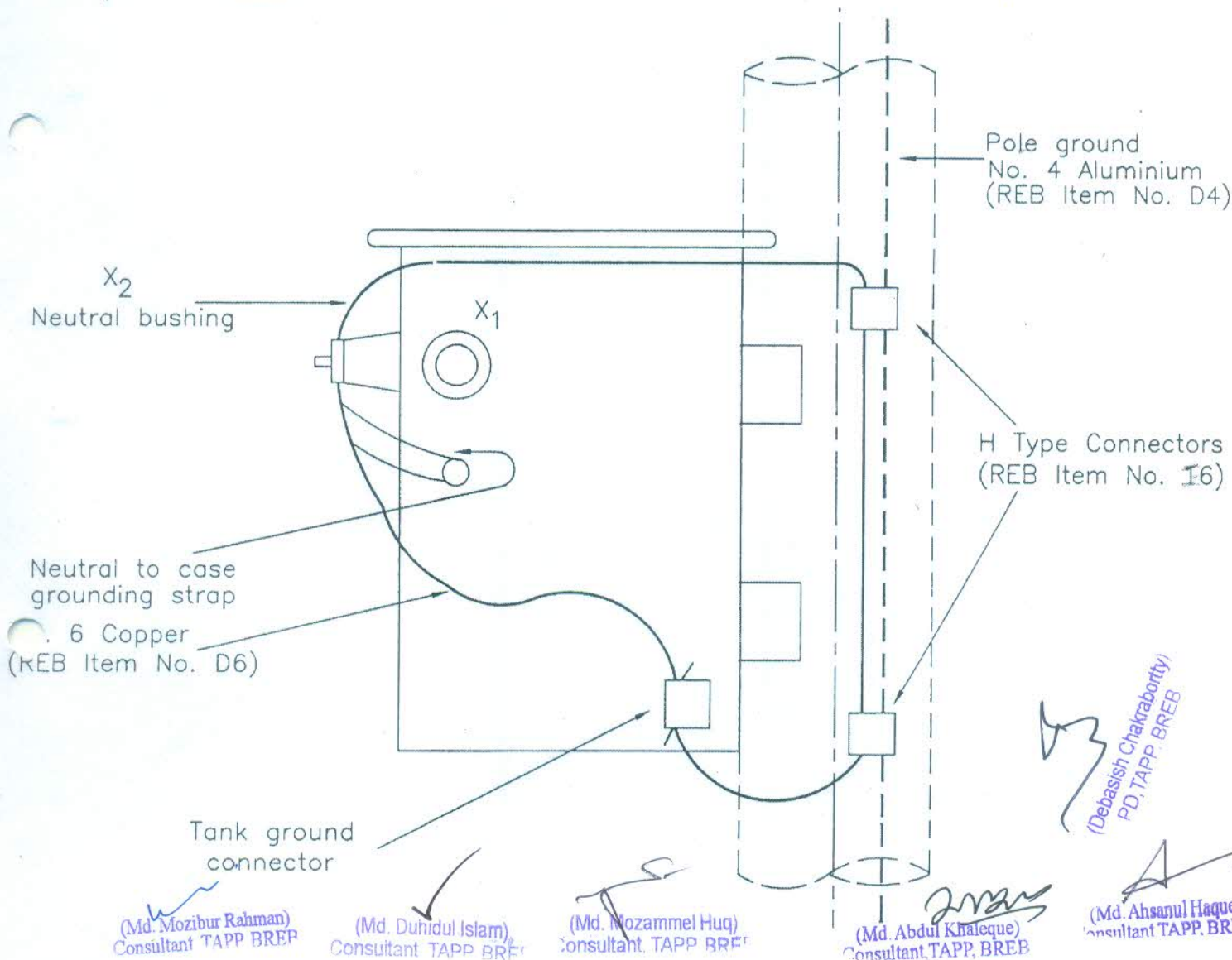
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M26-5

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



৬২১ তম বোর্ড সভার অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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Asst. Engineer (Board), BREB.



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(Md. Ahsanul Haque)
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(Debasish Chakrabortty)
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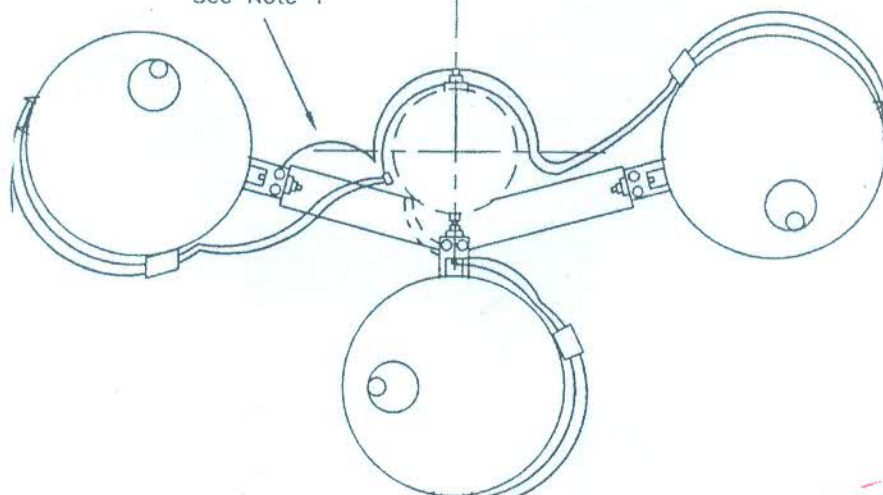
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV TRANSFORMER GROUNDING GUIDE FOR SINGLE PHASE INSTALLATION

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M27

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

See Note 1



Pole ground
No. 4 Aluminium
(REB Item No. D4)

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Kamrul Anam Mollik)
Asst. Secy. (Board), BREB

(Md. Abdul Khaleque)
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(Md. Ahsanul Haque)
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(Md. Farukh Islam)
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Neutral bushing X2 X1

Neutral to case grounding strap

No. 6 copper (REB Item # D6) See Note 2

Tank ground connector

No. 6 Copper loop

H Type connectors (REB Item No. I-6)

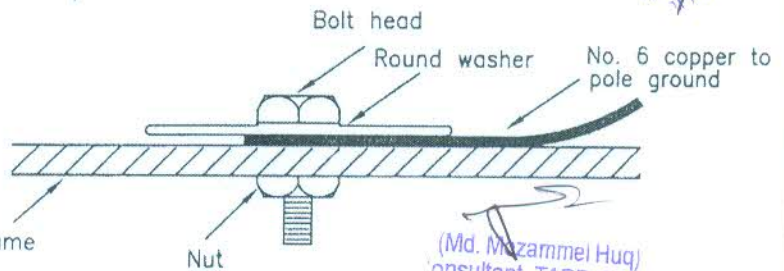
NOTES :

1. Connect transformer hanger bracket to pole ground.
2. Refer also to Note 4, Guideline M28-1.

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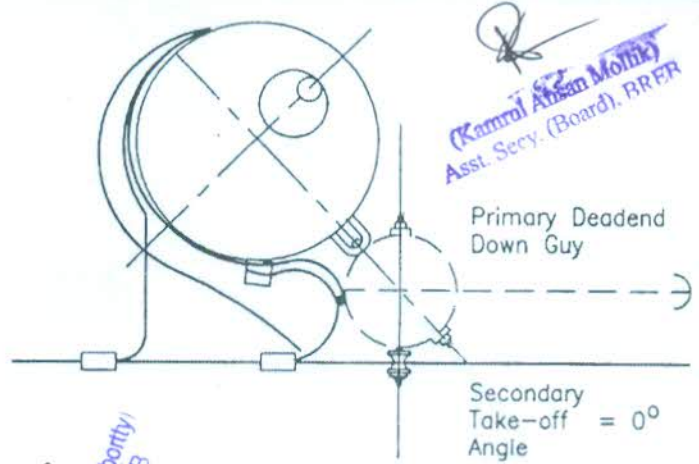
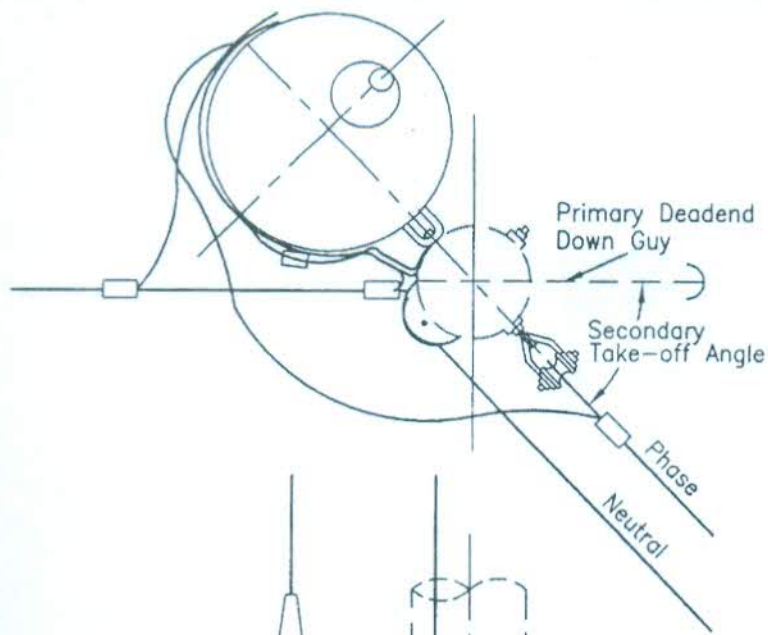


BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV TRANSFORMER GROUNDING GUIDE FOR THREE PHASE INSTALLATION

Date of Origin	Reviewed by	Approved by	Revision No	Unit Designation
July 1979	BREB	BREB Board	6	M27-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



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(Md. Ahsanul Haque)
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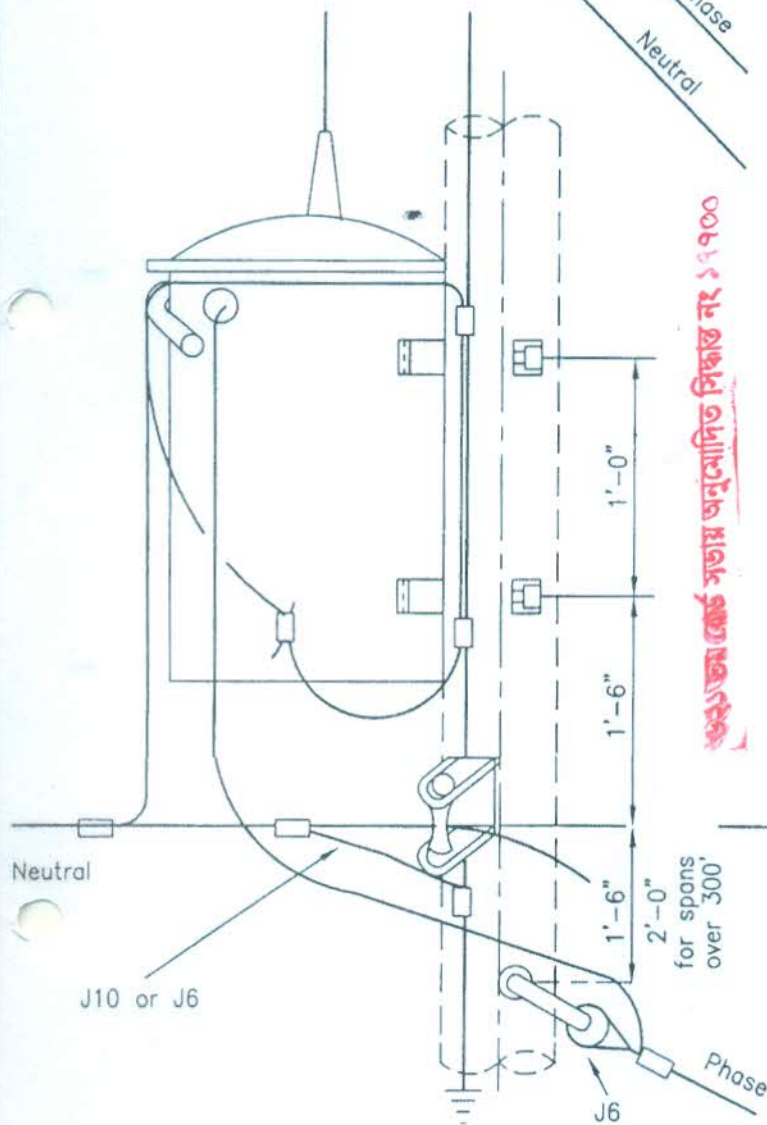
(Md. Abdul Khaleque)
Consultant TAPP BREB

(Md. Mozammel Haque)
Consultant TAPP BREB

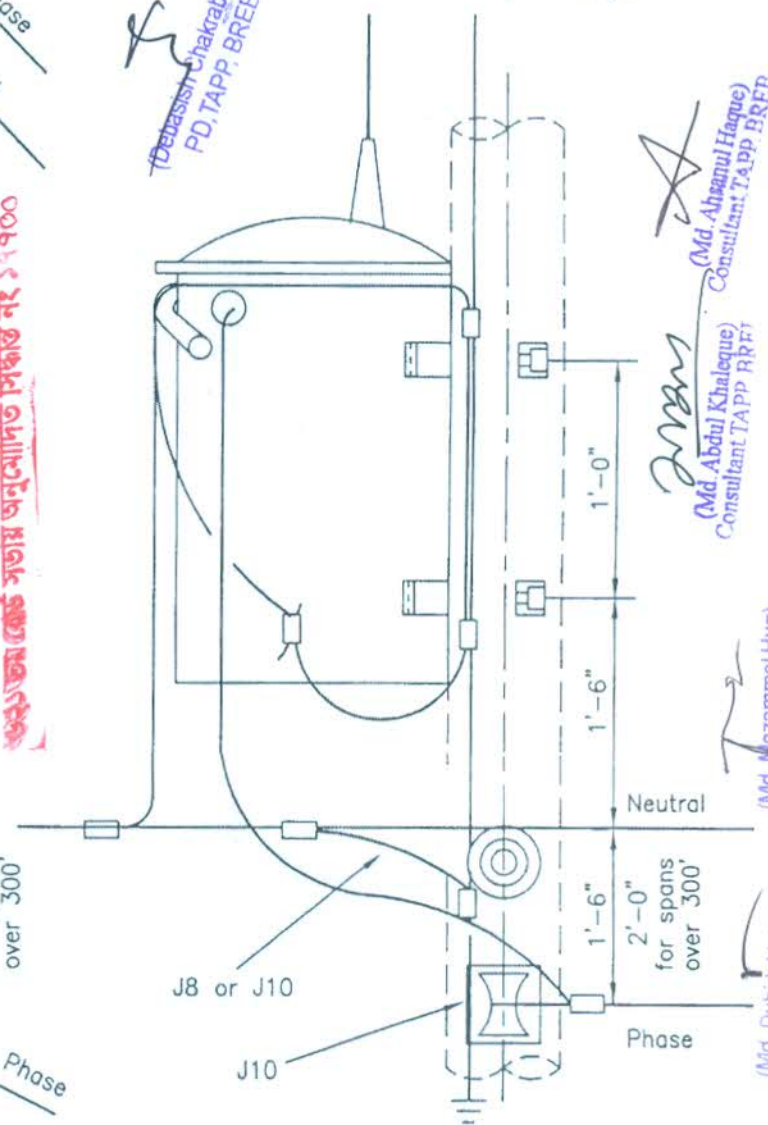
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Consultant TAPP BREB

৩৯৯ জন কোর্ট সভায় অনুমোদিত সিদ্ধান্ত নং ১৭১০০



EXAMPLE 1



EXAMPLE 2

PRIMARY DEADEND POLE WITH LT SECONDARY TAKE - OFF

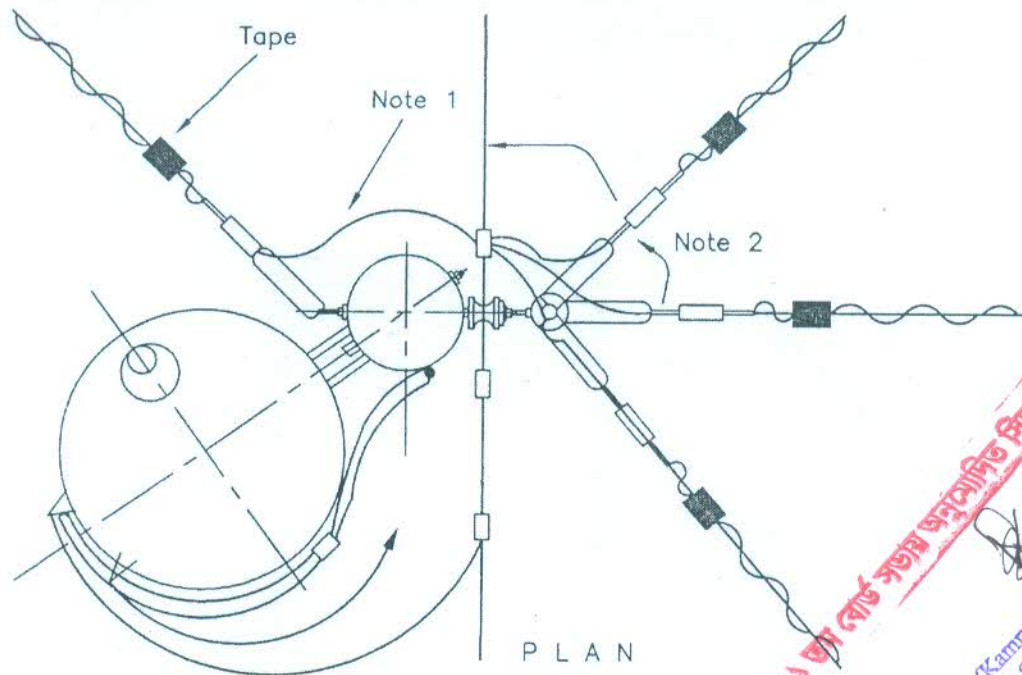
The secondary take-off angle is defined as the angle between the secondary conductors and the primary assembly unit deadend guy.
 Example 1 depicts a secondary take-off angle greater than 0° . The neutral may be continued by using a J10 (0° to 30°) or a J6 (30° to 60°).
 Example 2 depicts a secondary take-off angle of 0° , which will cause down guy / secondary conductor conflict. The neutral may be continued by using a J8, or it may be deadended on a J10. The phase conductor is to be deadended on a J10.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV TRANSFORMER CONNECTION GUIDE FOR LT SECONDARY

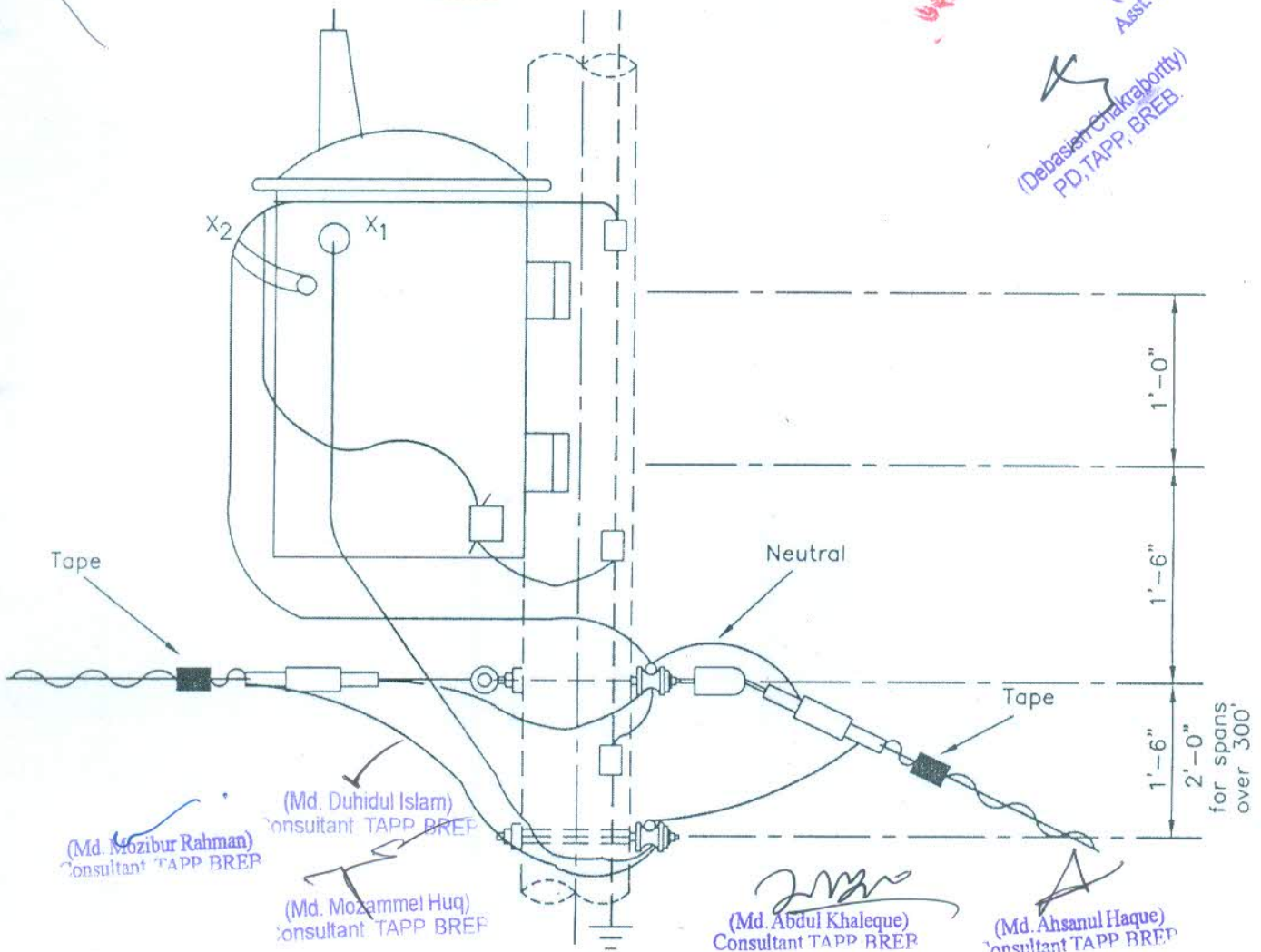
Date of Origin	Reviewed by	Approved by	Revision No	Unit Designation
July 1979	BREB	BREB Board	6	M27-2

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



বাংলাদেশ রুরাল ইলেকট্রিকিটি বোর্ড নং: ১৯৯০০
 (Kamrul Ahsan Mollik)
 Asst. Secy. (Board), BREB.

(Debasen Chakraborty)
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(Md. Mozammel Haq)
 Consultant TAPP BREB

(Md. Abdul Khaleque)
 Consultant TAPP BREB

(Md. Ahsanul Haque)
 Consultant TAPP BREB

NOTES:

1. Connect service neutrals to system neutral as per guideline M45-2.
2. Connect service phase conductors to secondary phase conductor as per guideline M45-2.
3. Refer to guide drawing MB-5 for multiple service assembly units.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV TRANSFORMER CONNECTION GUIDE FOR SECONDARY AND SERVICES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M28

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

Transformer Rating, KVA (Per Transformer)	Secondary Conductors		Transformer Current Rating		Primary Fuse Rating (Amps)
	Neutral (bare copper)	Phase (Covered Copper)	Primary (Amps)	Secondary (Amps)	
5	No. 6 (D6)	No. 3 (D16)	20.8	20.0	1
10	No. 6 (D6)	No. 3 (D16)	1.6	41.7	2
15	No. 6 (D6)	No. 3 (D16)	2.4	62.5	3
25	No. 3 (D7)	No. 3 (D16)	3.9	104.2	5
37.5	1/0 (D8)	1/0 (D17)	5.9	156.3	10
50	1/0 (D8)	1/0 (D17)	7.9	208.3	10
75	4/0 (D9)	4/0 (D18)	11.8	312.2	15
100	4/0 (D9)	4/0 (D18)	15.7	416.6	25
167	2x4/0 (D9)	1000 mcm or 2x4/0	26.3	695.8	40

Notes:

1. **CAUTION:** It is mandatory that the transformer tank be grounded as shown on BREB standard guid drawing M27. Do not attempt to remove the tank ground before de-energizing the transformer.

2. Note that all transformer leads are copper, either bare or covered. Do not install a combination of copper and alluminum conductors in the same transformer connector.

3. For all of the transformer sizes listed on the above chart:

- Use No. 6 copper for transformer tank ground loop;
- Use No. 6 bare copper for transformery lead.

4. If it is absolutely necessary to install aluminum conductor, transformer secondary leads use following: These substitutions shall apply only on transformers upto and including 50 KVA

- No. 4 aluminum for transformer tank grounding, loop;
- No. 3 aluminum for No. 6 copper;
- 1/0 aluminum for No. 3 copper;
- 4/0 aluminum for 1/0 copper;

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

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(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Huq)
Consultant TAPP BREB

(Md. Abdul Kheleque)
Consultant TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: FUSE AND LEAD SIZES FOR 6.35/0.23 KV DISTRIBUTION TRANSFORMERS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M28-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

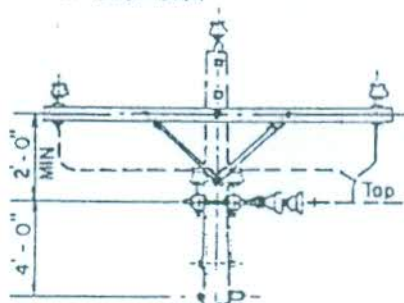
(Md. Ahsanul Haque)
Consultant TAPP BREB

(Debasish Chakraborty)
Consultant TAPP BREB

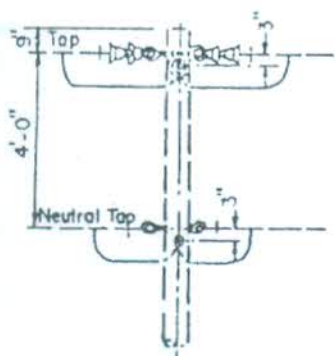
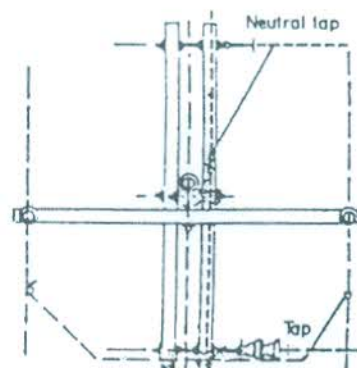
(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

Notes:

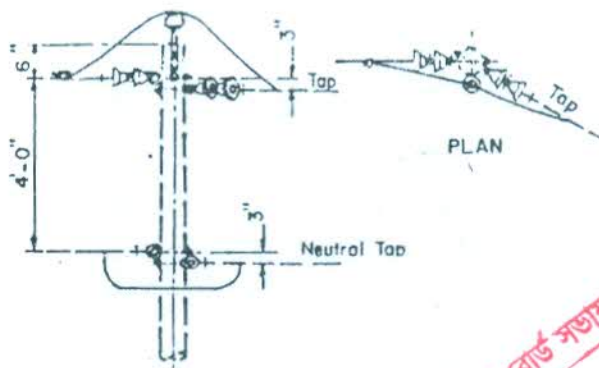
1. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors.
2. Where ground clearance permits mount all neutrals at lower level.



COMPLETE ASSEMBLY
CI, A7 and M5-5



COMPLETE ASSEMBLY
A5-3 AND A4



COMPLETE ASSEMBLY
A5-1, M5-2 and A5

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Haq)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant TAPP BREB

(Md. Ahsanul Haque)
Consultant TAPP BREB

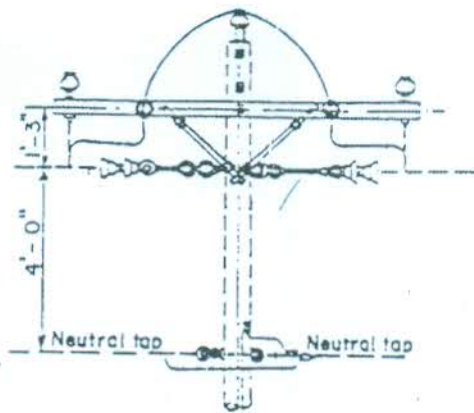
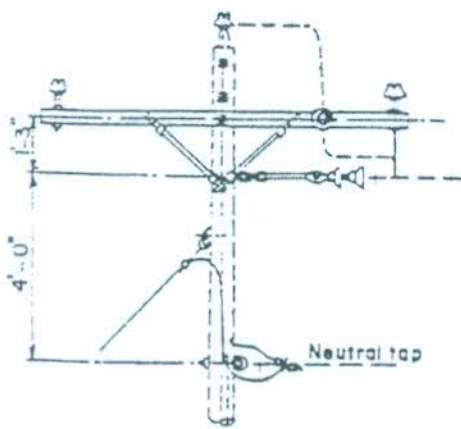
(Debasish Chakraborty)
PD, TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: TAP ASSEMBLY GUIDE

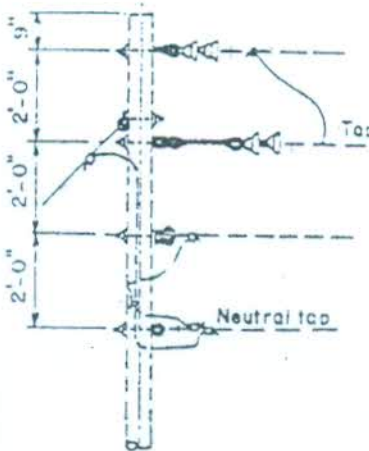
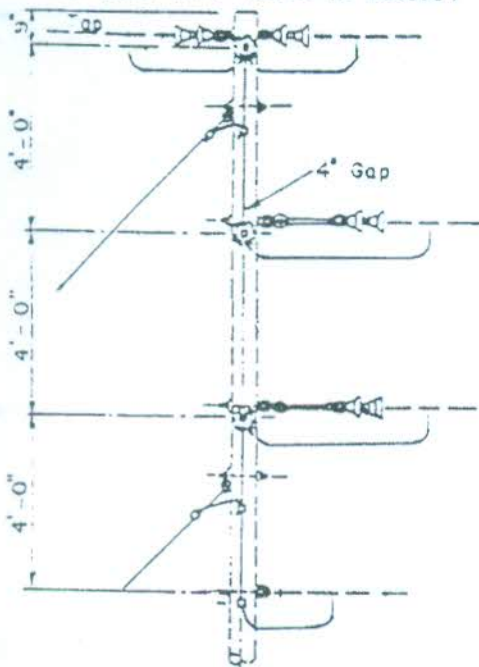
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M29-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



COMPLETE ASSEMBLY
A5-2, C1 AND M5-5 (if Needed)

COMPLETE ASSEMBLY
A5-2, A5-2A, C1, AND M5-5 (if Needed)



COMPLETE ASSEMBLY
A5-3 AND C4-1

COMPLETE ASSEMBLY
A5-2 AND A3

Notes:

1. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors.
2. Where ground clearance permits mount all neutrals at lower levels

৬২৯ জয় রোড সভায় অনুমোদিত সিদ্ধান্ত নং ১৯৯০৭

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

(Md. Ansurul Haque)
Consultant TAPP, BREB

(Debasish Chakraborty)
PD, TAPP, BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: TAP ASSEMBLY GUIDE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M29-2

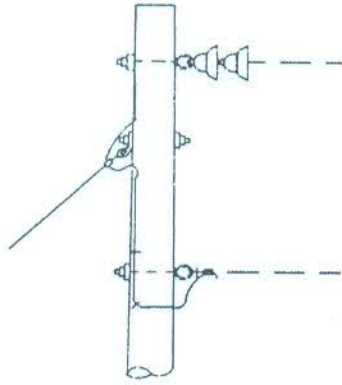
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Md. Mozibur Rahman)
Consultant TAPP, BREB

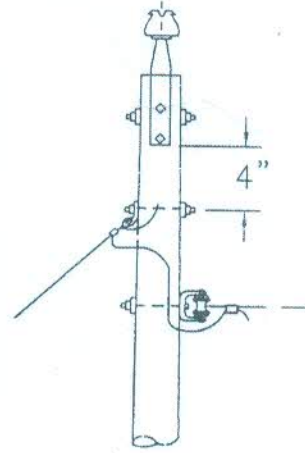
(Md. Dunidul Islam)
Consultant TAPP, BREB

(Md. Mozammel Haq)
Consultant TAPP, BREB

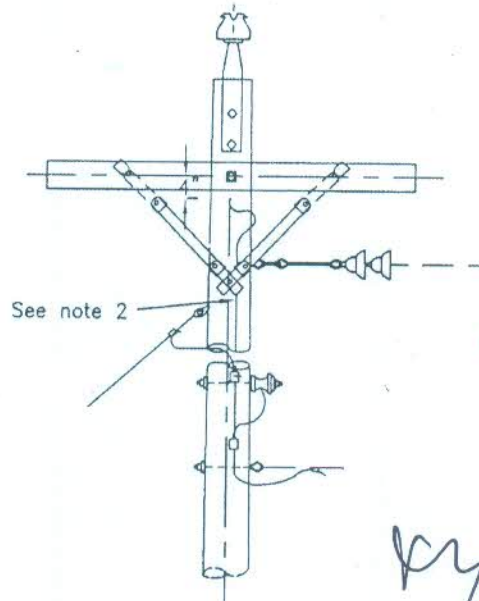
(Md. Abdul Khaleque)
Consultant, TAPP, BREB



AT SINGLE PHASE ANGLES AND DEADENDS



AT SINGLE PHASE ANGLES



AT THREE PHASE TAP ASSEMBLY

৬২) ভা. বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০
 (Kamrul Ahsan Mollik)
 Asst. Secy. (Board), BREB.

(Debasish Chakraborty)
 PD, TAPP BREB

NOTES:-

1. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors
2. Position of staple pin is very important. Maintain 4" minimum distance from staple or clip to lag screw or eye bolt

(Md. Mozibul Rahman)
 Consultant TAPP BREB

(Md. Duhidul Islam)
 Consultant TAPP BREB

(Md. Mozammel Haque)
 Consultant TAPP BREB

(Md. Abdul Khaleque)
 Consultant TAPP BREB

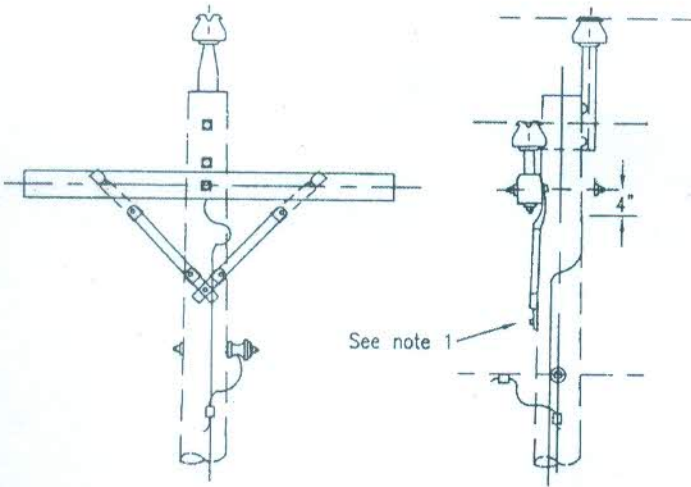
(Md. Ahsanul Haque)
 Consultant TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

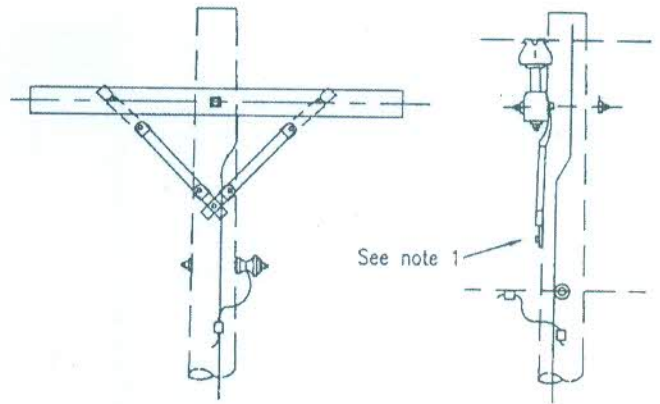
Unit Description: GUIDE FOR INSTALLATION OF GROUND WIRE ABOVE NEUTRAL ON GUYED POLE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M30-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



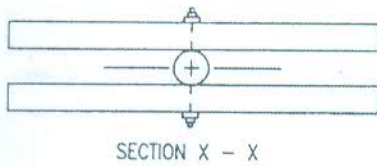
AT SINGLE ARM ASSEMBLIES WITH POLE TOP PIN



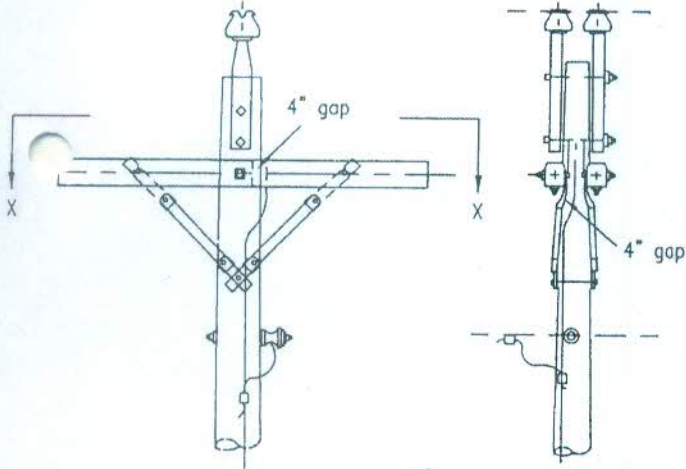
AT SINGLE ARM ASSEMBLIES WITHOUT POLE TOP PIN

NOTES :

1. Position of staple is important. Maintain 4" min. distance from staple or clip to lag screw or eye bolt.
2. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors.

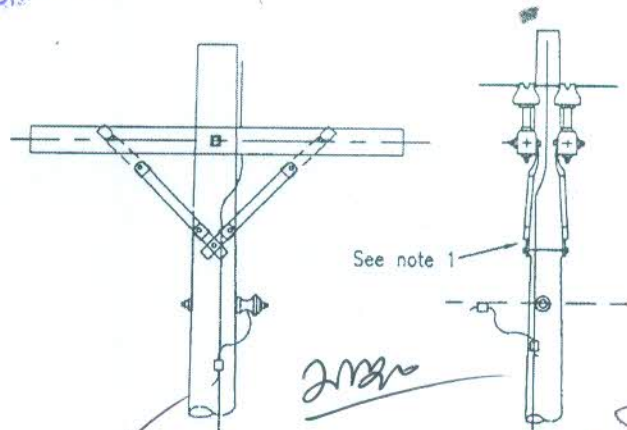


SECTION X - X



AT DOUBLE ARM ASSEMBLIES WITH POLE TOP PINS

(Md. Mozibur Rahman)
Consultant TAPP BREB



AT DOUBLE ARM ASSEMBLIES WITHOUT POLE TOP PINS

(Md. Mozammel Hossain)
Consultant TAPP BREB

(Debasish Chakraborty)
PD, TAPP, BREB.

(Md. Ahsanul Haque)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB

৬৯৯ তম বোর্ড সভার অনুমোদিত সিদ্ধান্ত নং ১৯৯০০
(Kamrul Afshan Mollah)
Asst. Secy. (Board), BREB

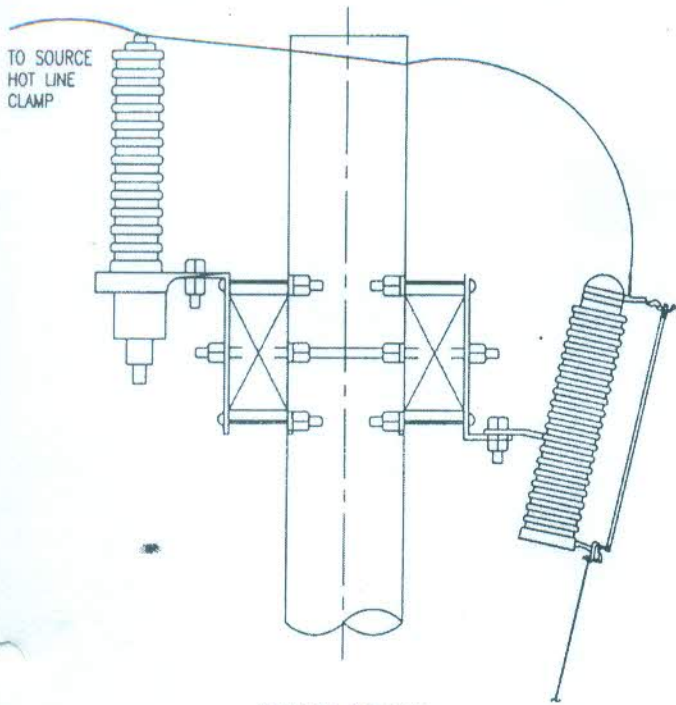
BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: GUIDE FOR INSTALLATION OF GROUND WIRE ABOVE NEUTRAL ON POLES WITH BUTT WRAPPED OR DRIVEN GROUNDS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M30-2

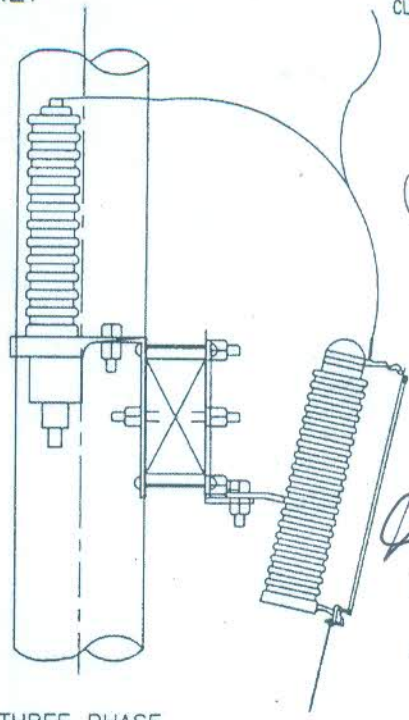
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

CROSSARM MOUNTING BRACKET



THREE PHASE DEADEND

১৯৯০ সালে তৈরি করা হয়েছে

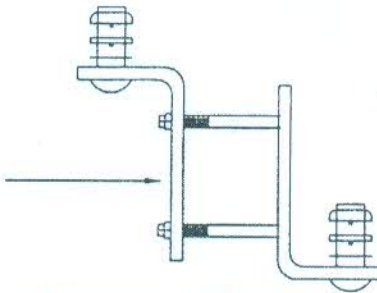


THREE PHASE TANGENT

TO SOURCE HOT LINE CLAMP
 (Kamrul Ahsan Mojid)
 Asst. Secy. (Board), BREB

Debasish Chakraborty
 P.D. TAPP, BREB

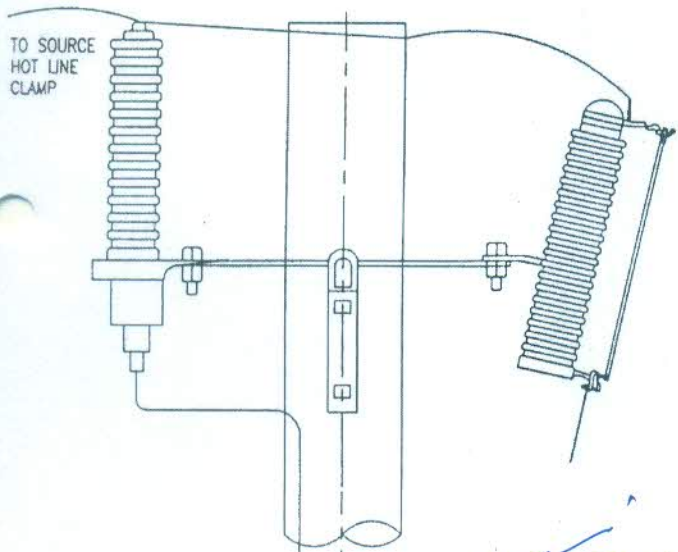
NOTE : For single crossarm installations combine two brackets to make one bracket as depicted.



POLE MOUNTING BRACKET

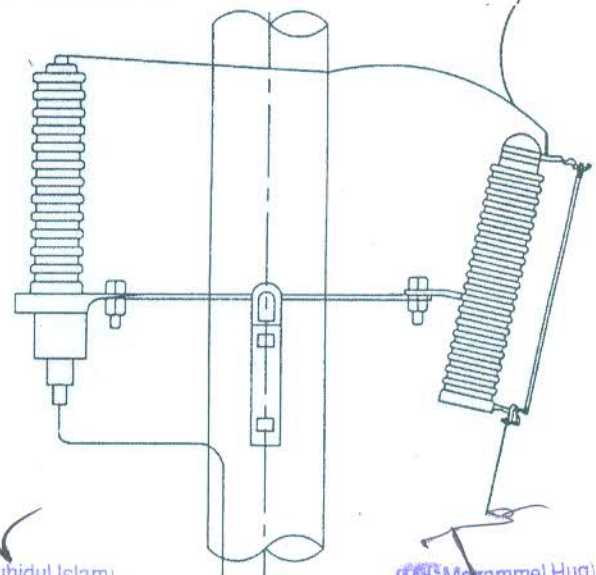
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(Md. Ahsanul Haque)
 Consultant TAPP, BREB



SINGLE PHASE DEADEND

(Md. Mozibur Rahman)
 Consultant TAPP, BREB



SINGLE PHASE TANGENT

(Md. Duhidul Islam)
 Consultant TAPP, BREB

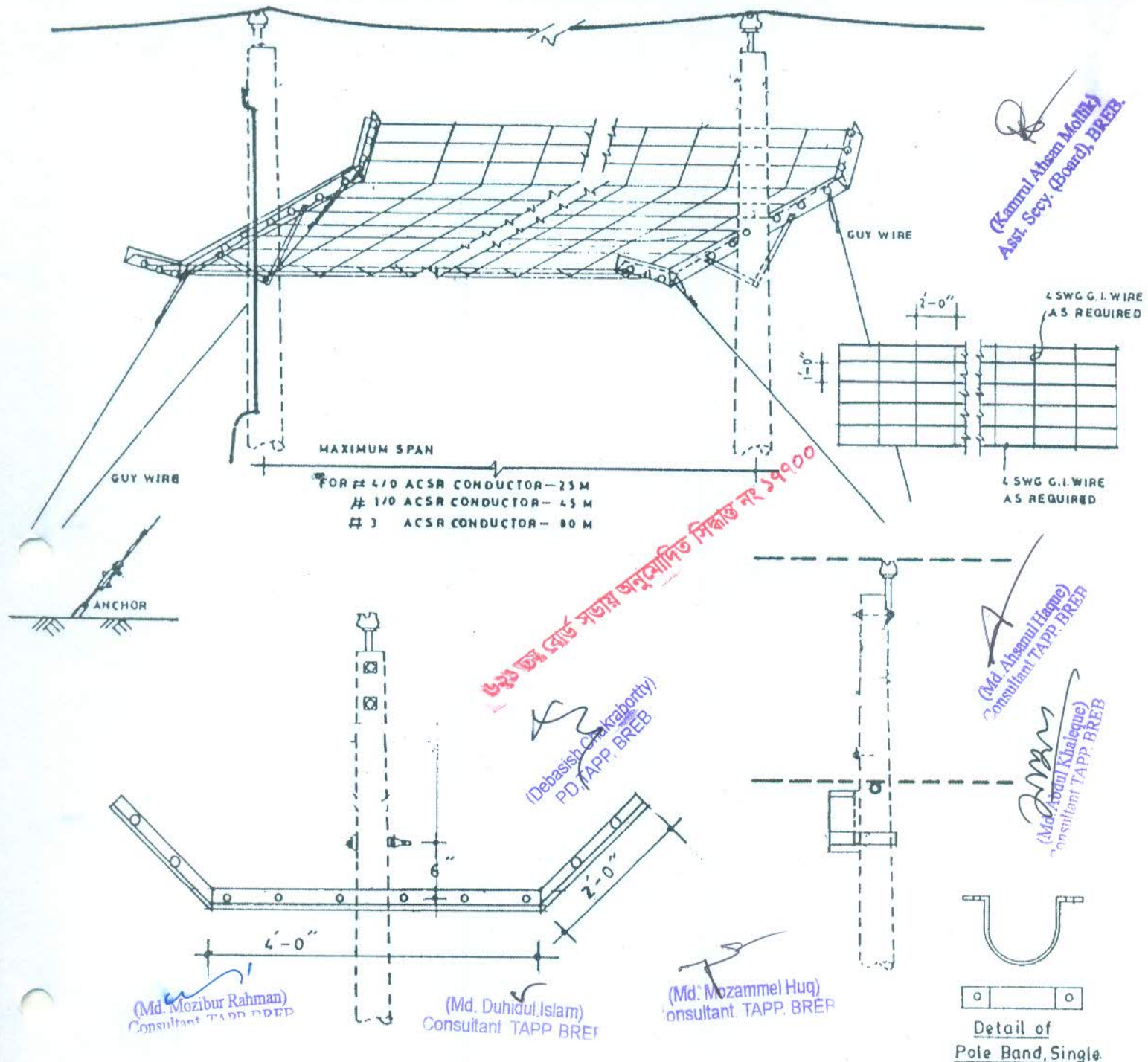
(Md. Mozammel Haque)
 Consultant TAPP, BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV CUT-OUT AND LIGHTNING ARRESTER CONNECTION DETAILS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M31

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



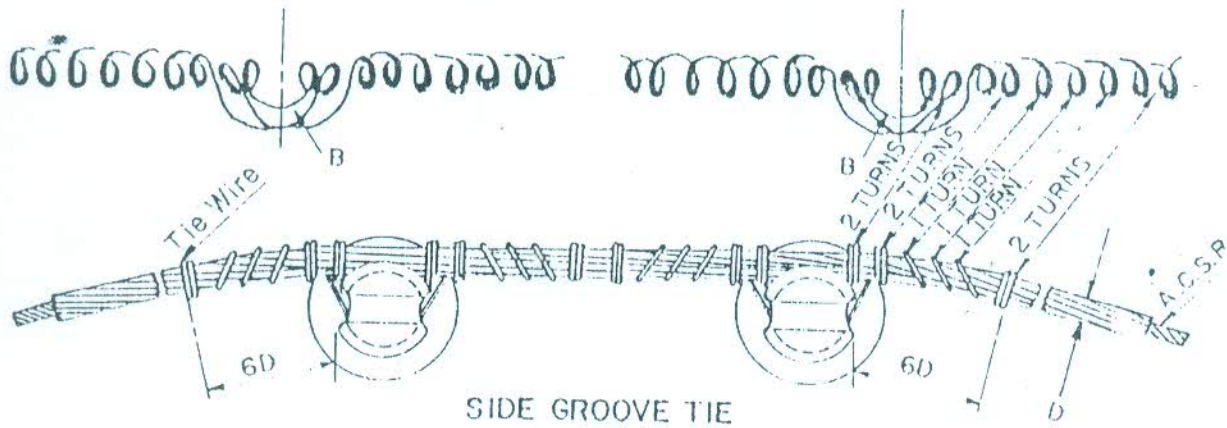
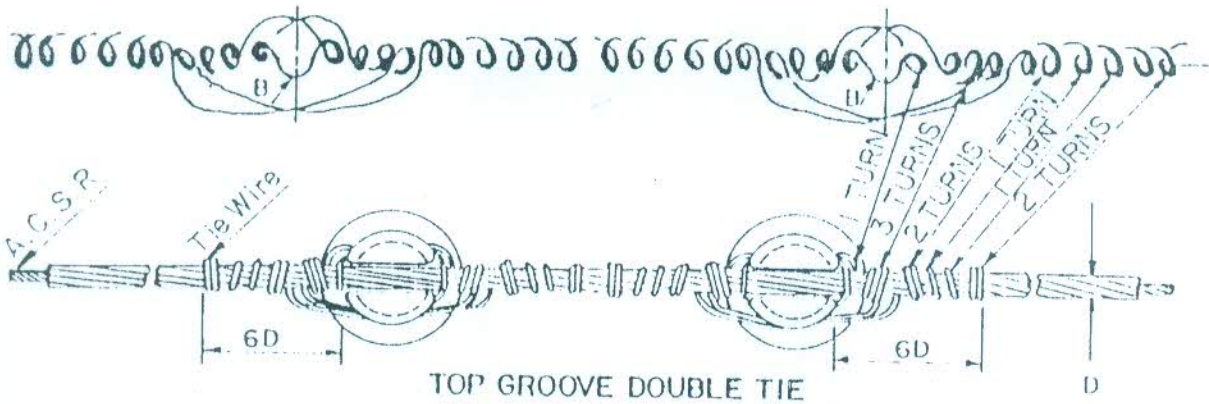
ITEM NO	NO	MATERIAL	UNIT	ITEM NO	NO	MATERIAL	UNIT
	2	Crossarm, Steel, Angle 2 1/2 X 2 1/2 X 1/4 - 4'-0"	Nos	4	Bolt-5/8" Ø X 1 1/2"		Nos
	4	Brace, Angle, Gal-Steel 2" X 2" X 1/4" - 4'-0"	Nos	B53	4	Nut, eye, Oval 5/8" Ø -	Nos
	2	Band, Pole, Single 2" X 1/4" - 8 Ø	Nos	B55	4	Shackle Anchor	Nos
	8	Bolt-5/8" Ø - 2 1/2"	Nos	N2	4	Regd. Wire Guy	
B7	2	Bolt-5/8" - 10"	Nos	B69/E21	8	Bolt clamp / Guy Grip	Nos
		Regd. G.I. Wire # 4 SWG		B62	2	Rod, Anchor 5/8" Ø - B	Nos
				B49	2	Washer, Square Curved (3" X 3" X 1/4" - 11/16" hole)	Nos
				Z-1	2	Log. Anchor - 3'-6"	Nos
				B50	6	Lock Nut 5/8" Ø	Nos

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: DRAWING OF GUARD CRADLE FOR RAIL ROAD CROSSING OF 6.35/11 KV LINE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M32

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



NOTE:

In making ties, start with middle of length of tie wire position at marked "B"
 To complete tie, cinch up last two turns of each end with pliers until tie wire is snug and tight. Use the flat face of the pliers against the line guard.

ACSR	LINE GUARD		TIE WIRE
SIZE	REB NO.	COLOR CODE	No. 4 Aluminum Approx. Length
No. 3	E10	GREEN	7' ±
1/0	E11	YELLOW	8' ±
4/0	E12	RED	9' ±

(Md. Mozibur Rahman)
Consultant TAPP BREP

(Md. Dumaul Islam)
Consultant TAPP BREP

(Md. Mozammel Haq)
Consultant TAPP BREP

(Md. Abdul Khaleque)
Consultant TAPP BREP

(Md. Ahsanul Haque)
Consultant TAPP BREP

৬৭৯ ডায়াল সড়ক সতায় অনুমোদিত সিস্টেম নং-১৭৭০০
 (Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

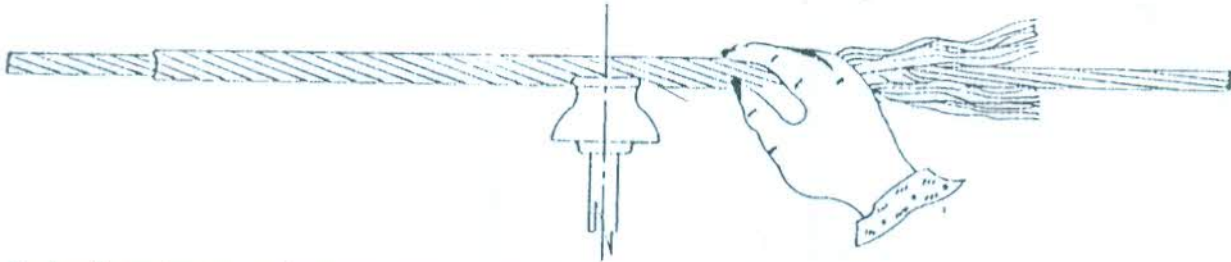
(Debasish Chakraborty)
D.D. TAPP, BREB.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: TYING GUIDE DOUBLE INSULATOR

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M40-11

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



For hand application, hold one or more reinforcements against the conductor with midpoint of the insulator, rotate in same direction as the lay of the conductor, for three or four inches each side of center. In like manner apply remaining reinforcements to center section. After all have been started, complete the application rotary outward wiping motion of the hand. Make certain that the ends snap into place in proper order.

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB

ACSR		LINE GUARD				ROD DIA
SIZE	DIAMETER (INCHES)	REB ITEM NO.	LENGTH (INCHES)	RODS PER SET	COLOR CODE	
No. 3	0.281	E10	33	9	GREEN	0.523
1/0	0.398	E11	37	11	YELLOW	0.640
4/0	0.563	E12	43	15	RED	0.805

(Debasish Chakraborty)
D TAPP BREB

(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Haq)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant TAPP BREB

(Md. Ahsanul Haque)
Consultant TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

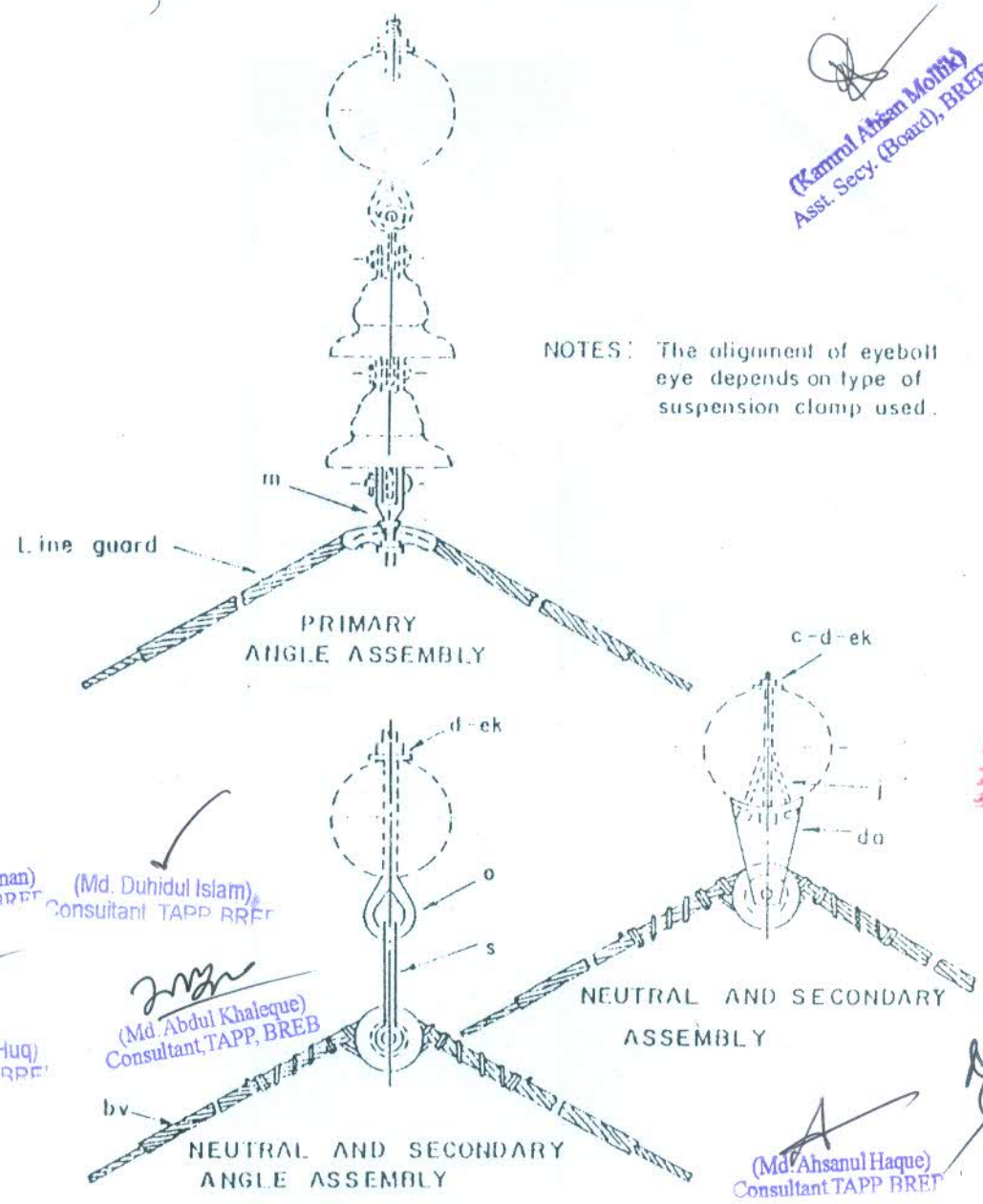
Unit Description: LINE GUARD DATA AND INSTALLATION GUIDE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M40-12

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

NOTES: The alignment of eyebolt eye depends on type of suspension clamp used.



৬৭৯ ডম বোর্ড সভায় অনুমোদিত সিকার নং ১৭৭০০

(Debasish Chakraborty)
PD, TAPP, BREB.

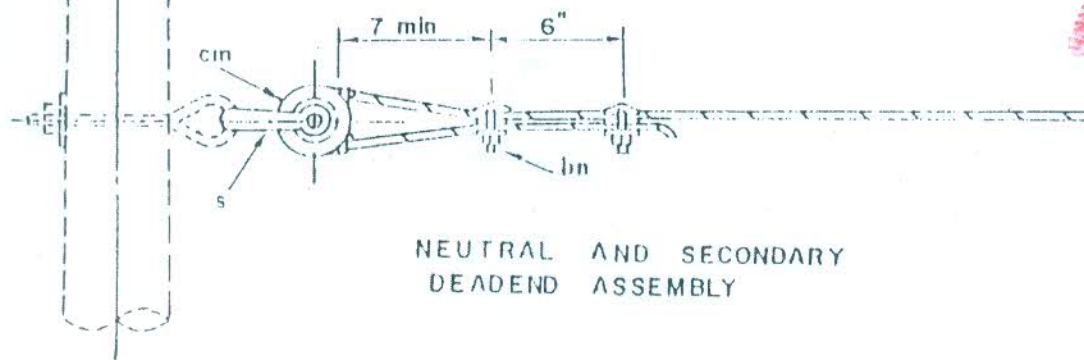
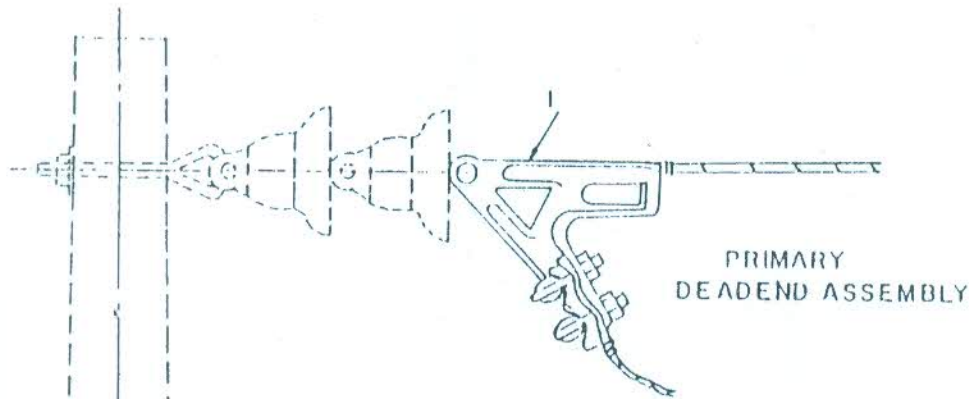
ITEM NO.	MATERIAL	ITEM NO.	MATERIAL
c	Bolt, machine, 5/8" x req'd. length	bo	Shackle, anchor
m	Clamp, suspension, size as req'd	da	Bracket, Secondary
cm	Spool Insulator, dia, groove as req'd	bv	Line guard, preformed
s	Clevis, secondary, swinging	o	Bolt, eye, 5/8" x required length
ek	Locknuts, as req'd.	j	Screw, lag, 1/2" x req'd. length
d	Washer, square, 2 1/4"		

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: ANGLE ASSEMBLY GUIDE, VERTICAL CONSTRUCTION, 30° TO 60° ANGLE, ACSR CONDUCTORS WITH LINE GUARD

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M41-10

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



(স্বাক্ষর করে সভার অনুমোদিত প্রিকার্ড নং ১৭৭০০)

(Kamrul Ahsan Mollik)
 Asst. Secy. (Board), BREB.

(Debasish Chakraborty)
 PD, TAPP, BREB.

NOTES:

- For 1/0 and larger use spool of 3" min. groove diameter on neutral and secondary deadends.

ITEM	MATERIAL	ITEM	MATERIAL
1	Clamp, deadend	cm	Spool Insulator, dia, groove as req'd
s	Clevis, secondary, swinging	bn	Clamp, Loop Deadend

(Md. Mozibur Rahman)
 Consultant TAPP BREB

(Md. Durrul Isani)
 Consultant TAPP BREB

(Md. Mozammel Haq)
 Consultant TAPP BREB

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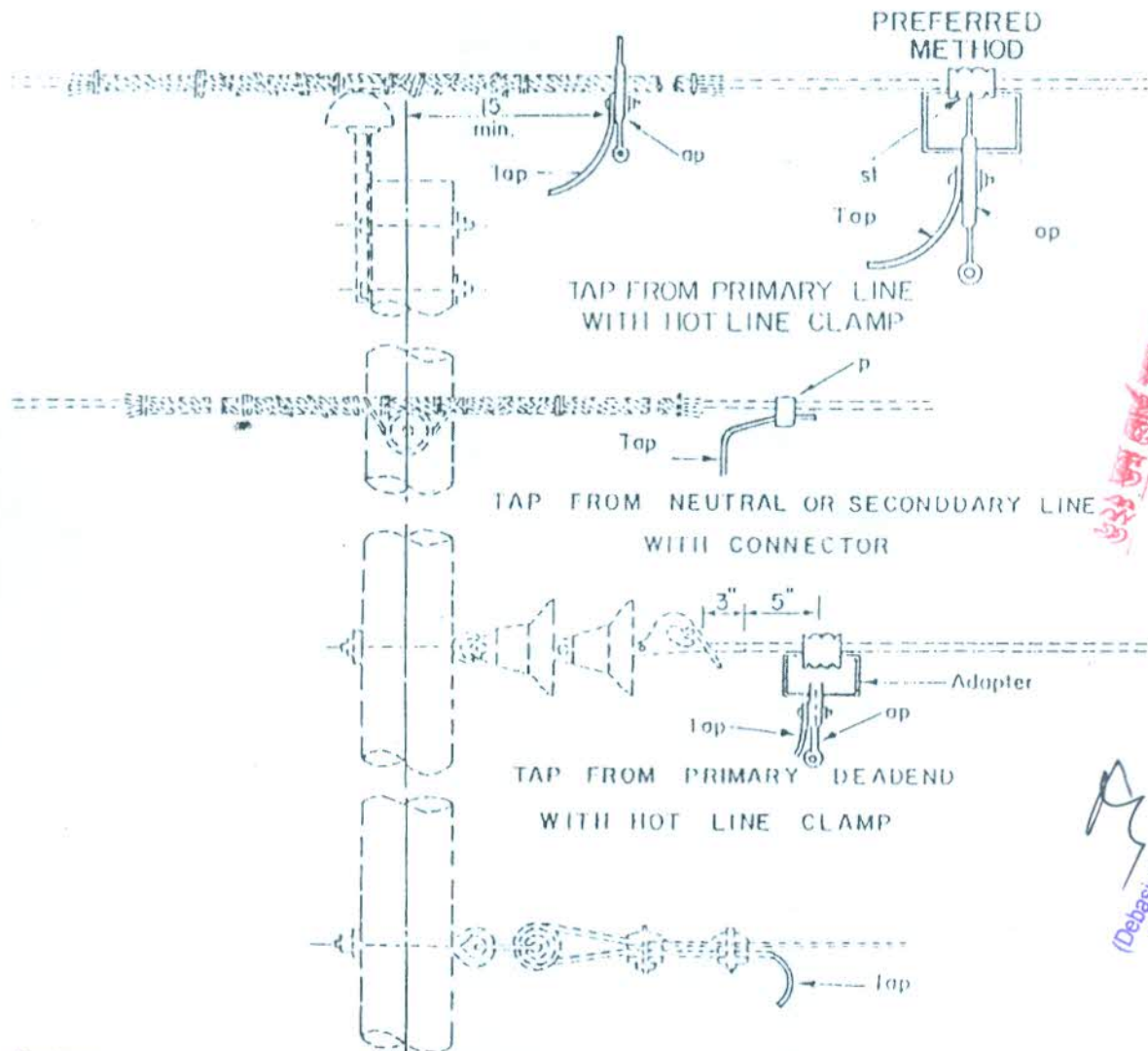
(Md. Ahsanul Haque)
 Consultant TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: DEADEND ASSEMBLY GUIDE, DEADEND CLAMP METHOD ACSR CONDUCTORS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M42-11

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



৬৯৯ ডিএলএল স্টাফ অস্বীকারিতা সিস্টেম নং ১৭৭০০

(Kamrul Ahsan Mority)
Asst. Secy. (Board), BREB.

(Debasish Chakraborty)
PD, TAPP, BREB

Notes:

TAP FROM NEUTRAL OR SECONDARY DEADEND

1. On new construction, tap may be made directly over line guard provided conductor is thoroughly cleaned and inhibitor used before installing rods.
2. When installing line guard on existing lines, conductor should be wire brushed thoroughly and inhibitor used before installing rods.

ITEM NO.	MATERIAL	ITEM NO.	MATERIAL
p	Connector, compression	st	Adapter, hot line
ap	Clamp, hot line, tap assembly		

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: TAP ASSEMBLY GUIDE ACSR CONDUCTORS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M43-10

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

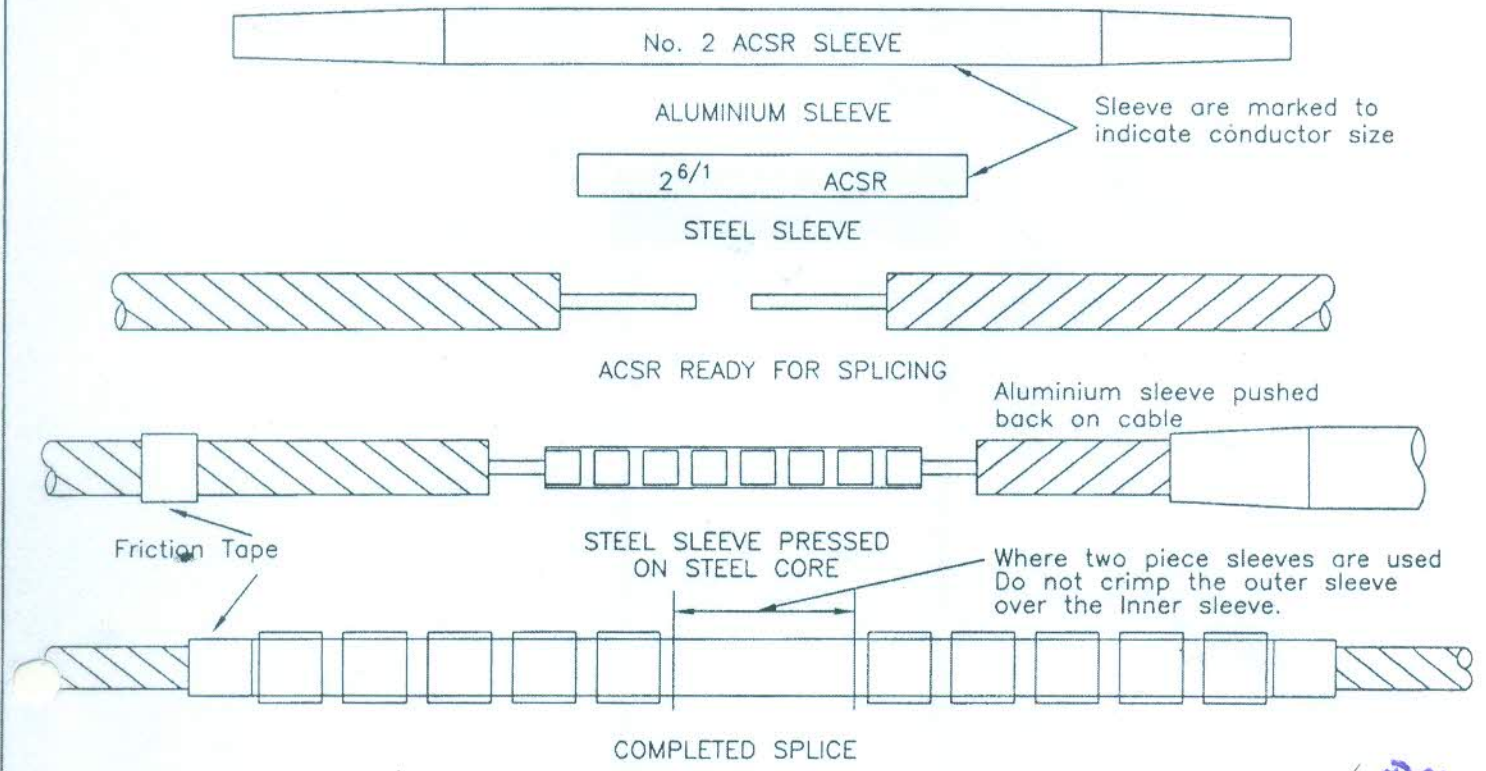
(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Haq)
Consultant TAPP BREB

[Handwritten Signature]

(Md. Ahsanul Haque)
Consultant TAPP BREB



DIRECTIONS FOR MAKING AN ACSR TWO SLEEVE SPLICE

(Kamrul Ahsan Moiny)
Asst. Secy. (Board), BREB.

1. Slip Aluminium sleeve on cable for enough back to be out of the way. Cut back Aluminium strands at end of cable 3/4" more more than half the length of steel sleeve.
2. Insert steel core wires in the steel sleeve and press with inner groove of tool. Press entire length of sleeve starting at the middle and working toward the ends. Leave about 1/16" space between presses.
3. Straighten steel sleeve by hammering carefully against a suitable block.
4. Place a piece of friction tape on the cable to mark the position of the end of the Aluminium sleeve such that it will be centered on the splices.
5. Clean conductor by wirebrushing, paint the steel sleeve and the adjacent cable that will be covered by the aluminium sleeve, with a suitable corrosion inhibitor.
6. Slip the Aluminium sleeve in place and press with the outer groove of tool using the same procedure as with the steel sleeve.
7. Straighten entire splice by hammering carefully against a suitable block.
8. Splice shall not be within 10 feet of insulator.

৬২১ তম বোর্ড সভায় অনুমোদিত সিক্স নং ১৯৯০০

(Debasish Chakraborty)
PD, TAPP, BREB.

(Md. Mozibur Rahman)
Consultant TAPP, BREB

(Md. Duhidul Islam)
Consultant TAPP, BREB

(Md. Mozammel Haq)
Consultant TAPP, BREB

(Md. Ahsanul Haque)
Consultant, TAPP, BREB

(Md. Ahsanul Haque)
Consultant, TAPP, BREB

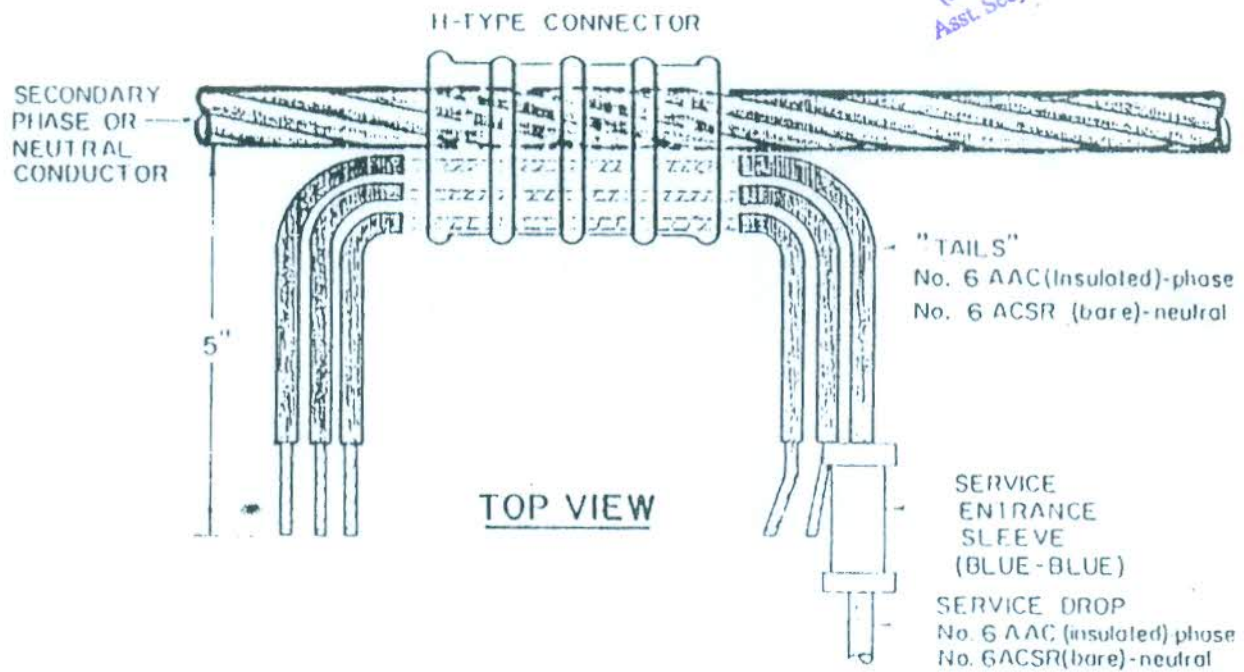
BANGLADESH ELECTRIFICATION BOARD

Unit Description: SPLICING GUIDE- COMPRESSION TYPE, ACSR CONDUCTORS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M45-21

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Kamrul Ahsan Mollick)
Asst. Secy. (Board), BREB.



৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

SECONDARY CONDUCTOR SIZE(LT)	NUMBER OF "TAILS"	REF ITEM NUMBER	GROOVE FOR "TAILS"
N ^o 3 ACSR	6	1-5	A
N ^o 3 AAC	8	1-4	A
N ^o 3 AAC	10	1-2	A
1/0 ACSR	6	1-3	A
1/0 AAC	8	1-2	A
1/0 AAC	10	1-2	A
4/0 ACSR	6	1-2	B
4/0 AAC	8	1-1	A
4/0 AAC	10	1-1	A

(Debasish Chakraborty)
PD, TAPP, BREB.

(Md. Ahsanul Haque)
Consultant TAPP, BREB.

(Md. Abul Khaleque)
Consultant TAPP, BREB.

- NOTE:-1. For use where there are, or are anticipated to be multiple domestic service connections. It is desirable to limit the number of multiple service drop connections to two per conductor per pole. The actual number of service drops will be determined by field conditions.
2. For single phase domestic type service connections only (N^o 6 duplex service drop)
3. Use "BLUE BLUE" service entrance sleeve.
4. Keep "TAIL" endings insulated until installation of the service sleeve.

EXAMPLE:- A total of six(6) service drop connections is desired. The LT secondary conductor size is 1/0ACSR. The correct H-type connector is code number 4. The N^o 6 duplex "TAILS" would be installed in groove 'A', the LT conductor in groove 'B'. If additional services are anticipated, connector code number 6 would be used and either 4 or 5 lengths of No. 6 duplex for a total of either 8 or 10 "TAIL" would be installed in groove "A".

(Md. Mozibur Rahman)
Consultant TAPP, BREB.

(Md. Duhidul Islam)
Consultant TAPP, BREB.

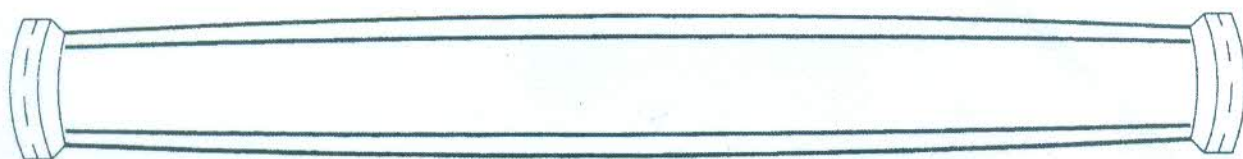
(Md. Mozammel Haq)
Consultant TAPP, BREB.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: MULTIPLE SERVICE CONNECTION GUIDE FOR DOMESTIC CONDUCTORS

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M45-22

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



INSTRUCTIONS FOR SPLICING OVERHEAD CONDUCTORS USING FULL-TENSION AUTOMATIC SLEEVES

(Kamrul Abrar Mollik)
Asst. Secy. (Board), BREB.

I. Preparation of Conductors :

1. Cut the conductor square so that all strands are even, in lay and free of burs.
2. Straighten the conductor to remove any curvature due to coiling.
3. Clean the conductor thoroughly by using a wire brush which has been coated with a liberal quantity of inhibitor. Wipe off excess inhibitor after cleaning. It is just as important to clean new conductors as well as old conductors.
4. The conductor size and type stamped on the splice must correspond to the size and type of the conductor to be spliced.
5. Measure and mark the conductor with electrical tape to ensure full insertion of the conductor into the splice. One half (1/2) the length of the splice is the measure of full insertion.

II. Installation of the Automatic Splice :

1. Remove the coloured end plug (if provided) by pulling out with a slight twisting motion.
2. Do not remove the conductor into the splice, and with a smooth straight thrust push the conductor through the gripping jaws until the conductor hits the centre stop.
4. Visually check tape marker to verify full insertion. Remove the tape marker.
5. As tension is applied the conductor will move 1/4" to 1/2" from the end of the splice due to the sliding action of the gripping jaws.
6. After completion of the splice installation and before the chain hoist or rope blocks have been released, an additional momentary tension (jerk) should be applied to the conductor to "set" the splice and assure proper installation.

(Md. Mozibur Rahman)
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(Md. Duhidul Islam)
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(Md. Mozammel Haq)
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(Md. Abdul Khaleque)
Consultant TAPP BREB

(Md. Asraful Haque)
Consultant TAPP BREB

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Debasish Chakraborty)
D.D. TAPP BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 6.35/11 KV AUTOMATIC SLEEVE INSTALLATION GUIDE

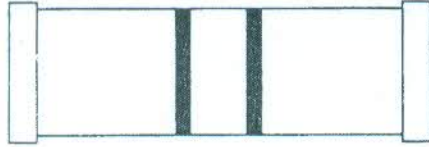
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M45-23

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

SERVICE ENTRANCE SLEEVES

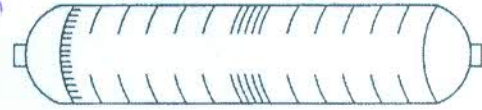
(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

I-11 TO I-19 AND I-51



(Debasish Chakraborty)
 TAPP BREB
 Consultant

I-9 AND I-10



UNINSULATED

ITEM NO.	SIDE A	END COLOUR	SIDE B	END COLOUR
I-9	4/0 STR TO 4/0 ACSR	PINK	4/0 STR TO 4/0 ACSR	PINK
I-10	4/0 STR TO 4/0 ACSR	PINK	1/0 STR TO 1/0 ACSR	YELLOW
I-11	1/0 STR TO 1/0 ACSR	YELLOW	1/0 STR TO 1/0 ACSR	YELLOW
I-12	1/0 STR TO 1/0 ACSR	YELLOW	3 ACSR	RED
I-13	1/0 STR TO 1/0 ACSR	YELLOW	4 STR TO 3 STR	ORANGE
I-14	5/16" GLV. TO 3 ACSR	RED	4 SOLID TO 6 ACSR	BLUE
I-15	4 STR TO 3 STR	ORANGE	4 STR TO 3 STR	ORANGE
I-16	4 STR TO 3 STR	ORANGE	4 SOLID TO 6 ACSR	BLUE
I-17	4 STR TO 3 STR	ORANGE	8 STR TO 6 SOLID	GREEN
I-18	4 SOLID TO 6 ACSR	BLUE	8 STR TO 6 SOLID	GREEN
I-19	4 SOLID TO 6 ACSR	BLUE	10 STR TO 8 SOLID	BROWN
I-51	4 SOLID TO 6 ACSR	BLUE	4 SOLID TO 6 ACSR	BLUE

(Md. Mozibur Rahmani)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB



INSULATED

(Md. Abdul Khaleque)
Consultant TAPP BREB

(Md. Moxammel Huj)
Consultant TAPP BREB

(Md. Ahsanul Haque)
Consultant TAPP BREB

৬২১ ভবন বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

I-49	4 STR TO 3 STR	ORANGE	4 STR TO 3 STR	ORANGE
I-50	4 SOLID TO 6 ACSR	BLUE	4 SOLID TO 6 ACSR	BLUE
I-72	4 SOLID TO 6 ACSR	BLUE	4 STR TO 3 STR	ORANGE

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: SERVICE ENTRANCE COMPRESSION TYPE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M46-02

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

A GROOVE	B GROOVE	CONDUCTORS IN GROOVE																						
		12 St. Cu.	10 St. Cu.	8 St. Cu.	6 Sol Cu.	6 ACSR	4 Sol Al.	1/4 G.W.	3 ACSR	3 St. Cu.	5/16 Gr.W.	3/8 G.W.	1/0 St. Cu.	2-6 ACSR	3-6 ACSR	1/0 ACSR	7/16 G.W.	4/0 St. Cu.	4/0 ACSR	4-6 ACSR	5-6 ACSR			
6 Sol. Cu.	1-7 DIE-BG 1 CRIMP	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
6 ACSR																								
4 Sol. Al.	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
1/4 G.W.																								
3 ACSR	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
3 St. Cu.																								
5/16 Gr. W.	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
3/8 G.W.																								
1/0 St. Cu.	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
2-6 ACSR																								
3-6 ACSR	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
1/0 ACSR																								
7/16 G.W.	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
4/0 St. Cu.																								
4/0 ACSR	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS
4-6 ACSR																								
5-6 ACSR	STREET LIGHT CONNECTORS	1-6 DIE-O 4 CRIMPS	1-8 DIE-O 2 CRIMPS	1-5 DIE-O 5 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS	1-4 DIE-D 5 CRIMPS	1-3 DIE-D 5 CRIMPS	1-2 DIE-D 7 CRIMPS	1-1 DIE-D 7 CRIMPS

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Md. Ahsanul Haque)
Consultant TAPP, BREB

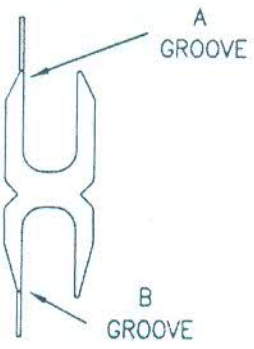
(Debasish Chakraborty)
PD, TAPP, BREB

(Md. Abdul Khaleque)
Consultant TAPP, BREB



"H" TYPE

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.



(Md. Mozibur Rahman)
Consultant TAPP, BREB

(Md. Duhidul Islam)
Consultant TAPP, BREB

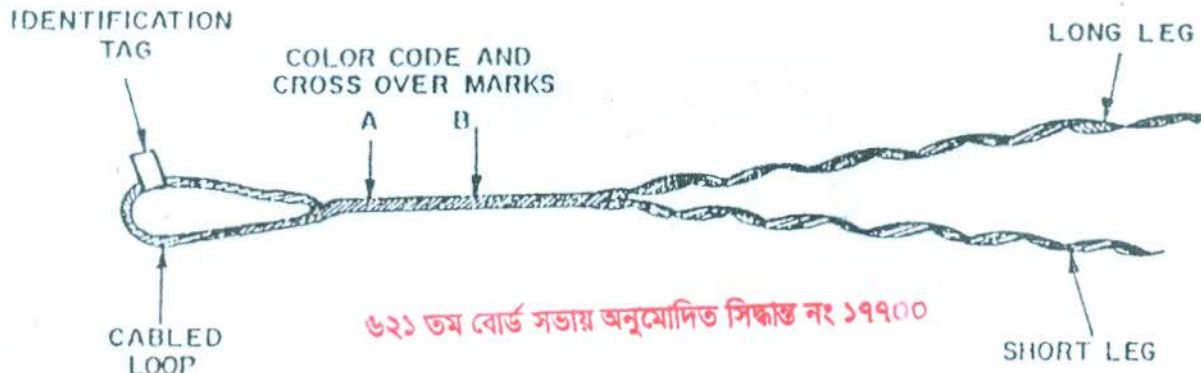
(Md. Mozammel Haque)
Consultant TAPP, BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: "C" TYPE AND "H" TYPE COMPRESSION CONNECTOR GUIDE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M46-04

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



INSTALLATION

1. For a down guy, fasten a "pulling eye" (TL-327) to the anchor rod. For an overhead guy, loop a sling or short piece of chain around the pole just below the guy attachment.
2. Fasten a "guy grip" (TL-315) to the guy wire. Place the guy grip far enough up the guy strand to allow enough length of guy strand for the installation of the preformed guy grip.
3. Install "chain hoist" (TL-311) so that the chain hoist head is in the guy grip and the take-up end is in the pulling eye or pole sling.
4. Tension the guy strand. The guy should be slightly over-tensioned to compensate for guy stretch and straightening after removal of the chain hoist.
5. Install the preformed guy grip so that the center of the grip loop is in anchor rod eye or guy attachment. Wrap one preformed guy grip leg onto the guy strand starting at the crossover mark "A". Wrap the other leg starting at the crossover mark "B". Cut the guy strand so that one inch extends into the loop of the preformed guy grip.

REMOVAL OR RETENSIONING

1. Note that one leg of the preformed guy grip is longer than the other.
2. With a screwdriver lift one of the strands of the longest leg and unwrap it about two pitches. Perform this same operation for the remaining longest leg strands.
3. Reassemble all the long leg strands into a helix by winding each one around an imaginary core so that every strand is parallel and none are crossed over any other.
4. When all the strands in this leg are completely reassembled into a helix, unwind this leg back to the loop. Repeat the above unwinding operations on the short leg.

REB ITEM NUMBER	GUY WIRE SIZE	COLOR CODED CROSS OVER MARKS
E-21	1/4"	YELLOW
E-22	3/8"	ORANGE
E-23	7/16"	GREEN

(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Ruhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Haque)
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(Md. Abdul Khaleque)
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(Md. Ahsanul Haque)
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(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB

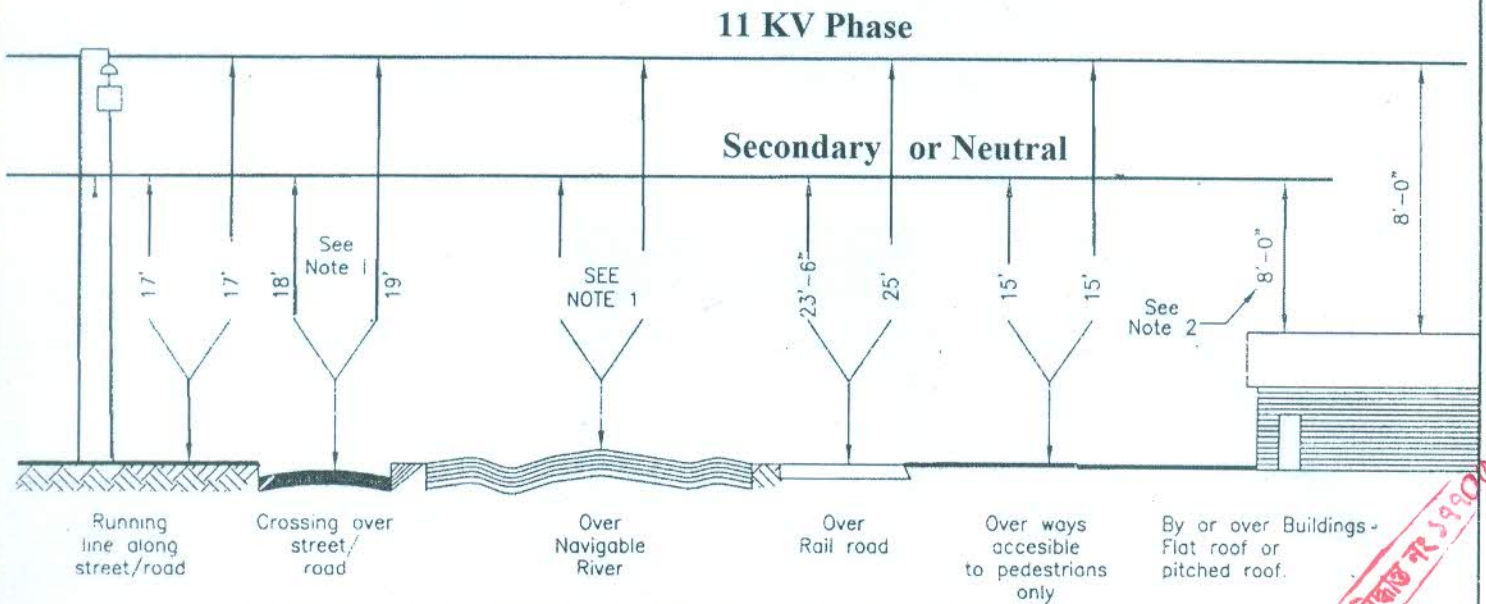
(Debasish Chakraborty)
PD, TAPP, BREB

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: PRE-FORMED GUY GRIP DATA AND INSTALLATION GUIDE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M47

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020



ABOVE GROUND, RAILS, ROADS

(Md. Abdul Khaleque)
Consultant TAPP, BREB

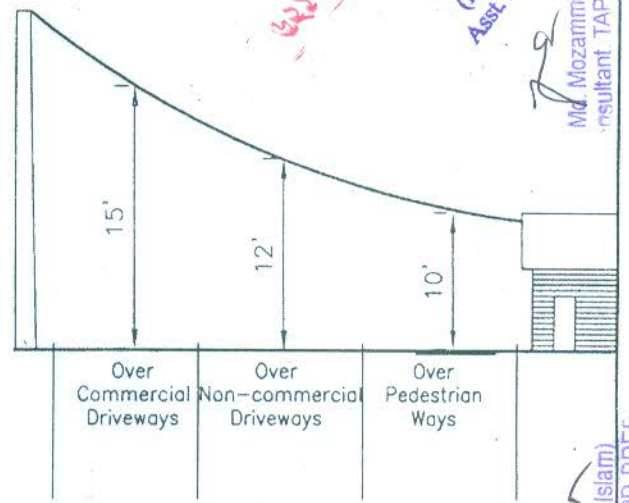
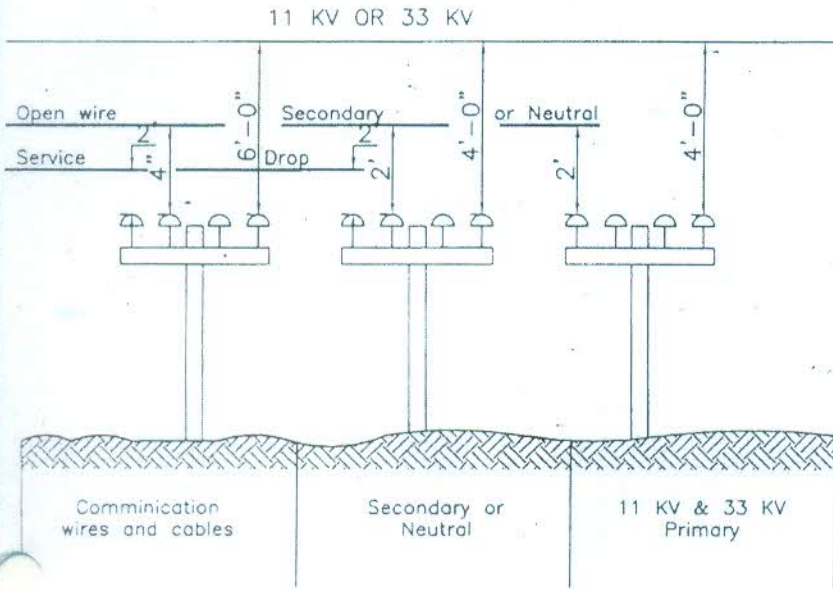
(Md. Ahsanul Haque)
Consultant, TAPP, BREB

(Debasish Chakraborty)
PD, TAPP, BREB

(Kamrul Ahsan Mohtaj)
Asst. Secy. (Board), BREB

(Md. Mozammel Haq)
Consultant, TAPP, BREB

১১ কি.ভোল্টের মতামত প্রদান করা হয়েছে।
৩১/০৭/১৯৯০



AT WIRE CROSSINGS

MULTIPLEX SERVICE CONDUCTORS

NOTES :

- Vertical clearance over navigable rivers are as authorized by Bangladesh Inland Water Authority. The required clearance is determined by the types of river traffic and varies between 35 feet and 70 feet. Before attempting a river crossing design the required clearance at the point of crossing should be determined and verified through the System Engineering and Design Directorate.
- Where the voltage between service conductors does not exceed 300 volts the following shall apply :
 - If the roof or balcony is not readily accessible, a reduction in clearance to 3 feet is permitted and
 - a reduction in clearance above only the overhanging portion of the roof to not less than 18 inches shall be permitted if no more than 4 feet of service drop conductors pass above the overhanging portion and then are terminated on an approved mast.

BANGLADESH RURAL ELECTRIFICATION BOARD

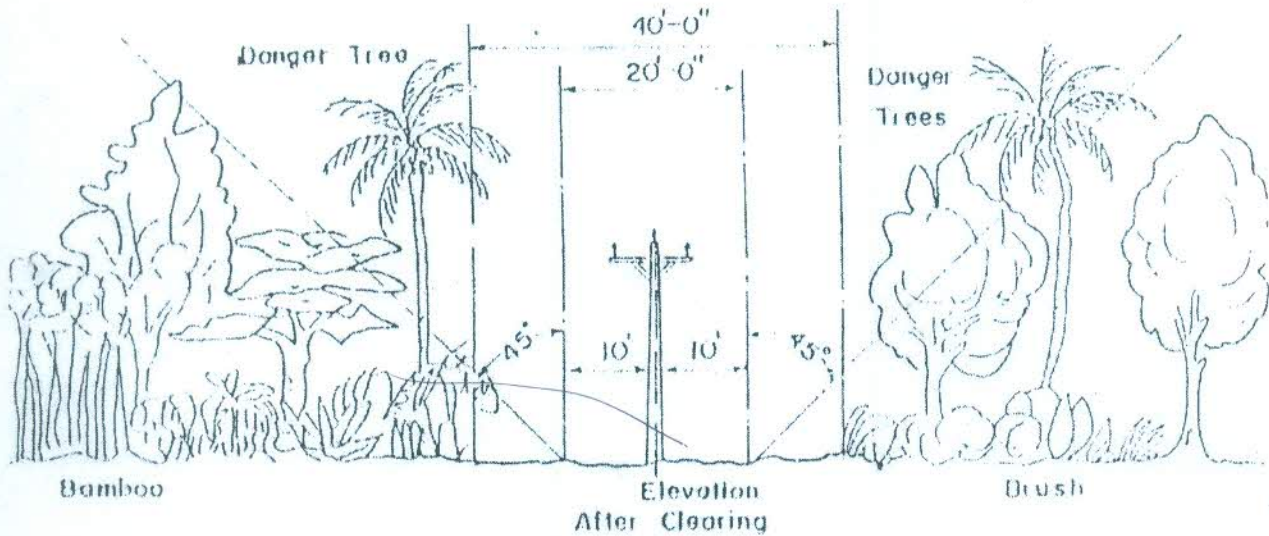
Unit Description: MINIMUM VERTICAL CONDUCTOR CLEARANCES

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	M50

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Md. Duhidul Islam)
Consultant, TAPP, BREB

(Md. Mozibur Rahman)
Consultant, TAPP, BREB



(Debasish Chakraborty)
PD, TAPP, BREB.

NOTES:-

More consumers lose service because of tree damage to transmission lines than similar damage to distribution lines, so tree trimming requirements are correspondingly greater and must be strictly enforced for 33KV construction.

Trees like coconut palms which lose all their foliage, when topped because they intrude into the danger zone, must be cut off level with the ground regardless of their location.

On level ground, rapidly growing trees should be considered for topping or removal if they would reach within 5 feet of a point immediately below an outside conductor in falling.

(Md. Mozibur Rahman) Consultant, TAPP, BREB
 (Md. Dunidul Islam) Consultant, TAPP, BREB
 (Md. Mozammel Haq) Consultant, TAPP, BREB
 (Md. Abdul Khaleque) Consultant, TAPP, BREB
 (Md. Ahsanul Haque) Consultant, TAPP, BREB

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: RIGHT OF WAY CLEARANCE GUIDE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	R1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

INITIAL SAG TABLE
No. 3 ACSR "SWALLOW"
(300ft. Ruling Span)

Temp ° F	TENSION in pounds	SAG INCHES for SPANS IN FEET																					
		150	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
120	358	6.9	12.2	13.4	14.7	16.1	17.5	19.0	20.6	22.2	23.9	25.6	27.4	29.3	31.2	33.2	35.2	37.3	39.5	41.7	44.0	46.3	48.7
115	374	6.6	11.6	12.8	14.1	15.4	16.8	18.2	19.7	21.2	22.8	24.5	26.2	28.0	29.8	31.7	33.7	35.7	37.7	39.9	42.0	44.3	46.6
110	391	6.3	11.1	12.3	13.4	14.7	16.0	17.4	18.8	20.3	21.8	23.4	25.0	26.7	28.4	30.3	32.1	34.0	36.0	38.0	40.1	42.3	44.4
105	408	6.0	10.6	11.7	12.9	14.0	15.3	16.6	18.0	19.4	20.8	22.3	23.9	25.5	27.2	28.9	30.7	32.5	34.4	36.4	38.3	40.4	42.5
100	426	5.7	10.2	11.2	12.3	13.5	14.7	15.9	17.2	18.5	19.9	21.4	22.9	24.5	26.1	27.7	29.4	31.2	33.0	34.8	36.7	38.7	40.7
95	444	5.5	9.8	10.8	11.9	13.0	14.1	15.3	16.6	17.9	19.3	20.7	22.1	23.6	25.1	26.7	28.4	30.1	31.8	33.6	35.5	37.3	39.3
90	462	5.3	9.4	10.3	11.3	12.4	13.5	14.7	15.8	17.1	18.4	19.7	21.1	22.5	24.0	25.5	27.1	28.7	30.4	32.1	33.9	35.7	37.5
85	480	5.1	9.1	10.0	11.0	12.0	13.1	14.2	15.3	16.5	17.8	19.1	20.4	21.8	23.2	24.7	26.2	27.8	29.4	31.0	32.7	34.5	36.3
80	498	4.9	8.8	9.7	10.6	11.6	12.6	13.7	14.8	16.0	17.2	18.4	19.7	21.0	22.4	23.8	25.3	26.8	28.4	30.0	31.6	33.3	35.0
75	516	4.8	8.4	9.3	10.2	11.2	12.2	13.2	14.3	15.4	16.6	17.8	19.0	20.3	21.6	23.0	24.4	25.9	27.4	28.9	30.5	32.1	33.8
70	534	4.6	8.1	8.9	9.8	10.7	11.6	12.6	13.7	14.7	15.9	17.0	18.2	19.4	20.7	22.0	23.4	24.8	26.2	27.7	29.2	30.8	32.4
65	553	4.4	7.8	8.6	9.5	10.3	11.3	12.2	13.2	14.3	15.3	16.4	17.6	18.8	20.0	21.3	22.6	24.0	25.3	26.8	28.2	29.7	31.3
60	571	4.3	7.6	8.4	9.2	10.1	11.0	11.9	12.9	13.9	15.0	16.1	17.2	18.4	19.6	20.8	22.1	23.4	24.8	26.2	27.6	29.1	30.6
55	589	4.2	7.4	8.1	8.9	9.8	10.6	11.5	12.5	13.4	14.5	15.5	16.6	17.7	18.9	20.1	21.3	22.6	23.9	25.3	26.6	28.1	29.5
50	607	4.0	7.2	7.9	8.7	9.5	10.3	11.2	12.1	13.0	14.0	15.0	16.1	17.2	18.3	19.5	20.7	21.9	23.2	24.5	25.8	27.2	28.6

INITIAL No. 3 ACSR

NOTE : THIS TABLE IS FOR DESIGN PURPOSE ONLY

৩২১ ওফ নোডে পড়ায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০০

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 33 KV NO. 2 ACSR (6/1) "SWALLOW" INITIAL SAG TABLE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	TS-3-I

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Md. Mozibur Rahman)
Consultant TAPP, BREB

(Md. Nurul Islam)
Consultant TAPP, BREB

(Md. Mozammel Haque)
Consultant TAPP, BREB

(Md. Abdul Khaleque)
Consultant TAPP, BREB

(Md. Ahsanul Haque)
Consultant TAPP, BREB

(Debasis Chakraborty)
PD, TAPP, BREB

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB

Initial Sag of 1/0 ACSR(6/1)																						
300 Feet Ruling Span																						
Temperature	Tension	Sag in Inches for Span in Feet																				
°F	Pounds	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
120	728	12.0	13.2	14.5	15.9	17.3	18.8	20.3	21.9	23.5	25.2	27.0	28.8	30.7	32.7	34.7	36.8	38.9	41.1	43.3	45.6	48.0
115	758	11.5	12.7	13.9	15.2	16.6	18.0	19.5	21.0	22.6	24.2	25.9	27.7	29.5	31.3	33.3	35.3	37.3	39.4	41.6	43.5	46.0
110	788	11.1	12.2	13.4	14.7	16.0	17.4	18.8	20.2	21.8	23.4	25.0	26.7	28.4	30.2	32.1	34.0	36.0	38.0	40.1	42.2	44.0
105	818	10.7	11.8	12.9	14.1	15.4	16.7	18.0	19.4	20.9	22.4	24.0	25.6	27.3	29.0	30.8	32.7	34.6	36.5	38.5	40.6	42.7
100	849	10.3	11.4	12.5	13.6	14.8	16.1	17.4	18.8	20.2	21.7	23.2	24.8	26.4	28.1	29.8	31.6	33.4	35.3	37.2	39.2	41.2
95	880	9.9	10.9	12.0	13.1	14.3	15.5	16.7	18.1	19.4	20.8	22.3	23.8	25.4	27.0	28.6	30.4	32.1	33.9	35.8	37.7	39.6
90	911	9.6	10.6	11.6	12.7	13.8	15.0	16.2	17.5	18.8	20.2	21.6	23.1	24.6	26.1	27.7	29.4	31.1	32.9	34.7	36.5	38.4
85	941	9.3	10.2	11.2	12.3	13.4	14.5	15.7	16.9	18.2	19.5	20.9	22.3	23.8	25.3	26.8	28.4	30.1	21.8	33.5	35.3	37.2
80	972	9.0	9.9	10.9	11.9	12.9	14.0	15.2	16.4	17.6	18.9	20.2	21.6	23.0	24.4	25.9	27.5	29.1	30.7	32.4	34.1	35.9
75	1003	8.7	9.6	10.5	11.5	12.5	13.6	14.7	15.9	17.1	18.3	19.6	20.9	22.3	23.7	25.2	26.7	28.2	29.8	31.4	33.1	34.8
70	1034	8.4	9.3	10.2	11.2	12.2	13.2	14.3	15.4	16.6	17.8	19.0	20.3	21.6	23.0	24.4	25.9	27.4	28.9	30.5	32.1	33.8
65	1065	8.2	9.1	9.9	10.9	11.8	12.8	13.9	15.0	16.1	17.3	18.5	19.8	21.0	22.4	23.8	25.2	26.6	28.1	29.7	31.3	32.9
60	1095	8.0	8.8	9.6	10.5	11.5	12.4	13.4	14.5	15.6	16.7	17.9	19.1	20.4	21.7	23.0	24.4	25.8	27.2	28.7	30.3	31.8
55	1125	7.7	8.5	9.4	10.2	11.1	12.1	13.1	14.1	15.2	16.3	17.4	18.6	19.8	21.1	22.3	23.7	25.1	26.5	27.9	29.4	30.9
50	1155	7.5	8.3	9.1	9.9	10.8	11.7	12.7	13.7	14.7	15.8	16.9	18.0	19.2	20.4	21.7	23.0	24.3	25.7	27.1	28.6	30.0

BANGLADESH RURAL ELECTRIFICATION BOARD				
Unit Description: INITIAL SAG 1/0 ACSR				
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB	6	S-1/0-I
Revision Date: July 1981, August 1989, July 1995, August 2013, February 2020				

৬৯৯ ভূমি বোর্ড সজায় অনুমোদিত সিকার নং ১৯৭০


(Md. Mozibur Rahman)
Consultant TAPP BREB



(Md. Duhidul Islam)
Consultant TAPP BREB


(Md. Mozammel Haq)
Consultant TAPP BREB


(Md. Abdul Khaleque)
Consultant TAPP BREB


(Md. Ahsanul Haque)
Consultant TAPP BREB


(Debasish Chakraborty)
PD, TAPP, BREB


(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

INITIAL SAG TABLE
4/0 ACSR "PENGUIN"
 (300ft. Ruling Span)

Temp °F	TENSION in pounds	SAG INCHES for SPANS IN FEET																					
		150	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
120	1.359	7.2	12.8	14.2	15.5	17.0	18.5	20.1	21.7	23.4	25.2	27.0	28.9	30.9	32.9	35.0	37.1	39.3	41.6	44.0	46.4	48.8	51.4
115	1.416	6.9	12.3	13.6	14.9	16.3	17.7	19.2	20.8	22.4	24.1	25.9	27.7	29.6	31.5	33.5	35.6	37.7	39.9	42.1	44.4	46.8	49.2
110	1.475	6.7	11.8	13.0	14.3	15.6	17.0	18.5	20.0	21.5	23.2	24.9	26.6	28.4	30.3	32.2	34.2	36.2	38.3	40.5	42.7	45.0	47.3
105	1.534	6.4	11.4	12.5	13.8	15.0	16.4	17.8	19.2	20.7	22.3	23.9	25.6	27.3	29.1	31.0	32.9	34.8	36.9	38.9	41.1	43.3	45.5
100	1.595	6.2	10.9	12.1	13.2	14.5	15.7	17.1	18.5	19.9	21.4	23.0	24.6	26.3	28.0	29.8	31.6	33.5	35.4	37.4	39.5	41.6	43.7
95	1.656	6.0	10.6	11.7	12.8	14.0	15.2	16.5	17.9	19.3	20.7	22.2	23.8	25.4	27.1	28.8	30.6	32.4	34.3	36.2	38.2	40.2	42.3
90	1.717	5.7	10.2	11.2	12.3	13.5	14.7	15.9	17.2	18.5	19.9	21.4	22.9	24.5	26.1	27.7	29.4	31.2	33.0	34.8	36.7	38.7	40.7
85	1.779	5.5	9.8	10.8	11.8	12.9	14.1	15.3	16.5	17.8	19.2	20.6	22.0	23.5	25.0	26.6	28.3	29.9	31.7	33.5	35.3	37.2	39.1
80	1.841	5.4	9.5	10.5	11.5	12.6	13.7	14.9	16.1	17.3	18.6	20.0	21.4	22.9	24.3	25.9	27.5	29.1	30.8	32.6	34.3	36.2	38.0
75	1.903	5.2	9.2	10.1	11.1	12.1	13.2	14.3	15.5	16.7	17.9	19.2	20.6	22.0	23.4	24.9	26.5	28.0	29.7	31.3	33.1	34.8	36.6
70	1.965	5.0	8.9	9.8	10.8	11.8	12.8	13.9	15.0	16.2	17.4	18.7	20.0	21.4	22.8	24.2	25.7	27.2	28.8	30.4	32.1	33.8	35.6
65	2.026	4.9	8.6	9.5	10.4	11.4	12.4	13.5	14.6	15.7	16.9	18.1	19.4	20.7	22.1	23.5	24.9	26.4	27.9	29.5	31.1	32.8	34.5
60	2.087	4.7	8.4	9.2	10.1	11.1	12.0	13.1	14.1	15.2	16.4	17.6	18.8	20.1	21.4	22.7	24.1	25.6	27.1	28.6	30.2	31.8	33.4
55	2.149	4.6	8.1	8.9	9.8	10.7	11.6	12.6	13.7	14.7	15.9	17.0	18.2	19.4	20.7	22.0	23.4	24.8	26.2	27.7	29.2	30.8	32.4
50	2.209	4.4	7.9	8.7	9.5	10.4	11.3	12.3	13.3	14.3	15.4	16.5	17.7	18.9	20.1	21.4	22.7	24.1	25.5	26.9	28.4	29.9	31.5

INITIAL 4/0 ACSR

NOTE : THIS TABLE IS FOR DESIGN PURPOSE ONLY

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭৪০

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 33 KV 4/0 ACSR (6/1) "PENGUIN" INITIAL SAG TABLE

(Kamrul Ahsan Mollah)
Asst. Secy. (Board), BREB.

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	TS-4/0-1

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Md. Mozibur Rahman)
Consultant, TAPP, BREB

(Md. Zahidul Islam)
Consultant, TAPP, BREB

(Md. Mozammel Hossain)
Consultant, TAPP, BREB

(Md. Abdul Khaleque)
Consultant, TAPP, BREB

(Md. Ahsanul Haque)
Consultant, TAPP, BREB

(Debasish Chakraborty)
PD, TAPP, BREB

INITIAL SAG TABLE
477 MCM (26/7) "HAWK"
(300ft. Ruling Span)

Temp °F	TENSION in pounds	SAG INCHES for SPANS IN FEET																					
		150	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
120	1732	12.8	22.8	25.1	27.5	30.1	32.8	35.6	38.5	41.5	44.6	47.8	51.2	54.7	58.3	62.0	65.8	69.7	73.7	77.9	82.1	86.5	91.0
115	1792	12.4	22.0	24.2	26.6	29.0	31.6	34.3	37.1	40.0	43.0	46.2	49.4	52.7	56.2	59.8	63.5	67.2	71.1	75.1	79.3	83.5	87.8
110	1857	12.0	21.2	23.4	25.7	28.1	30.6	33.2	35.9	38.7	41.6	44.7	47.8	51.0	54.4	57.8	61.4	65.1	68.8	72.7	76.7	80.8	85.0
105	1926	11.5	20.4	22.5	24.7	27.0	29.4	31.9	34.6	37.3	40.1	43.0	46.0	49.1	52.3	55.7	59.1	62.6	66.2	70.0	73.8	77.7	81.8
100	2001	11.1	19.7	21.7	23.8	26.0	28.4	30.8	33.3	35.9	38.6	41.4	44.3	47.3	50.4	53.6	56.9	60.3	63.8	67.4	71.1	74.9	78.8
95	2081	10.7	18.9	20.9	22.9	25.0	27.3	29.6	32.0	34.5	37.1	39.8	42.6	45.5	48.5	51.5	54.7	58.0	61.3	64.8	68.3	72.0	75.7
90	2166	10.2	18.2	20.0	22.0	24.0	26.2	28.4	30.7	33.1	35.6	38.2	40.9	43.7	46.5	49.5	52.5	55.7	58.9	62.2	65.6	69.1	72.7
85	2257	9.8	17.4	19.2	21.1	23.0	25.1	27.2	29.4	31.8	34.1	36.6	39.2	41.9	44.6	47.4	50.4	53.4	56.4	59.6	62.9	66.2	69.7
80	2354	9.4	16.8	18.5	20.3	22.2	24.1	26.2	28.3	30.5	32.8	35.2	37.7	40.3	42.9	45.6	48.4	51.3	54.3	57.3	60.5	63.7	67.0
75	2456	9.0	16.0	17.7	19.4	21.2	23.1	25.1	27.1	29.2	31.4	33.7	36.1	38.5	41.1	43.7	46.4	49.1	52.0	54.9	57.9	61.0	64.2
70	2565	8.7	15.4	17.0	18.6	20.3	22.1	24.0	26.0	28.0	30.1	32.3	34.6	36.9	39.4	41.9	44.4	47.1	49.8	52.6	55.5	58.5	61.5
65	2679	8.3	14.7	16.2	17.8	19.5	21.2	23.0	24.9	26.8	28.8	30.9	33.1	35.3	37.7	40.1	42.5	45.1	47.7	50.3	53.1	55.9	58.8
60	2799	7.9	14.1	15.5	17.0	18.6	20.3	22.0	23.8	25.7	27.6	29.6	31.7	33.8	36.1	38.4	40.7	43.1	45.6	48.2	50.9	53.6	56.4
55	2924	7.6	13.5	14.9	16.3	17.9	19.5	21.1	22.8	24.6	26.5	28.4	30.4	32.5	34.6	36.8	39.0	41.4	43.8	46.2	48.8	51.4	54.0
50	3053	7.3	12.9	14.2	15.6	17.0	18.6	20.1	21.8	23.5	25.3	27.1	29.0	31.0	33.0	35.1	37.2	39.5	41.8	44.1	46.5	49.0	51.6

INITIAL 477 mcm ACSR

NOTE : THIS TABLE IS FOR DESIGN PURPOSE ONLY

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭০৩

BANGLADESH RURAL ELECTRIFICATION BOARD

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

Unit Description: 33 KV 477 mcm (26/7) "HAWK" INITIAL SAG TABLE

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	TS-477-I

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, 2019.

(Md. Mozibur Rahman)
Consultant, TAPP, BREB

(Md. Duhidul Islam)
Consultant, TAPP, BREB

(Md. Mokammel Haq)
Consultant, TAPP, BREB

(Md. Saadul Khaleque)
Consultant TAPP, BREB

(Md. Ahsanul Haque)
Consultant, TAPP, BREB

(Debasish Chakraborty)
PD, TAPP, BREB.

FINAL SAG TABLE
No. 3 ACSR "SWALLOW"
(300ft. Ruling Span)
MAXIMUM DESIGN TENSION = 745 POUNDS

Temp °F	TENSION in pounds	SAG INCHES for SPANS IN FEET																					
		150	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
120	243	10.1	17.9	19.7	21.6	23.6	25.7	27.9	30.2	32.6	35.0	37.6	40.2	42.9	45.7	48.6	51.6	54.7	57.9	61.1	64.5	67.9	71.5
115	255	9.6	17.0	18.8	20.6	22.5	24.5	26.6	28.8	31.0	33.4	35.8	38.3	40.9	43.6	46.3	49.2	52.1	55.2	58.3	61.5	64.7	68.1
110	264	9.1	16.2	17.9	19.6	21.5	23.4	25.3	27.4	29.6	31.8	34.1	36.5	39.0	41.5	44.2	46.9	49.7	52.6	55.5	58.6	61.7	64.9
105	282	8.7	15.4	17.0	18.7	20.4	22.2	24.1	26.1	28.1	30.2	32.4	34.7	37.1	39.5	42.0	44.6	47.2	50.0	52.8	55.7	58.6	61.7
100	298	8.2	14.6	16.1	17.7	19.3	21.1	22.8	24.7	26.6	28.7	30.7	32.9	35.1	37.4	39.8	42.3	44.8	47.4	50.0	52.8	55.6	58.5
95	314	7.8	13.8	15.2	16.7	18.3	19.9	21.6	23.4	25.2	27.1	29.1	31.1	33.2	35.4	37.6	39.9	42.3	44.8	47.3	49.9	52.6	55.3
90	332	7.4	13.1	14.5	15.9	17.3	18.9	20.5	22.2	23.9	25.7	27.6	29.5	31.5	33.6	35.7	37.9	40.2	42.5	44.9	47.3	49.9	52.4
85	350	7.0	12.4	13.7	15.1	16.5	17.9	19.4	21.0	22.7	24.4	26.2	28.0	29.9	31.9	33.9	36.0	38.1	40.3	42.6	44.9	47.3	49.8
80	370	6.6	11.7	12.9	14.2	15.5	16.9	18.3	19.8	21.4	23.0	24.7	26.4	28.2	30.0	31.9	33.9	35.9	38.0	40.2	42.4	44.6	46.9
75	391	6.3	11.2	12.3	13.5	14.8	16.1	17.4	18.9	20.3	21.9	23.5	25.1	26.8	28.6	30.4	32.2	34.2	36.1	38.2	40.3	42.4	44.6
70	412	6.0	10.6	11.7	12.8	14.0	15.2	16.5	17.9	19.3	20.7	22.2	23.8	25.4	27.1	28.8	30.6	32.4	34.3	36.2	38.2	40.2	42.3
65	435	5.6	10.0	11.0	12.0	13.2	14.3	15.6	16.8	18.1	19.5	20.9	22.4	23.9	25.5	27.1	28.8	30.5	32.3	34.1	35.9	37.9	39.8
60	458	5.4	9.5	10.5	11.5	12.6	13.7	14.9	16.1	17.3	18.6	20.0	21.4	22.9	24.3	25.9	27.5	29.1	30.8	32.6	34.3	36.2	38.0
55	482	5.1	9.0	9.9	10.9	11.9	13.0	14.1	15.2	16.4	17.7	19.0	20.3	21.7	23.1	24.6	26.1	27.6	29.2	30.9	32.6	34.3	36.1
50	506	4.8	8.6	9.5	10.4	11.3	12.4	13.4	14.5	15.6	16.8	18.0	19.3	20.6	22.0	23.4	24.8	26.3	27.8	29.4	31.0	32.6	34.3

FINAL No. 3 ACSR

NOTE : THIS TABLE IS FOR DESIGN PURPOSE ONLY

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭/০০

BANGLADESH RURAL ELECTRIFICATION BOARD

Unit Description: 33 KV NO. 3 ACSR (6/1) "SWALOLOW" FINAL SAG TABLE

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	TS-3-F

Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020

(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Duhidul Islam)
Consultant TAPP BREB

(Md. Mozammel Haq)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant TAPP BREB

(Md. Ahsanul Haque)
Consultant TAPP BREB

(Debasish Chakraborty)
PD, TAPP, BREB.

FINAL SAG TABLE
4/0 ACSR "PENGUIN"
 (300ft. Ruling Span)
MAXIMUM DESIGN TENSION = 2276 POUNDS

Temp °F	TENSION in pounds	SAG INCHES for SPANS IN FEET																					
		150	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
120	770	12.8	22.7	25.0	27.5	30.0	32.7	35.5	38.4	41.4	44.5	47.8	51.1	54.6	58.1	61.8	65.6	69.6	73.6	77.7	82.0	86.4	90.8
150	800	12.3	21.9	24.1	26.5	28.9	31.5	34.2	37.0	39.9	42.9	46.0	49.2	52.5	56.0	59.5	63.2	67.0	70.8	74.8	78.9	83.1	87.5
110	833	11.8	21.0	23.2	25.4	27.8	30.3	32.8	35.5	38.3	41.2	44.2	47.3	50.5	53.8	57.2	60.8	64.4	68.1	71.9	75.9	79.9	84.1
105	868	11.4	20.2	22.2	24.4	26.7	29.1	31.5	34.1	36.8	39.5	42.4	45.4	48.5	51.7	54.9	58.3	61.8	65.4	69.1	72.8	76.7	80.7
100	906	10.9	19.3	21.3	23.3	25.5	27.8	30.1	32.6	35.2	37.8	40.6	43.4	46.3	49.4	52.5	55.7	59.1	62.5	66.0	69.6	73.3	77.2
95	948	10.4	18.4	20.3	22.3	24.4	26.6	28.8	31.2	33.6	36.2	38.8	41.5	44.3	47.2	50.2	53.3	56.5	59.8	63.1	66.6	70.1	73.8
90	992	9.9	17.6	19.4	21.3	23.3	25.3	27.5	29.7	32.1	34.5	37.0	39.6	42.3	45.1	47.9	50.9	53.9	57.0	60.2	63.5	66.9	70.4
85	1040	9.5	16.8	18.5	20.3	22.2	24.2	26.3	28.4	30.6	32.9	35.3	37.8	40.4	43.0	45.7	48.6	51.5	54.4	57.5	60.6	63.9	67.2
80	1092	9.0	16.0	17.6	19.4	21.2	23.0	25.0	27.0	29.2	31.4	33.6	36.0	38.4	41.0	43.6	46.2	49.0	51.8	54.8	57.8	60.8	64.0
75	1147	8.6	15.2	16.8	18.4	20.2	22.0	23.8	25.8	27.8	29.9	32.1	34.3	36.6	39.0	41.5	44.1	46.7	49.4	52.2	55.0	58.0	61.0
70	1206	8.2	14.5	16.0	17.5	19.2	20.9	22.6	24.5	26.4	28.4	30.5	32.6	34.8	37.1	39.4	41.9	44.4	46.9	49.6	52.3	55.1	58.0
65	1268	7.8	13.8	15.2	16.7	18.2	19.8	21.5	23.3	25.1	27.0	29.0	31.0	33.1	35.3	37.5	39.8	42.2	44.6	47.2	49.7	52.4	55.1
60	1334	7.4	13.1	14.5	15.9	17.3	18.9	20.5	22.2	23.9	25.7	27.6	29.5	31.5	33.6	35.7	37.9	40.2	42.5	44.9	47.3	49.9	52.4
55	1403	7.0	12.4	13.7	15.1	16.5	17.9	19.4	21.0	22.7	24.4	26.2	28.0	29.9	31.9	33.9	36.0	38.1	40.3	42.6	44.9	47.3	49.8
50	1475	6.7	11.8	13.0	14.3	15.6	17.0	18.5	20.0	21.5	23.2	24.9	26.6	28.4	30.3	32.2	34.2	36.2	38.3	40.5	42.7	45.0	47.3

FINAL 4/0 ACSR

NOTE : THIS TABLE IS ONLY FOR CONDUCTOR INSTALLATION

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭৩৩

BANGLADESH RURAL ELECTRIFICATION BOARD				
Unit Description: 33 KV 4/0 ACSR (6/1) "PENGUIN" FINAL SAG TABLE				
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	TS-4/0-F
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, February 2020				

(Kamrul Ahsan Mollik)
Asst. Secy. (Board), BREB.

(Md. Mozibur Rahman)
Consultant TAPP BREB

(Md. Dujidul Islam)
Consultant TAPP BREB

(Md. Mohammad Hossain)
Consultant TAPP BREB

(Md. Abdul Khaleque)
Consultant TAPP BREB

(Md. Ahsanul Haque)
Consultant TAPP BREB

(Debasish Chakraborty)
PD TAPP BREB

FINAL SAG TABLE
477 mcm (26/7) ACSR "HAWK"
(300ft. Ruling Span)
MAXIMUM DESIGN TENSION = 2,687 POUNDS

Temp °F	TENSION in pounds	SAG INCHES for SPANS IN FEET																					
		150	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400
120	1478	15.0	26.7	29.4	32.3	35.3	38.4	41.7	45.1	48.6	52.3	56.1	60.0	64.1	68.3	72.6	77.1	81.7	86.4	91.3	96.3	101.4	106.7
115	1499	14.8	26.3	29.0	31.8	34.8	37.9	41.1	44.5	48.0	51.6	55.3	59.2	63.2	67.4	71.6	76.0	80.6	85.2	90.0	95.0	100.0	105.2
110	1520	14.6	25.9	28.6	31.4	34.3	37.3	40.5	43.8	47.2	50.8	54.5	58.3	62.3	66.3	70.5	74.9	79.4	84.0	88.7	93.5	98.5	103.6
105	1555	14.3	25.3	27.9	30.7	33.5	36.5	39.6	42.8	46.2	49.7	53.3	57.0	60.9	64.9	69.0	73.2	77.6	82.1	86.7	91.5	96.3	101.3
100	1605	13.8	24.5	27.0	29.7	32.4	35.3	38.3	41.5	44.7	48.1	51.6	55.2	58.9	62.8	66.8	70.9	75.1	79.5	84.0	88.6	93.3	98.1
95	1660	13.4	23.7	26.2	28.7	31.4	34.2	37.1	40.1	43.3	46.5	49.9	53.4	57.0	60.8	64.6	68.6	72.7	76.9	81.2	85.7	90.2	94.9
90	1719	12.9	22.9	25.3	27.7	30.3	33.0	35.8	38.8	41.8	44.9	48.2	51.6	55.1	58.7	62.4	66.3	70.2	74.3	78.5	82.8	87.2	91.7
85	1783	12.5	22.2	24.5	26.8	29.3	31.9	34.7	37.5	40.4	43.5	46.6	49.9	53.3	56.8	60.4	64.1	67.9	71.9	75.9	80.1	84.3	88.7
80	1852	12.0	21.3	23.5	25.8	28.2	30.7	33.3	36.0	38.8	41.7	44.8	47.9	51.1	54.5	58.0	61.5	65.2	69.0	72.9	76.9	81.0	85.2
75	1928	11.5	20.4	22.5	24.7	27.0	29.4	31.9	34.6	37.3	40.1	43.0	46.0	49.1	52.3	55.7	59.1	62.6	66.2	70.0	73.8	77.7	81.8
70	2010	11.0	19.6	21.6	23.7	25.9	28.2	30.6	33.0	35.6	38.3	41.1	44.0	47.0	50.1	53.2	56.5	59.9	63.4	66.9	70.6	74.4	78.2
65	2099	10.6	18.8	20.7	22.7	24.8	27.0	29.3	31.7	34.2	36.8	39.4	42.2	45.1	48.0	51.1	54.2	57.4	60.8	64.2	67.7	71.3	75.0
60	2196	10.1	17.9	19.7	21.7	23.7	25.8	28.0	30.3	32.6	35.1	37.7	40.3	43.0	45.9	48.8	51.8	54.9	58.0	61.3	64.7	68.1	71.6
55	2301	9.6	17.1	18.9	20.7	22.6	24.6	26.7	28.9	31.2	33.5	36.0	38.5	41.1	43.8	46.6	49.5	52.4	55.4	58.6	61.8	65.1	68.4
50	2415	9.2	16.3	18.0	19.7	21.6	23.5	25.5	27.6	29.7	32.0	34.3	36.7	39.2	41.8	44.4	47.1	50.0	52.8	55.8	58.9	62.0	65.2

FINAL 477 mcm ACSR

NOTE : THIS TABLE IS ONLY FOR CONDUCTOR INSTALLATION

৬২১ তম বোর্ড সভায় অনুমোদিত সিদ্ধান্ত নং ১৭৭৫০

BANGLADESH RURAL ELECTRIFICATION BOARD				
Unit Description: 33 KV 477 MCM ACSR (26/7) "HAWK" FINAL SAG TABLE				
Date of Origin	Reviewed by	Approved by	Revision No.	Unit Designation
July 1979	BREB	BREB Board	6	TS-477-F
Revision Date: July 1980, June 1981, August 1989, July 1995, August 2013, 2019.				

(Kamrul Ahsan Mollik)
 Asst. Secy. (Board), BREB.

(Md. Mozibur Rahman)
 Consultant TAPP BREB

(Md. Dunidul Islam)
 Consultant TAPP BREB

(Md. Mozammel Haq)
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(Md. Abdul Khaleque)
 Consultant TAPP BREB

(Md. Ahsanul Haque)
 Consultant TAPP BREB

(Debasish Chakraborty)
 PD. TAPP BREB.