DISTRIBUTION CONSTRUCTION STANDARDS

The construction standards set forth in this manual represent accepted specifications for distribution lines throughout the Central Maine Power Company (CMP) system. These standards are for construction and technical information. They are not intended to interpret Company policy in the serving of customers. These specifications, effective at the date of their issue, have been instituted with the objective of establishing uniform distribution construction. The standards are based on the requirements of the National Electrical Safety Code (ANSI standard #2C), Maine State regulation and supplemented by Central Maine Power standard work practices. However, any more stringent requirements contained herein will apply.

These standards should be utilized only by those competent in the construction, operation and maintenance of electrical distribution facilities, CMP Safety Rules and CMP work practices. Economy and safety require that these specifications be followed where ever practicable. All new construction and all rebuilds of any consequence shall conform to these standards unless specific approval for the particular deviation has been obtained from the CMP Distribution Field Engineer. Approvals for deviations from these standards will be granted only under specific circumstances and shall not be given on a blanket basis. It is not intended that existing construction be immediately changed to conform to these standards. Nothing in these standards shall be construed as superseding the regulations of any state or municipal authorities.

ATTENTION CONTRACTORS

There are reference tables included in the Standards Book, such as sag charts, wire and pole characteristics etc, that are used for comparison reasons. Acceptable materials are reflected in the Contractor Item Catalog. Please refer to this to avoid confusion.

The process for requesting an alternative material

1. Contractor should submit to CMP, (to the Manager of Distribution Engineering) the recommendations, in writing, along with Manufacturers Specifications.
2. CMP will review.
3. If accepted, CMP will submit to MPUC, a request for a more flexable standard and notify all private contractors, via mailing.
4. If not accepted, contractor can submit suggestion to MPUC.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	10/15/01	10/07/02	07/03/03

Energy East

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	12/13/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
KENT
B.
POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

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REVISION	PAGE	DESCRIPTION
12/06/06		Approved Contractor Materials and Supply Catalog

MACRO INDEX 301-2

MACRO	MACRO PAGE	PRINT PAGE	DESCRIPTION
C6MC1AAF	311-8A	311-8B	1 PH Fiberglass Alley Arm Structure
C6MC1DDEC	311-14A	311-14B	1 PH Deadend Corner Structure
C6MC1DE	311-13A	311-13B	1PH Deadend Structure
C6MC1DX	311-7A	311-7B	1PH Double Xarm Offset
C6MC1PT	311-1A	311-1B	1PH Pole Top Structure
C6MC1PTE30	311-2A	311-2B	1PH Pole Top Extension 30 In.
C6MC1PTG	311-6A	311-6B	1 PH Pole Top Structure With Guy
C6MC1SCA60-90	331-3A	331-3B	1 PH Spacer CBL 60-90 FT Angle 12KV
C6MC1SCA6-60	331-2A	331-2B	1 PH Spacer CBL To 60 FT Angle 12KV
C6MC1SCDE	331-4A	331-4B	1 PH Spacer CBL Deadend Structure 12KV
C6MC1SCOWT	331-5A	331-5B	1 PH Spacer CBL Open Wire Transition 12KV
C6MC1SCT	331-1A	331-1B	1 Phase Spacer Cable Tangent Structure 12KV
C6MC1SCTFPT	331-6A	331-6B	1 PH Spacer CBL Tap From Pole Top ST 12KV
C6MC1SDDDE	321-2A	321-2B	1 PH Sectionalizing Disc. Dbl Deadends
C6MC1SDIL	321-1A	321-1B	1 PH Sectionalizing Disconnect with Inline Deadend
C6MC1SS	311-9A	311-9B	1PH Semi-Strain Structure
C6MC1SX	311-3A	311-3B	1PH Single Xarm Structure
C6MC1TFISS	311-12A	311-12B	Single Phase Tap from Inside Semi-Strain
C6MC1TFPT	311-4A	311-4B	1PH Tap from Pole Top Structure
C6MC1TFPT2W	311-5A	311-5B	1PH Tap from Pole Top Structure 2 Way
C6MC1TFSS	311-10A	311-10B	Single Phase Take Off from Semi-Strain Structure
C6MC1TFSSPTE60	311-11A	311-11B	1 PH Tap from Semi-Strain Structure W/60 in. FG Ext.
C6MC2DX26-50	312-3A	312-3B	2 PH Double Xarm Angle Pin to 50' Corner
C6MC2DX6-25	312-2A	312-2B	2 PH Double Xarm 6-25' Corner
C6MC2SXO-6	312-1A	312-1B	2 PH Single Xarm 0-6' Corner
C6MC31TFSX	313-3A	313-3B	1 PH Tap from 3 PH Xarm Structure

MACRO	MACRO PAGE	PRINT PAGE	DESCRIPTION
C6MC32TFSX	313-4A	313-4B	Two 1 PH Taps from 3 PH Xarm Structure
C6MC3AA	313-10A	313-10B	3 PH Alley Arm Structure
C6MC3AAF-15	313-11A	313-11B	3 PH Fiberglass Alley Arm Structure up to 15ft Corner
C6MC3DDEA	313-16A	313-16B	3 PH Double Deadend Angle
C6MC3DDS/D12	323-2A	323-2B	3 Ph Sectionalizing Disc using Double Deadends 12KV
C6MC3DE	313-19A	313-19B	3 PH Deadend Structure
C6MC3DX6-25	313-12A	313-12B	3 PH Double Xarm up to 25' Corner
C6MC3DXAP	313-15A	313-15B	3 PH Double Arm Angle Pin
C6MC3DXBUCK	313-17A	313-17B	3 PH Double Buckarms over 50' Corner
C6MC3DXIAB12	324-1A	324-1B	3 PH Airbreak Switch Inline 12KV
C6MC3DXIAB34	324-2A	324-2B	3 PH Airbreak Switch Inline 34 KV
C6MC3DXO	313-14A	313-14B	3 PH Double Xarm Offset
C6MC3DXTF12	313-6A	313-6B	3 PH Double Xarm Tap Fused from 12 KV
C6MC3DXTNF	313-5A	313-5B	3 PH Double Xarm Tap N/Fused
C6MC3ILS/D12	323-1A	323-1B	3 Ph Sectionalizing Disc Using In-Line D/E 12KV
C6MC3SC1TFSX	331-7A	331-7B	1 PH Spacer CBL Tap From 3PH SX STR 12KV
C6MC3SCA6-60	333-4A	333-4B	3PH Spacer CBL Angle Struct 6-60 FT 12KV
C6MC3SCDDEPG	333-7A	333-7B	3PH Spacer CBL DBL D/E Preform Grip 12KV
C6MC3SCDE	333-6A	333-6B	3PH Spacer Cable Deadend 12KV
C6MC3SCDE-OW	333-8A	333-8B	3PH Spacer CBL Deadend To Open Wire 12KV
C6MC3SCI6-25	333-5A	333-5B	3PH Spacer CBL Inside Angle 6-25 FT 12KV
C6MC3SCOWT	333-9A	333-9B	3PH Spacer CBL Open Wire Tap 12KV
C6MC3SCPTE30	333-2A	333-2B	3PH Spacer CBL 30 IN Pole Top Ext 12KV
C6MC3SCPTE60	333-3A	333-3B	3PH Spacer CBL 60 IN Pole Top Ext 12KV
C6MC3SCTAN	333-1A	333-1B	3PH Spacer CBL Tangent Structure 12KV
C6MC3SPC/30B	333-10A	33-10B	3PH Spacer CBL W/3PH Overbuild STR 12KV
C6MC3SX	313-1A	313-1B	3 PH Single Xarm up to 6' Corner
C6MC3SXO	313-9A	313-9B	3 PH Single Xarm Offset Structure

MACRO	MACRO PAGE	PRINT PAGE	DESCRIPTION
C6MC3TXBUCK	313-18A	313-18B	3 PH Triple Arm Buckarms over 50' Corner
C6MC3TXDE	313-20A	313-20B	3 PH Triple Xarm Deadend
C6MC3TXTF12	313-8A	313-8B	3 PH Triple Xarm Tap Fused from 12 KV
C6MC3TXTNF	313-7A	313-7B	3 PH Triple Xarm Tap N/Fused
C6MH1DDE	325-2A	325-2B	1 PH Reel Inst Down Double D/E
C6MH1PT4UPIL	325-1A	325-1B	1 PH Reel Inst #4 Cond & Up In Line
C6MH21DXI	325-3A	325-3B	2 1 PH Reel Inst in Line DBL Xarm
C6MH3DDE12	325-6A	325-6B	3 Ph Reel Inst 12 KV DBL Deadends
C6MH3DDE20012	325-7A	325-7B	3 PH Reel over 2000 Amp Dbl Deadend 12 KV
C6MH3DDE34	325-8A	325-8B	3 PH Reel Inst 34 KV Dbl Deadends
C6MH3ID12	325-4A	325-4B	3 PH Reel 12KV inline Disconnect 1/0 and 336
C6MH3ILDESX12	325-5A	325-5B	3 PH Reel Inline Deadend Sgl Xarm 12KV
C6MI1DX12C	319-2A	319-2B	1 PH Voltage Regulator 12KV Center Ph
C6MI1DX12F	319-3A	319-3B	1 PH Voltage Regulator 12KV Field Ph
C6MI1DX12R	319-1A	319-2B	1 PH Voltage Regulator 12KV Road Ph
C6MI3PMVR	319-4A	319-4B-D	3 PH Platform Mounted Voltage Regulator
C6MK1PT	315-1A	315-1B	1 PH Capacitor on Pole Top Inst
C6MK1PTBU	315-2A	315-2b	1 PH Capacitor Pole Top W/Blocking Unit
C6MK3DXBU34	316-3A	316-3B	3 PH Capacitor Bank w/Blocking Units 34 KV
C6MK3DXCB12Y	316-1A	316-1B	3 PH Capacitor Bank 12 KV Grounded Wye
C6MK3DXCB34	316-2A	316-2B	3 PH Capacitor Bank 34 KV Grounded Wye
C6MP3PTE0-6	313-2A	313-2B	3 PH Pole Top Extension F/G Single Xarm
C6MP3PTE6-25	313-13A	313-13B	3 PH Pole Top Extension F/G Double Xarm
C6MPGGA	309-14A	309-14B	Guy Grounded Aerial
C6MPGGA/FGSL78	309-15A	309-15B	Guy Grounded Aerial w/78in FG St Link
C6MPGGD	309-12A	309-12B	Guy-Grounded Down
C6MPGGD/FGSL	309-13A	309-13B	Guy-Gruunded Down with Fiberglass Strain Link
C6MPGSWG	309-16A	309-16B	Guy Grounded Sidewalk Assembly

MACRO	MACRO PAGE	PRINT PAGE	DESCRIPTION
C6MT3PR3W/AB34	361-10A	361-10B	3 PH Riser, 3 WireFuse with Air Break 34KV
C6MT3PR4W/AB34	361-11A	361-11B	3 PH Riser 4W with Fuse Air Break 34KV
C6MU1PRDE	361-5A	361-5B	1 PH Riser from Deadend Inst
C6MU1PRLFDE	361-7.1A	361-7.1B	1 Phase Riser Loop Feed from Dead End
C6MU1PRLFPT	361-7A	361-7B	1 PH Riser Loop Feed from Pole Top
C6MU1PRLFSX	361-8A	361-8B	1 PH Riser Loop Feed from SX Struct
C6MU1PRLFSX1CON	361-8.1A	361-8.1B	1 Phase Riser Loop Feed from SX Structure Single Con
C6MU1PRLFTRANS	361-8.2A	361-8.2B	1 PH Riser Loop Feed Transitional
C6MU1PRPT	361-4A	361-4B	1 PH Riser from Pole Top Inst
C6MU1PRSX	361-6A	361-6B	1 PH Riser from SX Structure
C6MU3PR3W12	361-12A	361-12B	3 PH Riser 3 Wire 12 KV
C6MU3PR4W/AR12	361-14A	361-14B	3 PH Riser 4 Wire with Air Break 12KV
C6MU3PR4W12	361-13A	361-13B	3 PH Riser 4 Wire 12 KV
C6MU3PSC4WR12	361-15A	361-15B	3 PH Spacer Cable 4 Wire Riser 12KV
C6MU3PSR3W	361-9A	361-9B	3 PH Station Riser 3 Wire 34 KV
C6MX1	343-1A	343-1B-E	1 PH Xfmr to 50KVA on Var Pole Position
C6MX1PT167	343-2A	343-3B	1 PH Xfmr to 100-167KVA Inst on P/T
C6MX1PT50CON	343-2A	343-2A	I PH Xfmr 2 Bushing Conv To 50KVA Pole Top
C6MX1SC	344-1A	344-1B	1 PH Xfmr TO 50KVA SPCR CBL 12KV
C6MX1SCDE	344-2A	344-2B	I Phase Xfmr to 50Kva Spacer Cable Deadend Structure
C6MX1SD34DDECO	343-3A	343-4B	1 PH Stepdown DBL Deadend Inst 34KV W/Cutout
C6MX1SX167	343-4A	343-5B	1 PH Xfmr 100 or 167KVA Conv on 3 PH SX
C6MX1SX5012	343-5A	343-6B	1 PH Xfmr 10-50 KVA on 3 PH SX 12 KV
C6MX1SX5034	343-7A	343-7B	I PH Xfmr 10-50 KVA on 3 PH SX 34 KV
C6MX3CM34K167S	344-3A	344-3B	3 Phase Cluster Mount 34KV up to 3-167KVA
C6MX3P34K167CM	343-8A	343-8B	3 PH 34KV Cluster Mount up to 3-16KVA
C6MX3PMSDXB	343-11A	343-11B-C	3 PH Platform Mounted S/D Xfmr Bank
C6MX3SX167CM12	343-9A	343-9B	3 PH To 167KVA Cluster MT on SX 12KV

MACRO	MACRO PAGE	PRINT PAGE	DESCRIPTION
C6MX3SXUC12	343-10A	343-10B	3 PH Xfmr Unit Conv on SX Structure 12KV

MACRO	DESCRIPTION	PAGE
	PLANT IDENTIFICATION GENERAL	303

This section deals with the identifying markers, signs, and numbers used throughout the Central Maine Power Company Distribution System. Directions for the numbering of poles and the numbering of underground distribution are provided within this section.

All poles within the Central Maine Power Company's Distribution System shall be marked, and the owner identified by either a property tag or by the letter "P" indicating private ownership. Underground distribution is to be marked in the field, so that all equipment points will show the assigned number. All underground cable appearing at any equipment point shall be tagged to show the location of the far ends of the cable.

All reclosers, sectionalizers, oil switches, and air break switches shall be numbered for identification. Disconnects, (fused or solid blade), placed between numbered switches will be numbered. Normally, disconnects placed beyond the last numbered switch shall not be numbered. Any particular switch considered a potential problem shall be numbered.

All distribution shall be numbered as directed in the following. The use of this numbering system shall apply to all new plant and all old plant being renumbered. This numbering system shall also apply to all underground distribution systems, except the Portland Network and other extensive urban manhole and conduit systems. On underground distribution where a line starts aerially on a road and then goes underground, the numbering shall continue consecutively from the last pole. All underground equipment locations of any type: manhole, pull hole, hand hole, junction box, dry well, switch point, padmount transformer, etc., shall be numbered (Exception: Meter pedestals shall not be numbered).

Various other signs and markings are used on Central Maine Power Company's distribution plant. These are included on the following pages concerning plant identification.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	08/23/01		

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/27/94

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STATE OF MAINE KENT B. POOLE #7938 REGISTERED PROFESSIONAL ENGINEER

PAGE	DESCRIPTION	MACRO
303-1	PLANT IDENTIFICATION OVERHEAD	

Pole lines shall be numbered as follows:

1. The basic line on a street shall be numbered from 1 to 499.
2. The second line on the same street shall be numbered from 501 to 699.
3. The third line on the same street shall be numbered from 701 to 799.
4. The fourth line on the same street shall be numbered from 801 to 899.
5. The fifth line on the same street shall be numbered from 901 to 999.

   Note: The practice of placing zeros before the basic pole number shall not be used. If the number of poles on a line exceeds the numbers available, two (2) or more of the above series may be combined.
6. Tap lines up to 9 poles may be numbered as point lines by adding a decimal point and sequential numbers to the main line pole number. See 501.1-501.9 opposite.
7. A second tap line from a main line pole up to 9 poles may be numbered as a point zero line by adding a decimal point, zero, and numbering. See 501.01-501.09 opposite. (See #10)
8. Tap lines up to 9 poles may be numbered off point poles by adding a second digit. See 501.61-501.69 opposite. (See #10)
9. Tap lines over 9 poles must be given a name and road code and numbered.
10. No more than 2 digits may follow the decimal point.
11. The only fraction allowed is the 1/2 or the stub of this fraction ie. 1/2 S. Point poles may not be fed from S poles. As necessary, renumber the succeeding or preceding poles, or name and renumber the tap.
12. When a line crosses a town baundry it shall be numbered in the 1 to 499 series starting with the number 1 on the first structure after crossing the town boundry. If there is an existing line on the street using the 1 to 499 series, number according to 2., 3., 4. or 5. above.
13. WARNING - The plant numbers are not to be regarded as always indicating the direction of feed. Wherever possible such numbers are applied away from the source, but this has not been followed 100%, especially in congested areas. For safety, the number sequence is to be disregarded entirely as an indication of direction of feed when deenergizing sections of line on which work is to be done.

	DESIGNED	LLF		CS
	DRAWN	GRG	CMH	REC
	DATE	2/6/97	8/23/01	02/24/06

	DESIGNED	REDRAWN
	DRAWN	GRG
	DATE	7/12/94

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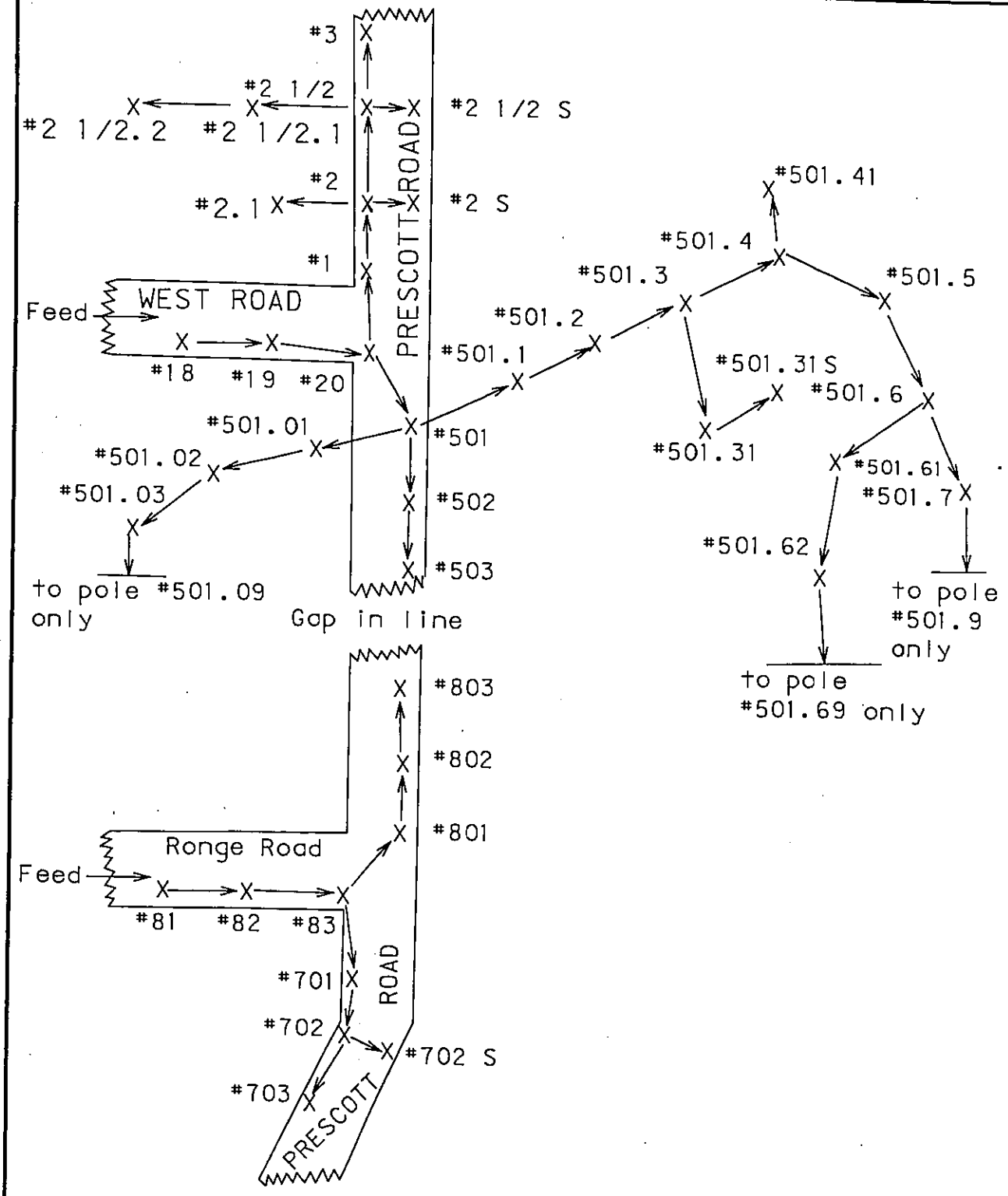
STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	PLANT IDENTIFICATION OVERHEAD	303-2



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	CMH	REC	
DATE	8/23/01	02/07/06	

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/12/94

EnergyEast

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STATE OF MAINE
GARY A. RICCI
#4737
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
303-3	PLANT IDENTIFICATION UNDERGROUND	

Underground Distribution shall be numbered as overhead plant with the following differences:

1. Lines that run partly overhead and partly underground on a street shall be numbered with a single sequence of numbers.

2. Every equipment location such as pad mounts, junction boxes, pull boxes or any cable access points (Primary or Secondary) shall be numbered as a pole would be numbered.

3. When an equipment location is added between two existing sequentially numbered equipment locations, a 1/2 suffix shall be added to the preceding equipment location number and that half number shall mark the new location.

Example: Adding a pad between pad 2 and pad 3 the new pad shall be marked 2 1/2.

Half (1/2) is the only fraction allowed. Any additional locations will require more extensive renumbering.

4. Each underground cable shall be marked at every location where a cable terminates (Primary or Secondary). The cable shall be marked with the number designation of the location where the other end of the cable terminates. If the termination location of any existing cable changes, that cable shall be renumbered to reflect the new locations.

5. Underground service cables shall have a letter designation for identification, starting with the letter A at the source. Service cables shall be marked at both ends. A letter designation at the source and at the meter location the cable shall be marked with the number indicating the location of the power source followed by a dash and then the service letter designation.

Example: If there are three services from pad mount transformer 2.3, each of the service ends in the pad would be marked A, B & C. At the meter end, the service cables would be marked **2.3-A, 2.3-B & 2.3-C.**

6. Parallel lay, cables, (primary, Secondary or Service) run between the same points shall be labeled 1 of 2 and 2 of 2 etc. in addition to the number and or letter designation.

Example #1: Parallel service from pad mount transformer 2.01 to meter A, the cables in the pad shall be marked A 1 of 2 and A 2 of 2. The cables in the meter compartment shall be marked **2.01-A** 1 of 2 and **2.01-A** 2 of 2.

Example #2: Two primary cables rising on pole 101 and both cables terminate in pad 101.1. At the pole one cable shall be marked pad 101.1 1 of 2 and the other marked **pad** 101.1 2 of 2. At the pad one cable shall be marked **pole** 101 1 of 2 and the other cable marked **pole** 101 2 of 2. The inside of the cable compartment shall be labeled CAUTION MULTIPLE CABLES using label MID # 6000815454.

7. The numbering of equipment is not to be regarded as an indication of the direction of feed.

DESIGNED	JEC	
DRAWN	GRG	CS
DATE	6/19/95	11/21/05
		REC

DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/6/94

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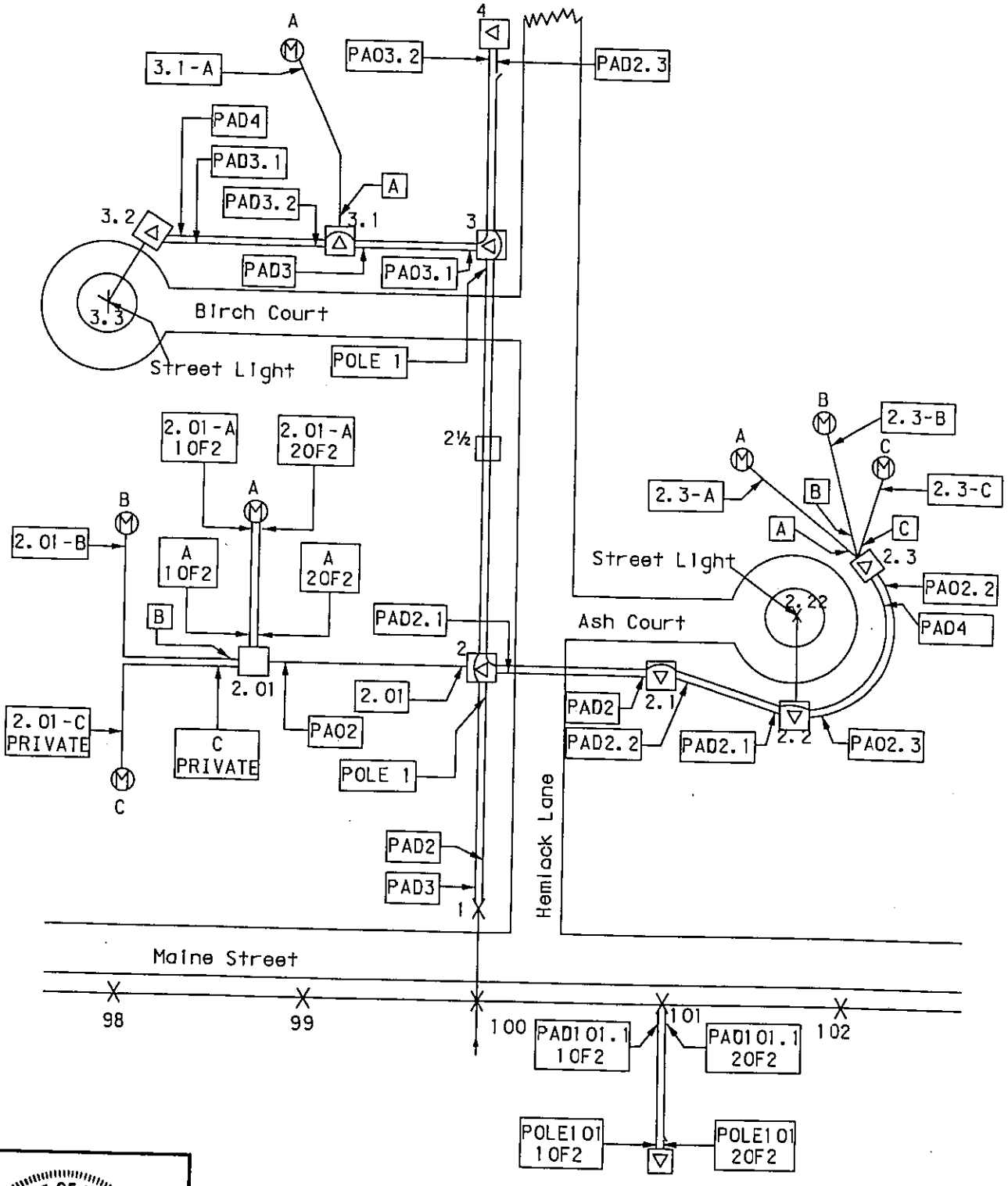
STATE OF MAINE
KENT B. POOLE
#7998
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	PLANT IDENTIFICATION UNDERGROUND	303-4

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	CMH	REC	
DATE	8/23/01	12/06/05	

	ORIGINAL	REDRAWN
DESIGNED		
DRAWN		GRG
DATE		7/12/94

EnergyEast



NOTE: This URD Layout is for illustration purposes only. All URD layouts shall be approved by the Distribution Field Engineer.

STATE OF MAINE
KENT B. POOLE #7938
REGISTERED PROFESSIONAL ENGINEER

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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
303-5	PLANT IDENTIFICATION POLES	

Every Central Maine Power Company (CMPCo.) pole is to bear a date tag (MID*6000815551) a CMPCo. property tag (MID*6000815519) and number (MID*6000815520 to MID*6000815529). Property tags and pole numbers shall be placed approximately six feet from the ground on the road side of the pole. On private property, where not legible from any road, markers shall be placed on the side facing the source. The tags and numbers shall be attached to all poles by 1" galvanized nails, whereby two nails are required for each tag, letter, or figure. Nails (MID*6000815515) are issued by weight averaging 900 per pound. Date tags shall be attached on the road side of the pole approximately one foot above the ground with 1/2 inch head roofing nail (MID*6000815516).

On jointly-used poles, a joint user may apply their number to the pole, but only the pole owner shall apply a property tag. Telephone Company poles, jointly used by CMPCo., will each be marked with the TEL. Co. property tag, the TEL. Co. pole number, and the CMPCo. pole number. All jointly-used poles shall have a CMPCo. pole number on them, regardless of whether or not the CMPCo. number is the same as the TEL. Co. number. Spacing between the CMPCo. numbers and TEL. Co. numbers shall be approximately 12".

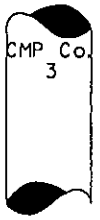
Jointly owned poles shall bear the property tags and numbers of both companies. The property tag and number of the company maintaining the pole shall be located above the tags and numbers of the joint owners, but it should be noted that this is not true for all cases.

A prefix letter "P" (MID*6000815542) shall be used with the pole number for each pole on privately owned lines. No property tag shall be used on privately owned lines. A private line tag (MID* 6000815518) shall be attached to the last CMPCo. pole feeding a private line with the point on the tag pointing towards the private line.

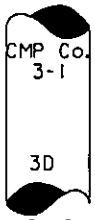
A suffix letter "S" (MID*6000815544) shall be used with the number on guy stubs. The number on the stub shall be the same as the pole being supported.

Push braces will not be numbered.

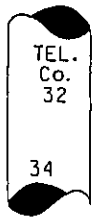
Decimal points will be made with a 1/2" head roofing nail (MID* 6000815516) placed halfway between the top and bottom of the figures.



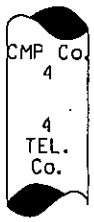
CMP CO. POLE



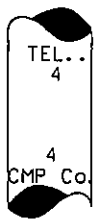
CMP CO. POLE JOINT USE



TEL. Co. POLE JOINT USE



JOINT OWNED CMP Co. MAINTAINED



JOINT OWNED TEL. Co. MAINTAINED

PRIVATE LINE TAG

DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/03/01	11/21/05	

DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/6/94

BE REVISED ON THE CADD SYSTEM ON

STATE OF MAINE
KENT B. POOLE
#7933
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO

MACRO	DESCRIPTION	PAGE
	PLANT IDENTIFICATION URD EQUIP & CABLE	303-6

All underground distribution equipment points shall be marked inside and out as follows:

(1)	Pad mount transformers Pad mount equipment	The number on the inside shall be placed on the lid or door to show plainly when open and be marked with adhesive numbers (MID# 6000815570 to 6000815580). The number on the outside shall be placed on the upper right front corner of the door or lid with adhesive numbers.
(2)	Manhole Splice Pit Handhole Junction Box	The number on the inside shall be stenciled with contrasting paint on a wall where it will be easily seen when the containment is entered. If it is desired or it is not practical to stencil the number on the wall, adhesive numbers may be placed on a piece of metal plate and the plate attached to a wall or hung from a cable or a cable rack. The number on the outside shall be either brazed or stenciled on the cover. The number shall be renewed as necessary.
(3)	Meter Enclosures	On the inside the service letter shall be included on the cable label.

Open points in loop feed systems shall be marked with a 'DON'T TIE ALIVE' (MID#6000825625) sign if fed from two different sources. The open point in the loop feed system shall be located in the cable compartment of a padmount transformer so that all cable is energized. This transformer shall be marked with N.O. label. (MID# 6000815463).

Where more than one phase is used to supply single phase equipment, phase identification shall be placed inside and outside the equipment. The phase identification shall be placed below the equipment number.

All underground distribution primary and secondary cables shall be labeled at both ends to show the location of the far ends. Service cables shall have both ends marked with the same number consisting of the source number followed by a dash (-) and the service letter (i.e 2-A, 2-B). Service cables running from service to service shall be marked at both ends with the source number, space, the service letter nearer the source, a dash, and the service letter further from the source (i.e. 2 A-B). In the case of cables with direct buried taps, labels shall show the location of all remote ends, with the various numbers arranged one above the other, to prevent confusion. Privately owned cables entering CMPCo. owned equipment, padmount transformers or rising on CMP poles shall be labeled PRIVATE.

Labels shall consist of polyethylene cable labels. (MID# 6000815407 to 6000815446). When more than one number is to be placed on a cable, as for cables with direct buried taps, each number shall be on a separate line. To prevent the labels from slipping down out of sight, one label holder band shall be put around only one conductor of triplex URD cable, and around part of the neutral wires on primary URD cable as close as possible to where the neutral leaves the cable.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	CMH	REC	
DATE	10/15/01	11/21/05	

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRC
DATE	7/7/94

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STATE OF MAINE
KENT B. POOLE
#7838
REGISTERED
PROFESSIONAL ENGINEER

DON'T TIE ALIVE

'DON'T TIE ALIVE' (MID#6000825625) signs shall be pasted at all distribution tie points or switches that cannot be closed with both lines energized. On switches with handles near the ground, the sign shall be placed near the handle where it can be easily noticed by the switch operator. In the case of cutouts placed at the top of the pole, the sign shall be pasted below the crossarm braces under the switch number.

DON'T TIE ALIVE

black letters with a yellow background

VOLTAGE SIGN

A sign shall be placed on any pole that has two primary circuits which cannot be tied together and are dead-ended on the same pole. The sign shall consist of the standard switch number holder, board, and characters. The board shall be placed parallel with the road and mounted at the same height as a switch number. The position of the characters on the board shall indicate the voltage of the primary circuit on that side of the pole.

example:

12KV / 34.5KV

NOTE: This situation is not to be permanent. The voltage sign shall be used only in areas where lines are being cutover to higher voltages and the cutover work has been temporarily stopped.

NOTE: Permanent Deadends - Two circuits that deadend on one pole, that must not be tied together and that will remain this way for some time, shall have a second set of deadends installed one full span back on one of the lines so that there is a dead span of wire in the line.

NOTE: Tap Lines - All of the notes above shall also apply to tap lines that are fed from other sources and are deadended on main line poles. Tap lines shall not be permanently deadended on main line poles unless they can be fed from the main line.

STEP UP TRANSFORMER

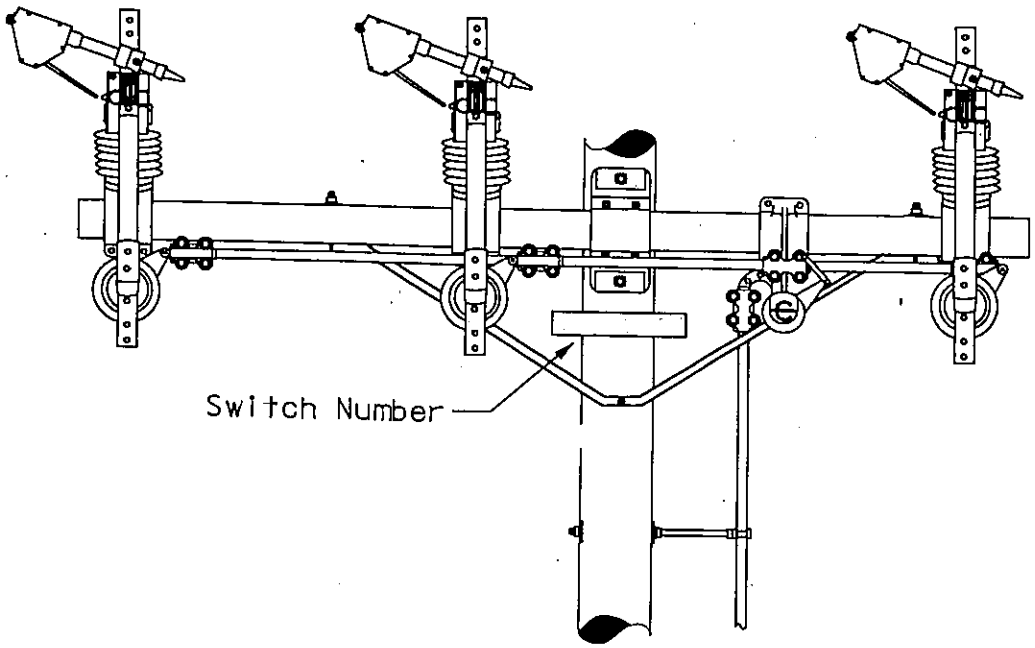
Step up transformer sticker (MID# 70000860) shall be installed on all transformers used to step up voltage.

NOTICE
Step Up Transformer

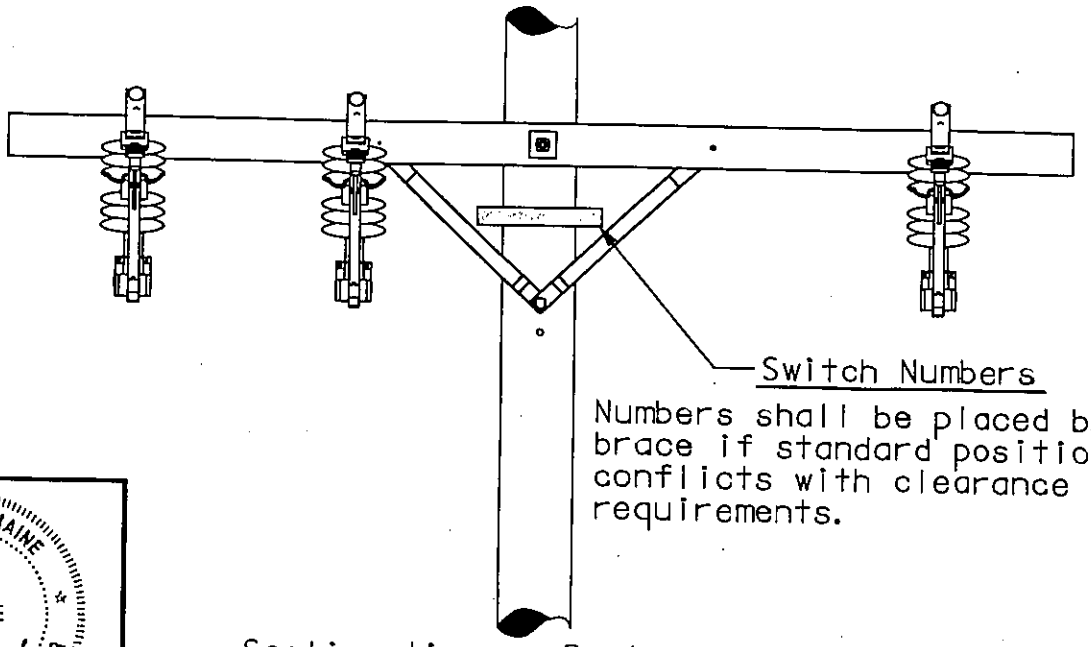
STATE OF MAINE
3/27/05
DANIEL R. LITTLEFIELD
No. 11440
LICENSED
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	PLANT IDENTIFICATION SWITCH NUMBERING	303-8

Switch numbers shall be placed on oil switches, reclosers, sectionalizers, and air break switches. Disconnects shall be numbered when they are located between two numbered switches. Disconnects located after the last numbered switch shall not normally be numbered. The numbers shall be placed under the crossarm and between the crossarm braces. For oil switches, reclosers, sectionalizers ond disconnects, the number shall be positioned on the cutout side of the pole. For air break switches, the number shall be positioned under the switch frome away from any obstruction.



Air Break Switch



Numbers shall be placed below brace if standard position conflicts with clearance requirements.

Sectionalizers, Reclosers, Etc.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	11/30/05	

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/7/94

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STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

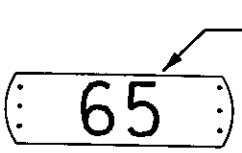
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
303-9	PLANT IDENTIFICATION FUSE MARKING	

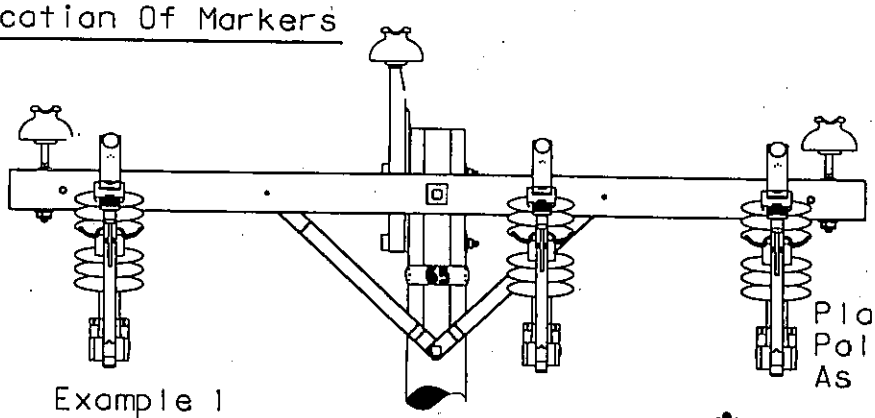
All fused cutouts shall have markers near the cutout to indicate fuse size. The marker shall be a 3 1/8" X 9" aluminum, 4 character horizontal switch number holder (MID#6000825693) High reflective pressure sensitive characters (of various stack codes) shall be placed on the switch holder specifying fuse size.

Fuse sizes are limited to 3, 6, 10, 15, 25, 40, 65, 100, 140, and 200 amps.



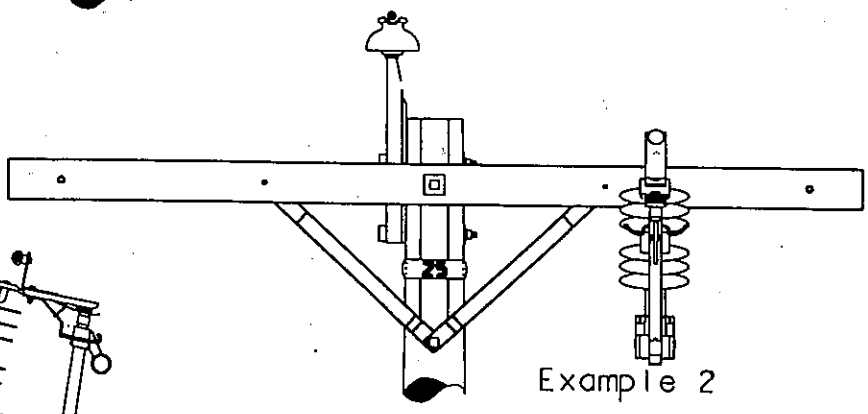
MID#6000825693

Location Of Markers

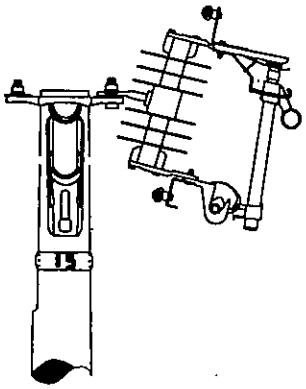


Example 1

Place Marker on The Pole Under The Crossarm As Shown



Example 2



Example 3

	DESIGNED	REVISED	REVISED	REVISED
DRAWN	JEC	CS	CS	
DATE	8/22/95	10/15/01	11/28/05	

EnergyEast

	DESIGNED	ORIGINAL
DRAWN	REDRAWN	
DATE	GRG	
	7/8/94	

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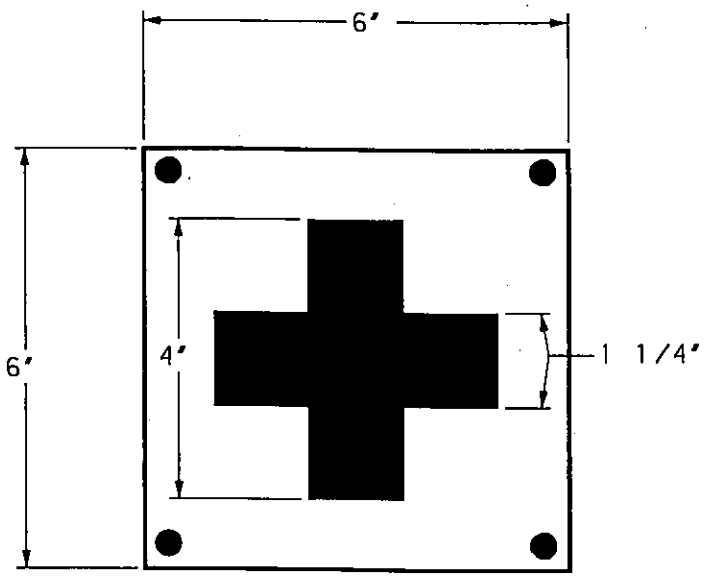
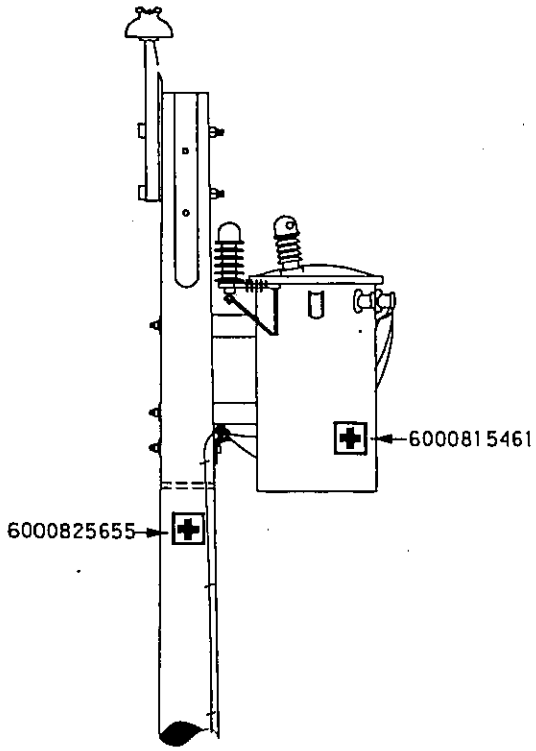
STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

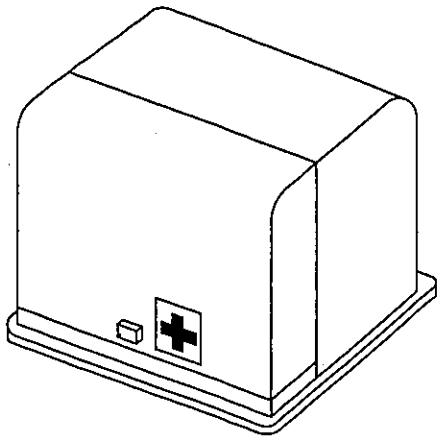
MACRO	DESCRIPTION	PAGE
	PLANT IDENTIFICATION LIFE SUPPORT EQUIPMENT	303-10

Transformers known to serve customers with electrically operated life support devices shall be marked with a sign. The sign is 6' X 6' with a red cross on a white background. MID#6000825655 is designed to be securely attached to the pole in a clearly visible location immediately below the transformer. MID#6000815461 is magnetic and is applied to the transformer tank.





Pad mounted transformers shall be marked by applying a label (MID#6000815462) to the cover adjacent to the lock.



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	06/13/06	

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/8/94

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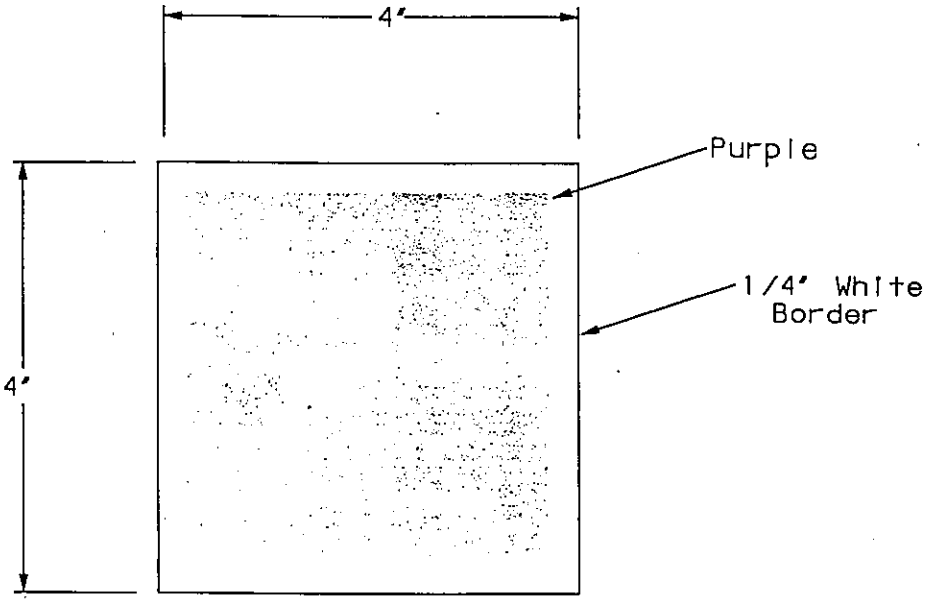
STATE OF MAINE GARY A RICCI 12737 PROFESSIONAL ENGINEER 11/16/01

CENTRAL MAINE POWER CO.

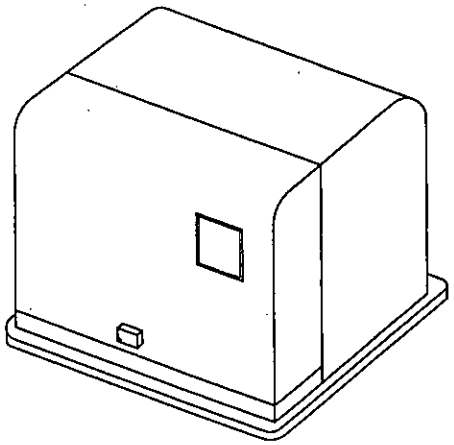
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
	PLANT IDENTIFICATION LARGE INTERRFACE PADMOUNT TRANSFORMER	303-11

Single Phase, 19.9 kv, large interface pod mounted transformers (MID#D865494, D865294, D865194), shall be marked with a sticker to identify them as possible sectionalizing points. The sticker is 4" X 4" with 1/4" white border. Purple, Hi gloss vinyl. Outdoor grade, with permanent acrylic adhesive, temp rated for -50 F to 180 F.



19.9 kv, single phase, large interface pad mounted transfarmers, shall be marked by applying a label (MID#6000815475) to the upper right hond corner of the cover.



DRAWN	DATE

DRAWN	DATE
REC	07/06/06

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STATE OF MAINE
RAYMOND A. BOUCHER
REGISTERED
PROFESSIONAL ENGINEER
7/7/06

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	WARNING AND DANGER LABELS PADMOUNTS	303-12

	REVISED	REVISED	REVISED
DESIGNED	LLF	CS	CS
DRAWN	GRG	REC	REC
DATE	5/28/96	10/15/01	04/14/06

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	CRC
DATE	7/12/94

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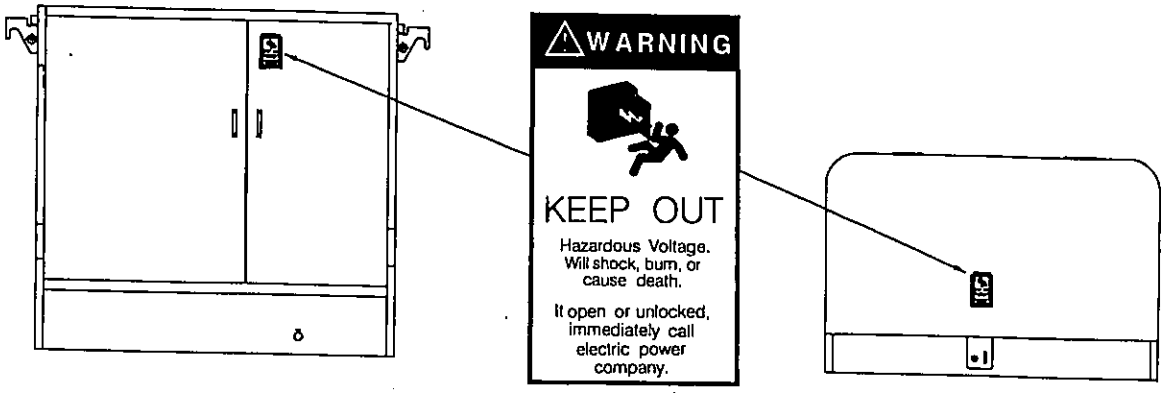
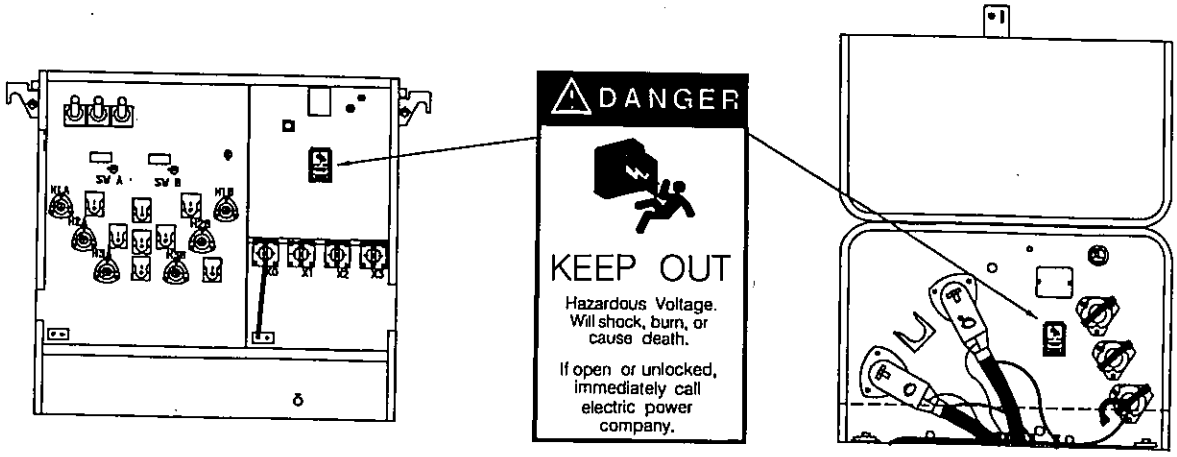
OUTSIDE (Orange background at top)



All padmounted equipment containing energized conductors shall be labeled on the outside with a WARNING label MID*6000815447 mounted above the locking handle. Switchgear or transclosures with doors on multiple sides shall have labels on each side having a door.

INSIDE (Red background at top)



All padmounted equipment containing energized conductors shall be labeled on the inside with DANGER labels MID*6000815448 mounted in a location plainly visible when the doors are open.

STATE OF MAINE GARY A. RICCI 14737 REGISTERED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	LINE VOLTAGES	304

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	8/7/95	10/22/01	10/16/06

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	5/26/95

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Line Voltages

Standard distribution voltages are 12,470grdy/7200 and 34,500grdy/19,920 volt; a few lines are operating at other voltages.

All overhead line construction repairs and replacements are to be built to 12,470grdy/7,200 volts specifications except those distribution circuits operating at 34,500grdy/19,920 volt or anticipated for cutover to 34,500grdy/19,920 volt shall be built to 34,500grdy/19,920 volt specifications. Those specifications include but are not limited to replacement poles, cross arms, insulators, and clearances. All overcurrent devices and surge arresters shall be appropriate for actual operating voltage.

The following circuits are designated for 34,500grdy/19,920 volt.

Capital Region

Circuit	Source	Area	Category (volt)
20406	Washington St.	To Popham	34,500grdy/19,920
21703	Cooks Corner	To Bailey Island	34,500grdy/19,920
24601	Thomaston Creek	To St. George	Future
26201	Puddledock	To Mt. Vernon Readfield	34,500grdy/19,920
26301	Bowman St.	To Randolph Pittston Dresden	34,500grdy/19,920
80001	Lincolnville	To Lincolnville Northport	34,500grdy/19,920
80306	Belfast West Side	To Searsmount	34,500grdy/19,920
80602	Bucksport	To Penobscot Castine	34,500grdy/19,920
84601	Prospect	To Winterport Frankfort	Future

Northern Region

428K4	Livermore Falls	To James River	34,500grdy/19,920
44702	Rumford	To Canton	34,500grdy/19,920
82302	Harris	To Jackman	34,500grdy/19,920
83402	Monson	To Greenville Rockwood	34,500grdy/19,920
85801	Sturtevant	To Greater Farmington	34,500grdy/19,920
87301	Rice Rips	To Belgrade, Oakland, Smithfield	34,500grdy/19,920
87501	Rangeley	To All	34,500grdy/19,920
87701	Stratton	To All	Future
88201	Bigelow	To Stratton	34,500grdy/19,920
88202	Bigelow	To Sugarloaf	34,500grdy/19,920

STATE OF MAINE
RAYMOND L. BOUCHER
#7194
REGISTERED
PROFESSIONAL ENGINEER
10/16/06

PAGE	DESCRIPTION	MACRO
304-1	LINE VOLTAGES	

Line Voltages

The following circuits are designated for 34,500grdy/19,920 (volts)

Lokes Region

Circuit	Source	Area	Category (volts)
420D4	Hotel Rd.	To All	34,500grdy/19,920
420D6	Hotel Rd.	To Poland Spring	34,500grdy/19,920
420D7	Hotel. Rd	All	34,500grdy/19,920
438D1	Papoose Pond	All	34,500grdy/19,920
445D1	Raymond 115	All	34,500grdy/19,920
454D1	Turner	To North Turner	Future
456D2	Wales Corner	All	34,500grdy/19,920

York County Region

602D1	Bassett	All	34,500grdy/19,920
603D2	Berwick	To Lebanon	Future
605D1	Biddeford Pump	To Goodwin's Mills	Future
612D1	Butlers Corner	To Lebanon	Future
612D2	Butlers Corner	To Acton	Future
640D2	Ogunquit	To Moody	Future
681D2	Branch Brook	To Wells	Future
685D3	Bolt Hill	To Kittery Point	Future
691D1	Baldwin Tap	To Sebago	34,500grdy/19,920
692D1	Hiram Tap	To Cornish	34,500grdy/19,920

Greater Portland Region

636D1	Mussey	All	34,500grdy/19,920
636D2	Mussey	All	34,500grdy/19,920
668D4	Spring	All	34,500grdy/19,920
668D6	Spring	All	34,500grdy/19,920
693D1	Scarborough	To Payne Rd, Mussey Rd	34,500grdy/19,920
693D2	Scarborough	To Payne Rd, Industrial Park Connector, Scottow Hill Rd	34,500grdy/19,920
696D1	Red Brook	All	34,500grdy/19,920
696D2	Red Brook	All	34,500grdy/19,920
696D3	Red Brook	All	34,500grdy/19,920

CADD SYSTEM ONLY

DRAWN	GRG
DATE	5/30/95

2	Added circuits greater Portland del York County	08/20/08

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/27/08
LICENSED
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	CLEARANCES	305

GENERAL This Section is intended as a reference of the MINIMUM clearances from overhead Electric Distribution facilities including supporting structures, equipment and conductors. All clearances are based on the latest revision of the National Electrical Safety Code (NESC) unless otherwise noted.

Exceptions: Any and all Exceptions shall be permitted only with prior approval of the responsible CMP Distribution Engineer and only for special situation and only where allowed by the latest Revision of the NESC or other governing Jurisdiction or CMP policy.

ACKNOWLEDGEMENT: This section contains excerpts from IEEE Std. C2-2007 National Electrical Safety Code.

DEFINITIONS:

NESC. C2-2007 National Electrical Safety Code

Clearance. The clear distance between two objects measured surface to surface.

MDOT. Maine Department of Transportation

SUPPORTING STUCTURES

Supporting structures, support arms, anchor guys and other equipment attached thereto, and braces shall have the following clearance from other objects.

1-From Fire Hydrants. Not less than 4 feet

2-Streets, Roads and Highways NOT under MDOT

1. Where there are curbs: supporting structures, support arms, anchor guys, or equipment attached thereto, up to 15 ft above the road surface shall be located a sufficient distance from the street side of the curbs to avoid contact by ordinary vehicles using and located on the traveled way. For a redirectional curb, such distance shall be not less than 6 in . For paved or concrete swale-type curbs, such facilities shall be located behind the curb.

2. Where there are no curbs, supporting structures should be located a sufficient distance from the roadway to avoid contact by ordinary vehicles using and located on the traveled way.

3. Location of overhead utility installations on roads, streets, or highways with narrow rights-of way or closely abutting improvements are special cases that must be resolved in a manner consistent with the prevailing limitations and conditions.

Where a governmental authority exercising jurisdiction over structure location has issued a permit for, or otherwise approved, specific locations for supporting structures, that permit or approval shall govern

3-Streets, Roads, and Highways under MDOT Jurisdiction. See the MDOT 2002 Utility Accommodations Policy

4-From Railroad Tracks: Where railroad tracks are parallel to or crossed by overhead lines, all portions of the supporting structures, support arms, anchor guys and equipment attached thereto less than 22 feet above the nearest track rail shall have a horizontal clearance of 12 feet

NO.	REVISION	DATE	CK.

EnergyEast

	ORIGINAL
DESIGNED	KBP
DRAWN	REC
DATE	03/15/07

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STATE OF MAINE
KENT B. POOLE
No. 9538
LICENSED
PROFESSIONAL ENGINEER

CLEARANCE ABOVE GROUND OF WIRES, CONDUCTORS, CABLES, EQUIPMENT, AND SUPPORT ARMS MOUNTED ON SUPPORTING STRUCTURES:

1. The vertical clearance of wires, conductors, and cables aboveground in generally accessible places, roadway, rail, or water surfaces, shall be not less than that shown in NESC Table 232-1. The vertical clearances specified in 2007 NESC Table 232-1 apply under the following conductor temperature and loading conditions, whichever produces the largest final sag:
   1. 50°C (120°F), no wind displacement
   2. The maximum conductor temperature for which the line is designed to operate, if greater than 120° F, with no wind displacement.
   3. 0°C (32°F), no wind displacement, with 1/2 inch radial thickness of ice.

Table 232-1—
Vertical clearance of wires, conductors, and cables above ground, roadway, rail, or water surfaces (25)

(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems.
See Rules 232B1, 232C1a, and 232D4.)

Nature of surface underneath wires, conductors, or cables	Insulated communications conductors and cable; messengers; overhead shield/surge-protection wires; grounded guys; ungrounded guys exposed to 0 to 300V (11) (15); neutral conductors meeting Rule 230E1; supply cable meeting Rule 230C1 (ft)	Noninsulated communication conductors; supply cables of 0 to 750 V meeting Rule 230C2 or 230C3 (ft)	Supply cables over 750V meeting Rule 230C2 or 230C3; open supply conductors, 0 to 750V (3); ungrounded guys exposed to over 300V to 750V (14) (ft)	Open supply conductors, over 750V to 22 kV; ungrounded guys exposed to 750V to 22 kV (14) (ft)
Where wires, conductors, or cables cross over or overhang				
1. Track rails of railroads (except electrified railroads using overhead trolley conductors) (2) (16) (22)	23.5	24.0	24.5	26.5
2. Roads, streets, and other areas subject to truck traffic (23)	15.5	16.0	16.5	18.5
3. Driveways, parking lots, and alleys (23)	15.5 (7) (13)	16.0 (7) (13)	16.5 (7)	18.5
4. Other land traversed by vehicles, such as cultivated, grazing, forest, orchard, etc. (25)	15.5	16.0	16.5	18.5
5. Spaces and ways subject to pedestrians or restricted traffic (23)	9.5	12.0 (8)	12.5 (8)	14.5

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		ORIGINAL
DESIGNED	KBP	
DRAWN	REC	
DATE	03/15/07	

NO.	REVISION	DATE	CK.

STATE OF MAINE
KENT B. POOLE
No. 7838
LICENSED
PROFESSIONAL ENGINEER

Table 232-1 (continued)
Vertical clearance of wires, conductors, and cables above ground, roadway, rail, or water surfaces (25)

(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems.
See Rules 232B1, 232C1a, and 23204.)

Nature of surface underneath wires, conductors, or cables	Insulated communications conductors and cable; messengers; overhead shield/surge-protection wires; grounded guys; ungrounded guys exposed to 0 to 300V (1)(15); neutral conductors meeting Rule 230E1; supply cable meeting Rule 230C1 (ft)	Noninsulated communication conductors; supply cables of 0 to 750 V meeting Rule 230C2 or 230C3 (ft)	Supply cables over 750V meeting Rule 230C2 or 230C3; open supply conductors, 0 to 750V (3); unguarded guys exposed to over 300V to 750V (14) (ft)	Open supply conductors over 750V to 22 kV; unguarded guys exposed to 750V to 22 kV (14) (ft)
6. Water areas not suitable for sailboating or where sailboating is prohibited (23)	14.0	14.5	15.0	17.0
7. Water areas suitable for sailboating including lakes, ponds, reservoirs, tidal waters, rivers, streams, and canals with an unobstructed surface area of (17)(18)(19)(20)(21)				
a. Less than 20 acres	17.5	18.0	18.5	20.5
b. Over 20 to 200 acres	25.5	26.0	26.5	28.5
c. Over 200 to 2000 acres	31.5	32.0	32.5	34.5
d. Over 2000 acres	37.5	38.0	38.5	40.5
8. Established boat ramps and associated rigging areas; areas posted with sign(s) for rigging or launching sail boats	Clearance aboveground shall be 5 ft greater than in 7 above, for the type of water areas served by the launching site.			
Where wires, conductors, or cables run along and within the limits of highways or other road right-of-way but do not overhang the roadway				
9. Roads, streets, or alleys	15.5 (24)	16.0	16.5	18.5
10. Roads where it is unlikely that vehicles will be crossing under the line	13.5 (10)(12)	14.0 (10)	14.5 (10)	16.5

(1) Where subways, tunnels, or bridges require it, less clearance above ground or rails than required by Table 232-1 may be used locally. The trolley and electrified railroad contact conductor should be graded very gradually from the regular construction down to the reduced elevation.

(2) For wires, conductors, or cables crossing over mine, logging, and similar railways that handle only cars lower than standard freight cars, the clearance may be reduced by an amount equal to the difference in height between the highest loaded car handled and 20 ft, but the clearances shall not be reduced below that required for street crossings.

③ Does not include neutral conductors meeting Rule 230E1.

④ In communities where 21 ft has been established, this clearance may be continued if carefully maintained. The elevation of the contact conductor should be the same in the crossing and next adjacent spans. (See 22502 for conditions that must be met where uniform height above rail is impractical.)

⑤ In communities where 16 ft has been established for trolley and electrified railroad contact conductors 0 to 750V to ground, or 18 ft for trolley and electrified railroad contact conductors exceeding 750V, or where local conditions make it impractical to obtain the clearance given in the table, these reduced clearances may be used if carefully maintained.

⑥ This footnote not used in this edition.

⑦ Where the height of a residential building does not permit its service drop(s) to meet these values, the clearances over residential driveways only may be reduced to the following:

	(ft)
(a) Insulated supply service drops limited to 300V to ground	12.5
(b) Insulated drip loops of supply service drops limited to 300V to ground	10.5
(c) Supply service drops limited to 150V to ground and meeting Rule 230C1 or 230C3	12.0
(d) Drip loops only of service drops limited to 150V to ground and meeting Rule 230C1 or 230C3	10.0

⑧ Where the height of a residential building does not permit its service drop(s) to meet these values, the clearances may be reduced to the following:

	(ft)
(a) Insulated supply service drops limited to 300V to ground	10.5
(b) Insulated drip loops of supply service drops limited to 300V to ground	10.5
(c) Supply service drops limited to 150V to ground and meeting Rule 230C1 or 230C3	10.0
(d) Drip loops only of service drops limited to 150V to ground and meeting Rule 230C1 or 230C3	10.0

⑨ Spaces and ways subject to pedestrians or restricted traffic only are those areas where riders on horses or other large animals, vehicles, or other mobile units exceeding a total height of 8 ft, are prohibited by regulation or permanent terrain configurations, or are otherwise not normally encountered nor reasonably anticipated.

⑩ Where supply or communication line along a road is located relative to fences, ditches, embankments, etc, so that the ground under the line would not be expected to be traveled except by pedestrians, the clearances may be reduced to the following values:

	(ft)
(a) Insulated communication conductor and communication cables	9.5
(b) Conductors of other communication circuits	9.5
(c) Supply cables of any voltage meeting Rule 230C1, supply cables limited to 150V to ground meeting Rule 230C2 or 230C3, and neutral conductors meeting Rule 230E1.	9.5
(d) Insulated supply conductors limited to 300V to ground	12.5
(e) Guys	9.5

⑪ No clearance from ground is required for anchor guys not crossing tracks, rails, streets, driveways, roads, or pathways.

⑫ This clearance may be reduced to 13 ft for communication conductors or guys.

⑬ Where this construction crosses over or runs along alleys, driveways, or parking lots not subject to truck traffic this clearance may be reduced to 15 ft.

⑭ Ungrounded guys and ungrounded portions of span guy insulators shall have clearances based on the highest voltage to which they may be exposed due to a slack conductor or guy.

⑮ Anchor guys insulated in accordance with Rule 279 may have the same clearance as grounded guys.

⑯ Adjacent to tunnels and overhead bridges that restrict the height of loaded rail cars to less than 20 ft, these clearances may be reduced by the difference between the highest loaded rail car handled and 20 ft, if mutually agreed to by the parties at interest.

⑰ For controlled impoundments, the surface area and corresponding clearances shall be based upon the design highwater level.

(18) For uncantrolled water flow areas, the surface area shall be that enclosed by by its annual high-water mark. Clearances shall be based on the normal flood level; If available, the 10-year flood level may be assumed as the normal flood level.

(19) The clearance over rivers, streams, and canals shall be based upon the largest surface area of any 1 mile-long segment that includes the crossing. The clearance over a canal, river, or stream normally used to provide access for sailboats to a larger body of water shall be the same as that required for the larger body of water.

(20) Where an overwater obstruction restricts vessel height to less than the applicable reference height given in Table 232-3, the required clearance may be reduced by the difference between the reference height and the overwater obstruction height, except that the reduced clearance shall be not less than that required for the surface area on the line-crossing side of the obstruction.

(21) Where the US Army Corps of Engineers, or the state, or surrogate thereof has issued a crossing permit, clearances of that permit shall govern.

(22) See Rule 234I for the required horizontal and diagonal clearances to real cars.

(23) For the purpose of this rule, trucks are defined as any vehicle exceeding 8 ft in height. Areas not subject to truck traffic are areas where truck traffic is not normally encountered nor reasonably anticipated.

(24) Communication cables and conductors may have a clearance of 15 ft where poles are back of curbs or other deterrents to vehicular traffic.

(25) The clearance values shown in this table are computed by adding the applicable Mechanical and Electrical (M & E) value of Table A-1 to the applicable Reference Component of Table A-2a of Appendix A.

(26) When designing a line to accommodate oversized vehicles, these clearance values shall be increased by the difference between the known height of the oversized vehicle and 14 ft.

2. The vertical clearance above ground, roadway, or water surfoces for unguarded rigid live parts such as potheads, transformer bushings, surge arresters, and short lengths of supply conductors connected thereto, which are not subject to variation in sag, shall be not less than that shown in NESC Table 232-2. For clearances of drip loops of service drops, see NESC Table 232-1..

3. The vertical clearance of switch handles, equipment cases, support arms, platforms, and braces that extend beyond the surface of the structure shall be not less than that shown in Table 232-2. These clearances do not apply to internal structural braces for lattiCed towers, X-braces between poles, and pole-type push braces.

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Table 232-2—
Vertical clearance of equipment cases, support arms, platforms, braces and unguarded rigid live parts above ground, roadway, or water surfaces ⑧
(Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems.
See Rules 232B2, 232B3, 232C1a, and 232D4.)

Nature of surface below	Nonmetallic or effectively grounded support arms, switch handles, platforms, braces, and equipment cases (ft)	Unguarded rigid live parts of 0 to 750V and ungrounded cases that contain equipment connected to circuits of not more than 750V (ft)	Unguarded rigid live parts of over 750V to 22 kV and ungrounded cases that contain equipment connected to circuits of over 750V to 22 kV (ft)
1. Where rigid parts overhang			
a. Roads, streets, and other areas subject to truck traffic	15.0	16.0	18.0
b. Driveways, parking lots, and alleys	15.0	16.0 ⑥	18.0
c. Other land traveled by vehicles such as cultivated land, grazing land, forest, orchard, etc.	15.0 ⑦	16.0	18.0
d. Spaces and ways subject to pedestrians or restricted traffic only ⑤	11.0 ⑦	12.0 ①	14.0
2. Where rigid parts are along and within the limits of highways or other road right-of-way but do not overhang the roadway			
a. Roads, streets, and alleys	15.0 ⑦	16.0	18.0
b. Roads where it is unlikely that vehicles will be crossing under the line	13.0 ⑦	14.0 ②	16.0
c. Water areas not suitable for sailboating or where sailboating is prohibited	14.0	14.5	15.0

① For insulated live parts limited to 150V to ground, this value may be reduced to 10 ft.

② Where a supply line along a road is limited to 300V to ground and is located relative to fences, ditches, embankments, etc., so that the ground under the line would not be expected to be traveled except by pedestrians, this clearance may be reduced to 12 ft.

③ This footnote not used in this edition.

④ For the purpose of this rule, trucks are defined as any vehicle exceeding 8 ft in height. Areas not subject to truck traffic are areas where truck traffic is not normally encountered nor nor reasonably anticipated.

⑤ Spaces and ways subject to pedestrians or restricted traffic only are those areas where riders on horseback or other large animals, vehicles, or other mobile units exceeding 8 ft in height, are prohibited by regulation or permanent terrain configurations or are otherwise not normally encountered nor reasonably anticipated.

⑥ This clearance may be reduced to the following values for driveways, parking lots, and alleys not subject to truck traffic:

	(ft)
(a) Insulated live parts limited to 300V to ground	12
(b) Insulated live parts limited to 150V to ground	10

⑦ Effectively grounded switch handles and supply or communication equipment cases (such as fire alarm boxes, control boxes, communication terminals, meters or similar equipment cases) may be mounted at a lower level for accessibility, provided such cases do not unduly obstruct a walkway.
NOTE: See NESC Rule 234J2c.

⑧ The clearance value shown in this table are computed by adding the applicable Mechanical and Electrical (M & E) value of Table A-1 to the applicable Reference Component of Table A-2a of NESC appendix A.

⑨ Where the US Army Corps of Engineers, or the state, or surrogate thereof has issued a crossing permit, clearances of that permit shall govern.

CLEARANCE OF WIRES, CONDUCTORS, CABLES, AND EQUIPMENT FROM BUILDINGS, BRIDGES, RAIL CARS, SWIMMING POOLS, AND OTHER INSTALLATIONS

1- From buildings, signs, billboards, chimneys, radio and television antennas, tanks, and other installations except bridges: SEE 2007 NESC Table 234-1.(pg. 126)

2- From bridges: SEE 2007 NESC Table 234-2.(pg. 129)

3- Installed over or near swimming areas with no wind displacement: See 2007 NESC Table 234-3. (pg. 132)

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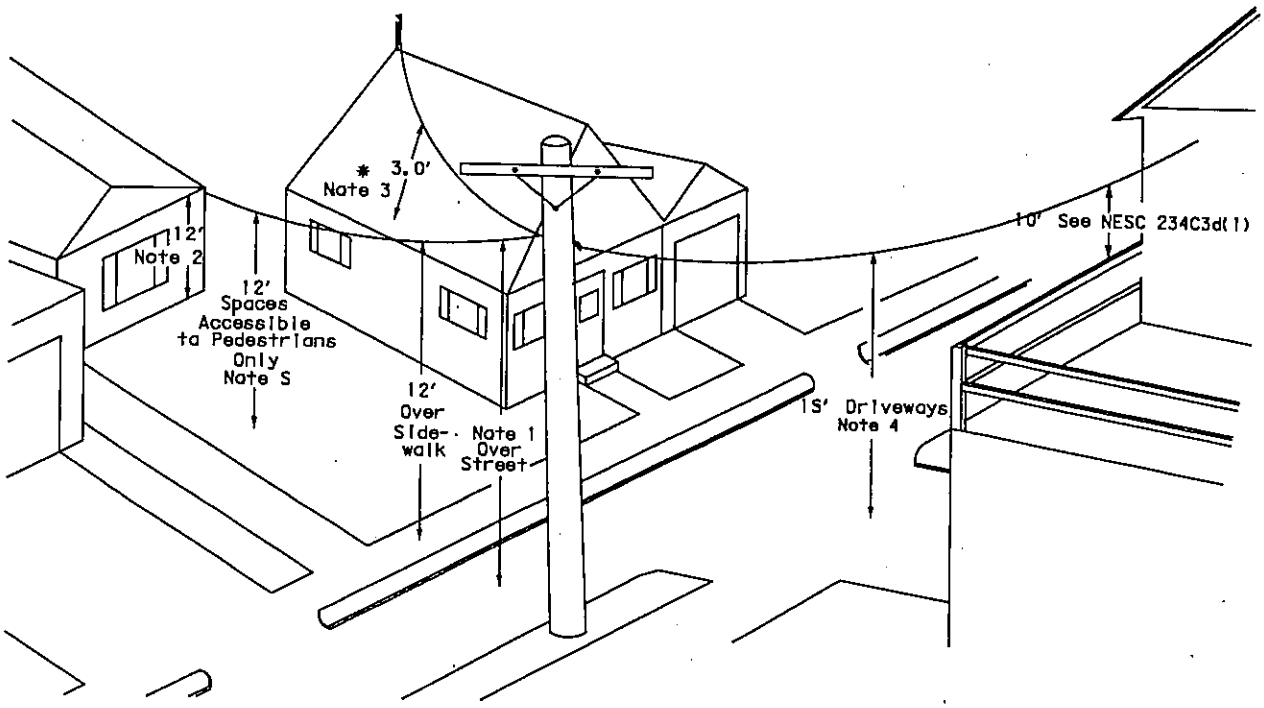
SUPPLY (SERVICE DROPS) CONDUCTORS ATTACHED TO BUILDINGS OR OTHER INSTALLATIONS.



TRIPLEX AND QUADRAPLEX SERVICES
OF LESS THAN 300 VOLTS TO GROUND

Where the permanent attachment of supply conductors of any class to a building or other installation is necessary for an entrance, such conductors shall meet the following requirements over or along the installation to which the conductors are attached:

a. Energized service drop conductors, including splices and taps, shall be insulated or covered in accordance with the following:
   (1) For 0 to 750V, NESC Rule 230C or 230D
   (2) For over 750 V, NESC Rule 230C1

   This rule does not apply to neutral conductors meeting NESC Rule 230E1.

b. Conductors of more than 300 V to ground shall not be carried along or near the surface of the installation unless they are guarded or made inaccessible.

c. Wires or cables attached to and run along side the installation shall have clearances from the surface of the installation not less than 3 in.

d. Service-drop conductors, including drip loops shall have a clearance of not less than the following:

   (1) 10 ft vertical clearance from the highest point of roofs, balconies, porches, or attached decks over which they pass

   EXCEPTION: Where the voltage between conductors meeting NESC Rule 230D does not exceed 300 V, or where the voltage of cables meeting NESC Rule 230C2 or 230C3 does not exceed 750 V, or where the cable meets NESC Rule 230C1, and the roof, balcony, porch, or attached deck is not readily accessible, the clearance over the roof, balcony, porch, or attached deck including the drip loop shall be not less than either of the following:

(a) 3 ft

(b) 18 in for a horizontal distance of 6 ft from an approved raceway or support located not more than 4 ft from the edge of the roof and not less than 3 ft for the remainder of the horizontal distance that the cable or conductor passes over the roof or balcony.

A roof, balcony, porch, or attached deck is considered readily accessible to pedestrians if it can be casually accessed through a doorway, window, ramp, stairway, or permanently mounted ladder by a person, on foot, who neither exerts extraordinary physical effort nor employs tools or devices to gain entry. A permanently mounted ladder is not considered a means of access if its bottom rung is 8 ft or more from the ground or other permanently installed accessible surface.

NOTE: See NESC Figure 234-2.

(2) 3 ft in any direction from windows, doors, porches, fire escapes, or similar locations.

EXCEPTION 1: This does not apply to service-drop conductors meeting NESC Rule 230C3 above the top level of a window

EXCEPTION 2: This does not apply to windows that are not designed to open

Above ground clearances of service conductors shall be not less than required by NESC Table 232-1 or other applicable NESC rule.

Service conductors located above or near swimming pools shall be not less than required by NESC Table 234-3 or other applicable NESC rule.

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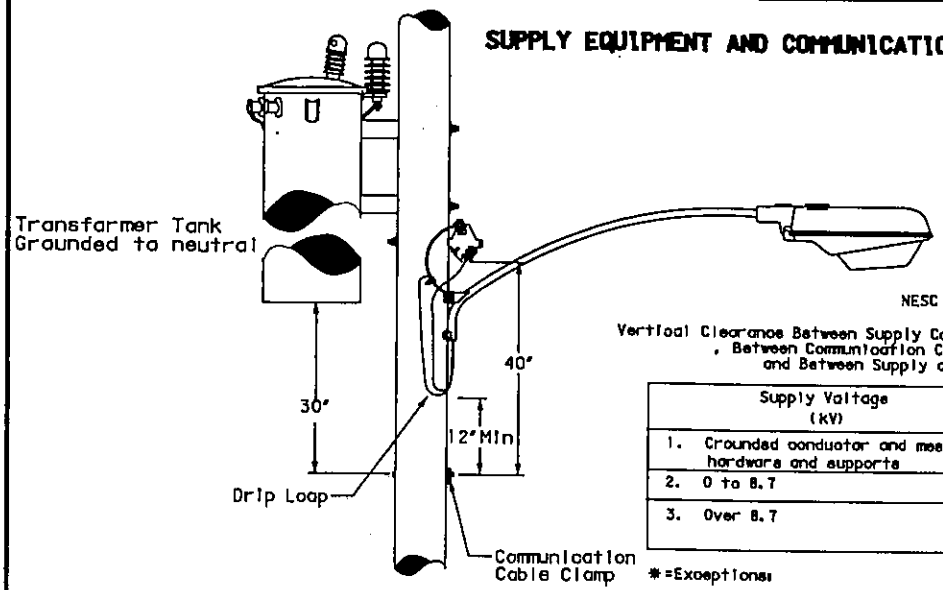
305-9	CLEARANCES	

SUPPLY EQUIPMENT AND COMMUNICATIONS EQUIPMENT



NESC TABLE 238-1

Vertical Clearance Between Supply Conductors and Communications Equipment , Between Communication Conductors and Supply Equipment, and Between Supply and Communications Equipment

Supply Voltage (kV)	Vertical Clearance (in)
1. Grounded conductor and messenger hardware and supports	30
2. 0 to 8.7	40*
3. Over 8.7	40 plus 0.4 per kV* over 8.7 kV

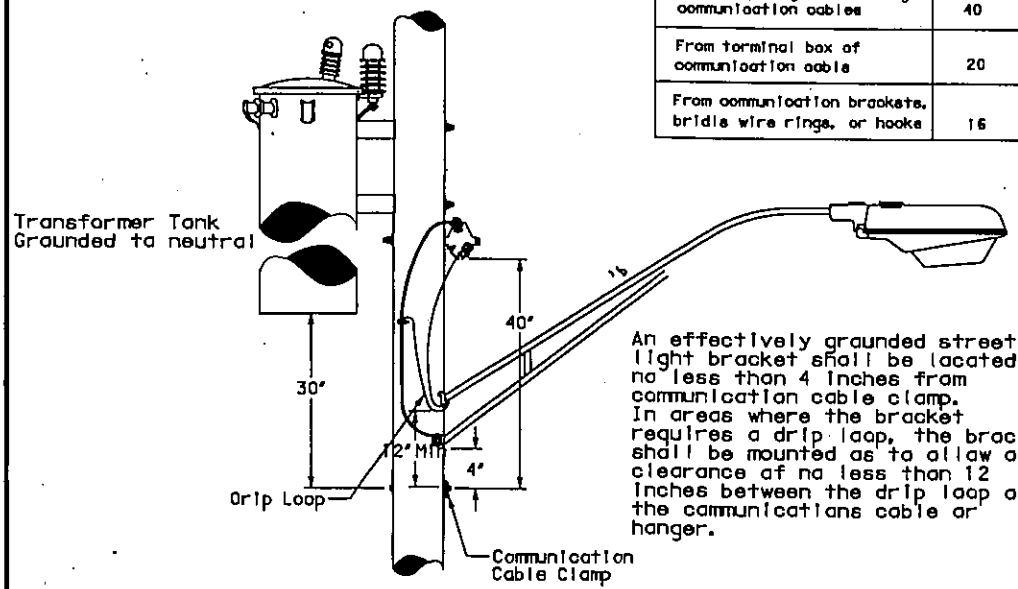
*=Exceptions:

Where non-current-carrying parts of supply equipment are effectively grounded and the associated neutral (meeting NESC Rule 230E1) or supply cables (meeting NESC Rule 230C1) (including the support brackets) are bonded to communication messengers at intervals (meeting NESC Rule 92C) through out well-defined areas and where communication is at lower levels, clearances may be reduced to 30 in.

NESC TABLE 238-2

Vertical Clearance of Span Wires and Brackets From Communication Lines

	Carrying luminaries or traffic signals	
	Not effectively grounded	Effectively grounded
	(in)	(in)
Above communication support arms	20	20
Below communication support arms	40	24
Above messengers carrying communication cables	20	4
Below messengers carrying communication cables	40	4
From terminal box of communication cable	20	4
From communication brackets, bridle wire rings, or hooks	16	4



An effectively grounded street light bracket shall be located no less than 4 inches from communication cable clamp. In areas where the bracket requires a drip loop, the bracket shall be mounted as to allow a clearance of no less than 12 inches between the drip loop and the communications cable or hanger.

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VERTICAL CLEARANCE FOR WIRES, CONDUCTORS, OR CABLES CARRIED ON THE SAME SUPPORTING STRUCTURE

All line wires, conductors, and cables located at different levels on the same supporting structure shall have vertical clearances not less than the following:

1. Basic clearance for conductors of same or different circuits

a. Between supply lines of the same or different circuits

The clearance requirements given in NESC Table 235-5 shall apply to supply line wires, conductors, or cables of 0 to 50 kV attached to supports. No value is specified for clearances between conductors of the same circuit exceeding 50 kV, between cables meeting NESC Rule 230C3 and neutral conductors meeting NESC Rule 230E1 of the same utility, or between ungrounded open supply conductors 0 to 50 kV of the same phase and circuit of the same utility.

b. Between supply lines and communication lines

The clearance requirements given in NESC Table 235-5 shall apply.

c. Between communication lines located in the communication space

The clearance and spacing requirements of NESC Rule 235H shall apply to communication lines located in the communication space.

d. Between communication lines located in the supply space

The clearance requirements of NESC Table 235-5 shall apply to communication lines located in the supply space.

EXCEPTION 1: Line wires, conductors, or cables on vertical racks or separate brackets placed vertically and meeting the requirements of NESC Rule 235G may have spacings as specified in that rule.

EXCEPTION 2: Where communication service drops cross under supply conductors on a common crossing structure, the clearance between the communication conductor and an effectively grounded supply conductor may be reduced to 4 in provided the clearance between the communication conductor and supply conductors not effectively grounded meets the requirements of NESC Rule 235C as appropriate.

EXCEPTION 3: Supply service drops of 0 to 750 V running above and parallel to communication service drops may have a clearance of not less than 12 inches at any point in the span including the point of their attachment to the building or structure being served provided that the nongrounded conductors are insulated and that the clearance as otherwise required by this rule is maintained between the two service drops at the pole.

EXCEPTION 4: This rule does not apply to conductors of the same circuit meeting NESC Rule 230D.

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2. Sag-related clearances

(1) Line wires, conductors, and cables supported at different levels on the same structures shall have vertical clearances at the supporting structures so adjusted that the clearance at any point in the span shall be not less than any of the following:

(a) For voltages less than 50 kV between conductors, 75% of that required at the supports by NESC Table 235-5.

EXCEPTION 1: Neutral conductors meeting NESC Rule 230E1, fiberoptic supply cables meeting NESC Rule 230F1a or 230F1b, insulated communication cables located in the supply space and supported by an effectively grounded messenger, and supply cables meeting NESC Rule 230C1 (including their support brackets) in the supply space running above and parallel to communication cables in the communications space where the supply neutral or messenger is bonded to the communication messenger at intervals specified in NESC Rule 92C, may have a clearance of 12 inches at any point in the span provided that a clearance of 30 inches is maintained between the supply space conductors and cables and communication space cables at the supporting poles. Banding is not required for entirely dielectric cables meeting NESC Rule 230F1b.

I. The upper conductor is at final sag at 120° F or the maximum operating temperature for which the line is designed to operate and the lower conductor is at final sag at the same ambient conditions as the upper conductor without electrical loading, or

II. The upper conductor is at final sag at 32° F with 1/2 inch radial thickness of ice and the lower conductor is at final sag at the same ambient conditions as the upper conductor without electrical loading, and without ice loading.

3. Span lengths in excess of 150 ft.

Vertical clearance at the structure between open supply conductors and communication cables or conductors shall be adjusted so that under conditions of conductor temperature of 60°F, no wind displacement and final unloaded sag, no open supply conductor of over 750 V but less than 50 kV shall be lower in the span than a straight line joining the points of support of the highest communication cable or conductor.

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Table 235-5—
Vertical clearance between conductors at supports

(When using column and row headings, voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. When calculating clearance values within the table, all voltages are between the conductors involved. See the definitions section for voltages of other systems.

See also Rules 235C1, 235C2, and 235F)

Conductors and cables usually at lower levels	Conductors and cables usually at upper levels			
	Supply cables meeting Rule 230C1, 2, or 3; neutral conductors meeting Rule 230E1; communications cables meeting Rule 224A2 (in)	Open supply conductors		
		0 to (11) 8.7kV (in)	Over 8.7 to 50 kv	
			Same utility (7) (in)	Different utility (7) (in)
1. Communication conductors and cables				
a. Located in the communication space	40 (1)(5)	40	40	40 plus 0.4 per kv (6) in excess of 8.7kv
b. Located in the supply space	16 (1)(5)	16	40	40 plus 0.4 per kv (6) in excess of 8.7kv
2. Supply conductors and cables				
a. Open conductors 0 to 750V; supply meeting Rule 230C1, 2, or 3; neutral conductors meeting Rule 230E1 (11)	16 (9)	16	16 plus 0.4 per kv (6) in excess of 8.7kv	40 plus 0.4 per kv (6) in excess of 8.7kv
b. Open conductors over 750V to 8.7kV		16 (2)	16 plus 0.4 per kv (4)(6) in excess of 8.7kv	40 plus 0.4 per kv A (6) in excess of 8.7kv
c. Open conductors over 8.7 to 22kV				
(1) If worked on energized with live-line tools and adjacent circuits are neither de-energized nor covered with shields or protectors			16 plus 0.4 per kv (6) in excess of 8.7kv	40 plus 0.4 per kv (6) in excess of 8.7kv

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Table 235-5 (continued)
Vertical clearance between conductors at supports

(When using column and row headings, voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. When calculating clearance values within the table, all voltages are between the conductors involved. See the definitions section for voltages of other systems.

See also Rules 235C1, 235C2, and 235F)

Conductors and cables usually at lower levels	Conductors and cables usually at upper levels			
	Supply cables meeting Rule 230C1, 2, or 3; neutral conductors meeting Rule 230E1; communications cables meeting Rule 224A2 (.in)	Open supply conductors		
		0 to ⑪ 8.7kV (in)	Over 8.7 to 50 kv	
			Same utility ⑦ (in)	Different utility ⑦ (in)
(2) If not working on energized except when adjacent circuits (either above or below) are de-energized or covered by shields or protectors, or by the use of live-line tools nor requiring line workers to go between live wires			16 plus 0.4 per kv ③⑥ in excess of 8.7kv	40 plus 0.4 per kv ③⑥ in excess of 8.7kv
d. Open conductors exceeding 22kV, but not exceeding 50kV			16 plus 0.4 per kv ③⑥ in excess of 8.7kv	40 plus 0.4 per kv ③⑥ in excess of 8.7kv

① Where supply circuits of 600V or less, with transmitted power of 500W or less, are run below communication circuits in accordance with Rule 220B2, the clearance may be reduced to 16 in.

② Where conductors are operated by different utilities, a vertical clearance of not less than 40 in is recommended.

③ These values do not apply to conductors of the same circuit or circuits being carried on adjacent conductor supports.

④ May be reduced to 16 in where conductors are not worked on energized except when adjacent circuits (either above or below) are de-energized or covered by shields or protectors, or by the use of live-line tools not requiring line workers to go between live wires.

⑤ May be reduced to 30 in for supply neutrals meeting Rule 230E1, fiber-optic supply cables on an effectively grounded messenger meeting Rule 230F1a, entirely dielectric fiber-optic supply cables meeting Rule 230F1b, insulated communication cables located in the supply space and supported by an effectively grounded messenger, and cables meeting Rule 230C1 where the supply neutral or messenger is bonded to the communication messenger. Bonding is not required for entirely dielectric cables meeting Rule 230F1b.

⑥ The greater of phasor difference or phase-to-ground voltage; see Rule 235A3.

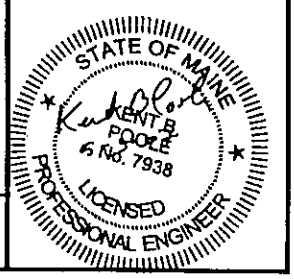
⑦ See examples of calculations in Rule 235C2a and 235C2b.

⑧ Not used in this edition.

⑨ No clearance is specified between neutral conductors meeting Rule 230E1 and insulated communication cables located in the supply space and supported by an effectively grounded messenger.

⑩ No clearance is specified between fiber-optic supply cables meeting Rule 230F1b and supply cables and conductors.

⑪ Does not include neutral conductors meeting Rule 230E1.



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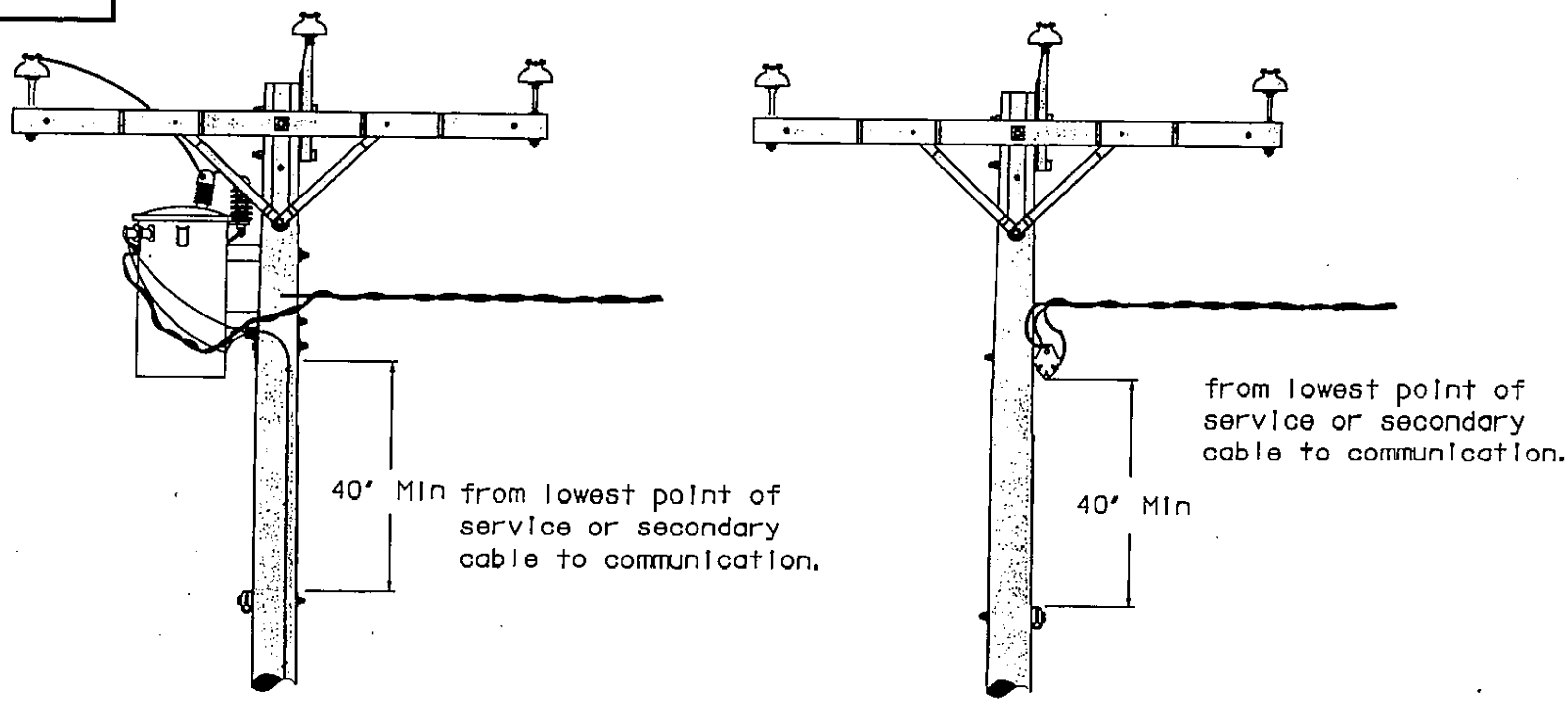
SUPPLY AND COMMUNICATION CLEARANCE AT SUPPORTING STRUCTURE



NOTES

1. Transformers should normolly be mounted on the roadside of the pole and may be quarter mounted if the lateral service or secondary cable interferes with the installotion.
2. The top mounting bracket of the transformer must be located above the neutral.
3. Minimum clearance between the bottom of the transformer tank and the highest communication cable shall be 30'.
4. DO NOT place any conductors in the 40 Inch Communication Personol Safety Zone.

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

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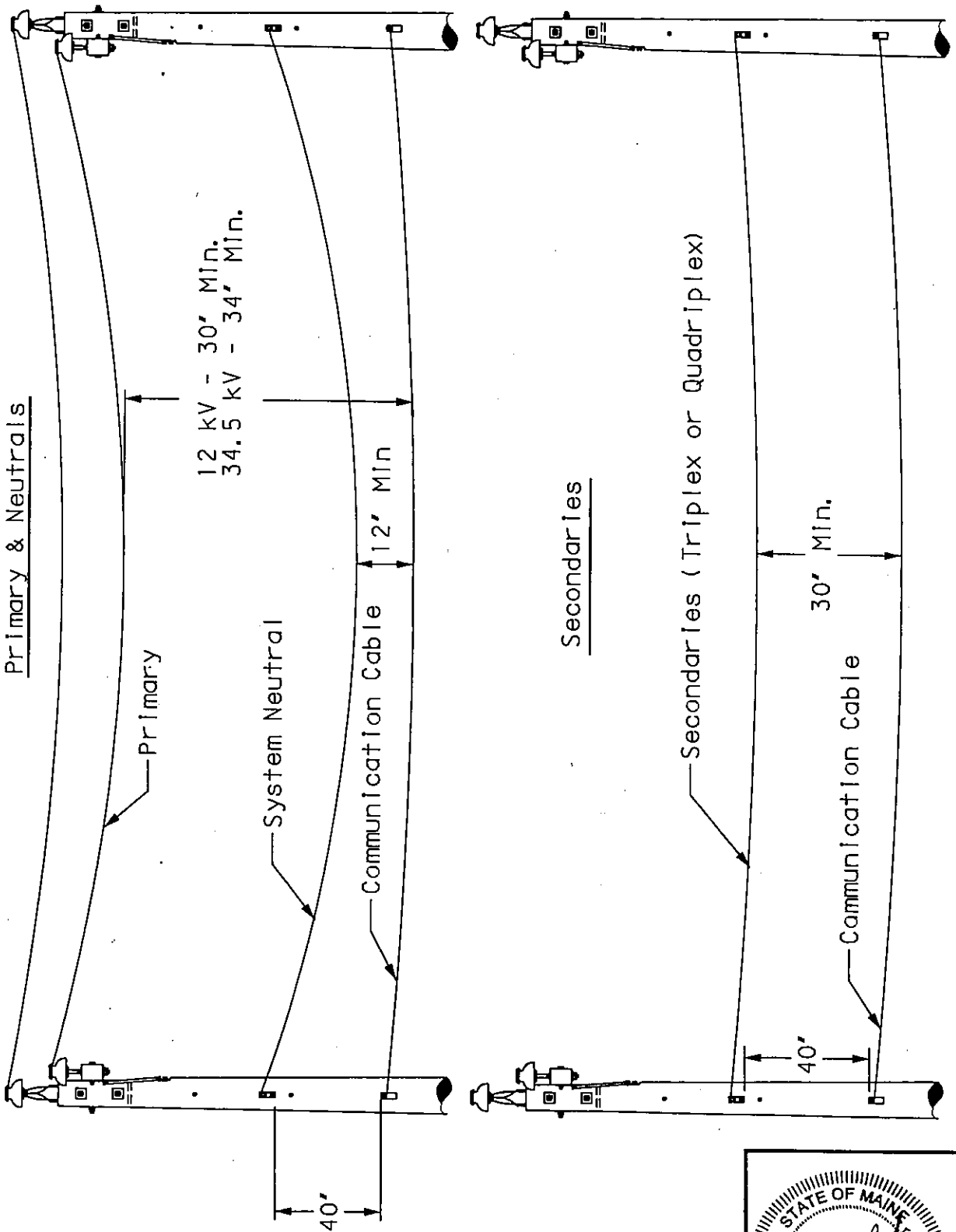

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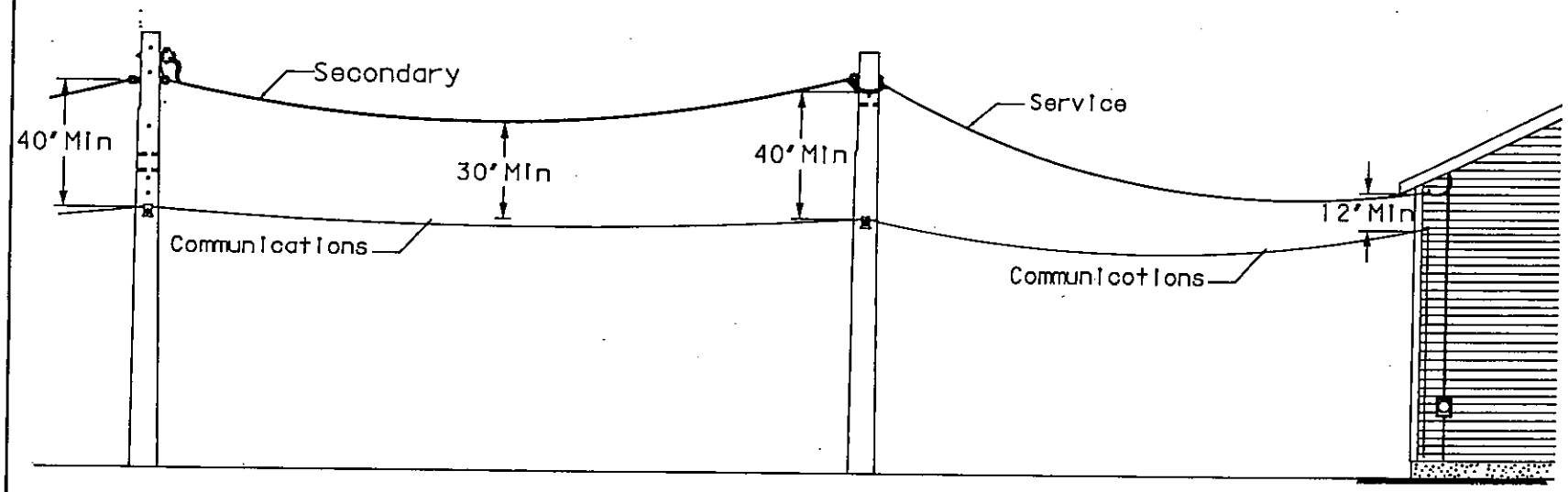
SUPPLY AND COMMUNICATION SERVICE DROP CLEARANCE



CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
CLEARANCES

PAGE
305-16

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/01/01	10/16/06	

EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	05/14/93

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GENERAL

This section provides standard requirements for classifying, salvaging and setting of wood poles and crossarms.

Wood poles used on Central Maine Power Company's distribution system should be full length treated with Pentachlorophenol (Penta). SEE ENVIRONMENTAL & LICENSING PROCEDURES MANUAL SECTION TREATED WOOD (POLE) MANAGEMENT FOR POLE SITING RESTRICTIONS.

SALVAGE

To be salvaged, a pole must have been initially full length treated with PENTA; must be less than ten years old and be in first class condition at the time of return. Poles to be salvaged shall show NO evidence of shell rot, internal decay, weather checking or excessive damage due to repeated climbing.

All poles returned to salvage shall have all hardware, pole numbers, ground wires, etc... removed before return. Date markers SHALL NOT be removed from pole.

A new date marker shall be put on the pole when it is reinstalled. The new date marker shall be placed two inches above the original date marker.

CLASSIFICATION

This section provides information and instruction for selecting the proper class of pole. The pole class is mainly dependent upon the loading that the pole must withstand under heavy ice loading conditions. Conductor loading, equipment loading, and downward forces caused by guying, must all be considered in order to select the proper class of pole.

This section provides three ways of determining the class of pole depending on the loading conditions. The first condition is for unguyed poles and considers conductor loading only. The second condition deals with guyed poles and the third condition is for equipment loading on poles.

When classifying a pole for heavy equipment or for guying, more than one method must be used in order to select the correct class of pole. For instance, if a transformer is to be added to a pole, first the conductor loading on the pole must be checked for the correct class of pole. Then the equipment loading is checked for the correct class of pole. If the class of pole differs between the two methods, the larger pole shall be used. In a similar case where the same pole is to be guyed also, all three methods must be checked.

RECONDUCTORING:

Whenever any load such as heavier conductors, large transformers, CATV, or telephone cables are added to an existing line, the poles should be reviewed for adequate strength. An existing pole in good condition that is within one class of the size required for a new pole (see pages 307-5 through 307-16 for size requirements) is both adequate and will meet the requirements of the National Electrical Safety Code (NESC). For example, if a 40/3 pole was already installed and new loading would require a 40/2 pole, then the old 40/3 pole would NOT have to be changed out. If, however, the new loading required a 40/1 pole, then the old 40/3 pole would have to be changed out and a new 40/1 pole installed. Whenever a new pole is installed on an existing line or a new line, the pole class has to meet all the requirements for a new pole installation. Poles may be measured at the ground line to determine their class (see page 307-3).

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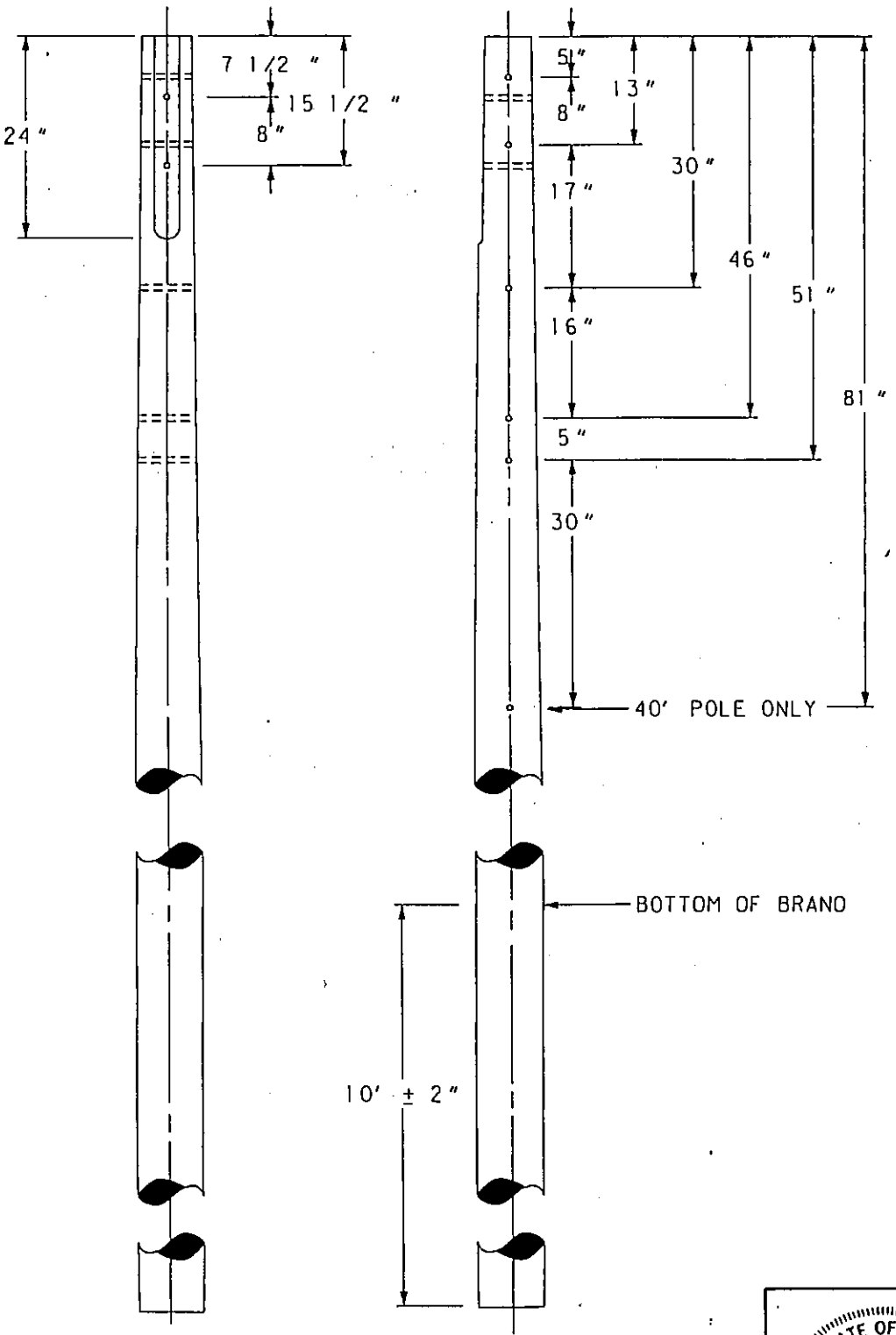
PAGE	DESCRIPTION	MACRO
307-1	35 - 50 FOOT DISTRIBUTION POLES	

FRAMING DETAIL



NOTE:. All holes 11/16" diameter

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DRAWN	REC
DATE	08/23/01

DESIGNED	REDRAWN
DRAWN	CRG
DATE	11/1/94

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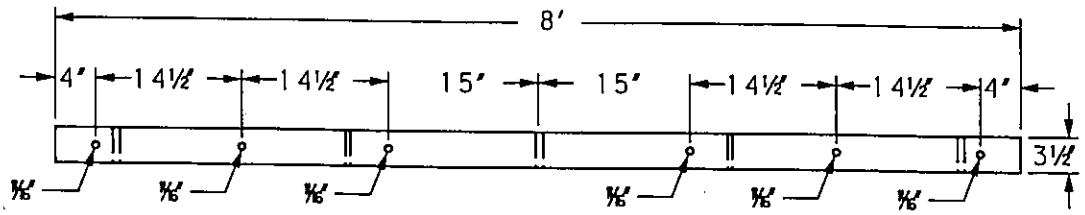
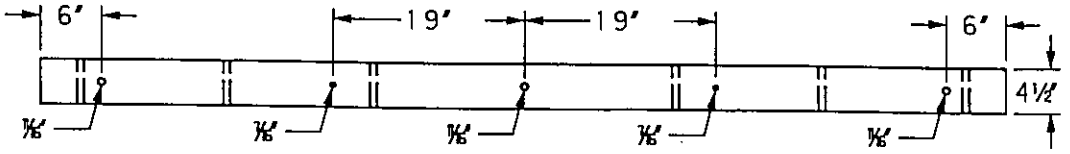
DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	STANDARD CROSSARMS	307-2

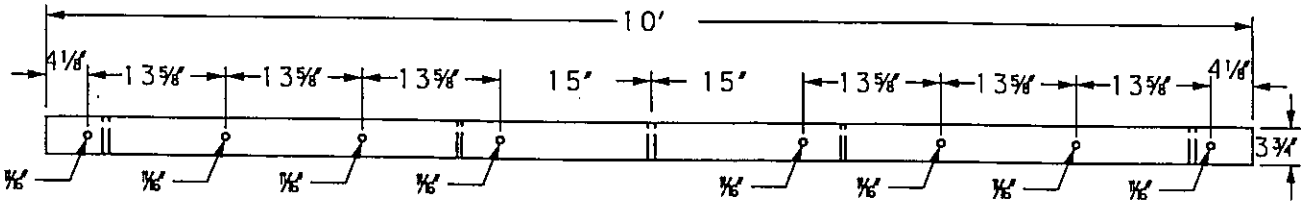
DRILLING DETAIL



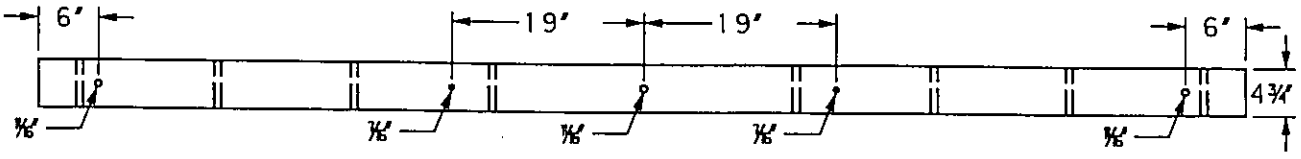
TOP VIEW



SIDE VIEW
8' 6 PIN B CROSSARM
MID*6000740510



TOP VIEW



SIDE VIEW
10' 8 PIN B CROSSARM
MID*6000740540

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	07/06/06	

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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
307-3	MINIMUM POLE DIMENSIONS	

* MINIMUM POLE DIMENSIONS

CLASS		1	2	3	4	5
Circumference at Top All Woods All Lengths		27	25	23	21	19
Circumference 6 Feet from Butt	Length					
Southern Yellow Pine	30	36.5	34.0	32.0	29.5	27.7
	35	39.0	36.5	34.0	31.5	29.0
	40	41.0	38.5	36.0	33.5	31.0
Douglas Fir	45	43.0	40.5	37.5	35.0	32.5
	50	45.0	42.0	39.0	36.5	34.0
Hackmatack	55	46.5	43.5	40.5	38.0	
	60	48.0	45.0	42.0	39.0	
	30	39.0	36.5	34.0	31.5	29.0
	35	41.5	38.5	36.0	33.5	31.0
Red Pine	40	44.0	41.0	38.0	35.5	33.0
(Norway)	45	46.0	43.0	40.0	37.0	34.5
	50	48.0	45.0	42.0	39.0	36.0
White Spruce	55	49.5	46.5	43.5	40.5	
	60	51.5	48.0	45.0	42.0	
	30	40.0	37.5	35.0	32.5	30.0
	35	42.5	40.0	37.5	34.5	32.0
	40	45.0	42.5	39.5	36.5	34.0
Western Red	45	47.5	44.5	41.5	38.5	36.0
Cedar	50	49.5	46.5	43.5	40.0	37.5
	55	51.5	48.5	45.0	42.0	
	60	53.5	50.0	46.5	43.5	
	65	55.0	51.5	48.0	45.0	
	25	42.0	39.5	36.5	34.0	31.5
	30	45.5	43.0	40.0	37.0	34.5
Eastern White	35	49.0	46.0	42.5	39.5	37.0
Cedar	40	51.5	48.5	45.0	42.0	39.0
	45	54.5	51.0	47.5	44.0	41.0
White Pine						

* PER ANSI STANDARD 05.1-1992

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DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	AVERAGE POLE WEIGHTS	307-4

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	CMH	REC	
DATE	8/23/01	12/26/02	

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DATE	11/3/94

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Length	Class	Southern Pine Poles	Western Red Cedor Poles	Eastern White Cedar Poles
		AVERAGE WEIGHT		
30	1	1122#	800#	
35	1	1441#	960#	
40	1	1793#	1200#	
45	1	2162#	1440#	
50	1	2563#	1600#	
55	1	3258#	1840#	
60	1	3756#	2080#	
30	2	979#	680#	
35	2	1254#	800#	
40	2	1551#	1040#	
45	2	1876#	1240#	
50	2	2222#	1440#	
55	2	2826#	1600#	
60	2	3252#	1760#	
30	3	847#	585#	870#
35	3	1084#	680#	1060#
40	3	1348#	880#	1250#
45	3	1623#	1040#	
50	3	1925#	1240#	
55	3	2448#	1400#	
60	3	2820#	1600#	
30	4	732#	490#	630#
35	4	941#	600#	820#
40	4	1166#	720#	1020#
45	4	1408#	920#	
50	4	1672#	1120#	
55	4	2124#	1280#	
60	4	2442#	1520#	
25	5	473#		420#
30	5	638#	400#	520#
35	5	814#	520#	720#
40	5	1012#	640#	790#
45	5	1221#	800#	

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DISTRIBUTION CONSTRUCTION STANDARDS

The following tables and graphs may be used to determine the minimum pole class requirements for inline poles, guyed poles and poles with heavy equipment.

Wire load factors are provided in order to determine total storm loading on poles.

TABLE 1 CMP INLINE POLE ATTACHMENTS

Type Of Attachment	Wire Load Factor	Type of Attachment	Wire Load Factor
#6 WP	1.3	#6A Copperweld	1.2
#4 WP	1.4	#4A Copperweld	1.3
#2 WP	1.5	#2A Copperweld	1.4
#1/0 WP	1.6	#4 ACSR	1.3
#2.0 WP	1.7	#2 ACSR	1.3
#4/0 WP	1.8	#1/0 ACSR	1.4
#2 Triplex Cable	1.6	#4/0 ACSR	1.6
#1/0 Triplex Cable	1.9	#1/0 AAAC	1.4
336.4 MCM WP Aluminum	1.8	336.4 MCM Aluminum	1.7
15 kV 1/0 AAAC Tree Wire	1.7	35 kV 1/0 AAAC Tree Wire	2.0
15 kV 336.4 MCM Alum Tree Wire	2.0	35 kV 336.4 MCM Alum Tree Wire	2.3
15 kV Spacer Cable		**35 kV Spacer Cable**	
1/0 3φ	6.8	1/0 3φ	7.7
336.4 3φ	7.7	336.4 3φ	8.5
1/0 1φ	3.4	1/0 1φ	3.6

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TABLE 2 - COMMUNICATION COMPANY INLINE POLE ATTACHMENTS

Type of attachment	Wire Load Factor Based on Mutual Excess Height Pole Pole Length 30'	35'	40' *	45' *	50' *
C rural wire	1.1	0.9	0.9	0.9	0.8
CATV or fiber optic cable (Based on 1/4" messenger and 1" cable)	2.1	1.8	1.7	1.6	1.6
Cable on 6M (5/16") strand (Based on 1.5" cable)	2.6	2.2	2.1	2.0	2.0
Cable on 10M (3/8") strand (Based on 2.5" cable)	3.5	3.1	2.9	2.8	2.7
Cable on 16M (7/16") strand (Based on 3.5" cable)	4.5	3.9	3.7	3.6	3.5

*Use wire load factor for 35' pole for communication cables less than 10' from top of pole.

Add the wire load factors for all the inline wires and cables expected to be attached to the pole. For junction poles, use the attachments in whichever direction results in the larger pole. Refer to page 307-13 depending on the situation to determine the required class of pole.

CABLE OR WIRE NOT SHOWN ABOVE

To calculate wire load factor for cable or wire not shown in Table 1 or 2, use the following formula:

$$\text{Wire Load Factor:} \quad \frac{\text{Height of wire at pole X (1 + wire or cable diameter)}}{\text{Pole height factor}}$$

Pole length =	30'	35'	40'	45'	50'	55'	60'
Pole height factor =	22.5	27	32	36.5	41	45.5	50

Spacer cable: Height for messenger and all cables equals the height of the spacer cable bracket above ground. The messenger and cable wire load factor must be calculated for each wire separately.

Triplex and quadraplex: Cable diameter is the overall diameter of the bundled cable.

CATV and telephone cables: Cable diameter equals the diameter of the strand plus the diameters of all the cables lashed to it. For cable in rings, the wire load factor must be calculated separately for the messenger and the cable.

	REVISED	REVISED	REVISED
DESIGNED	CS		
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DATE	5/14/93

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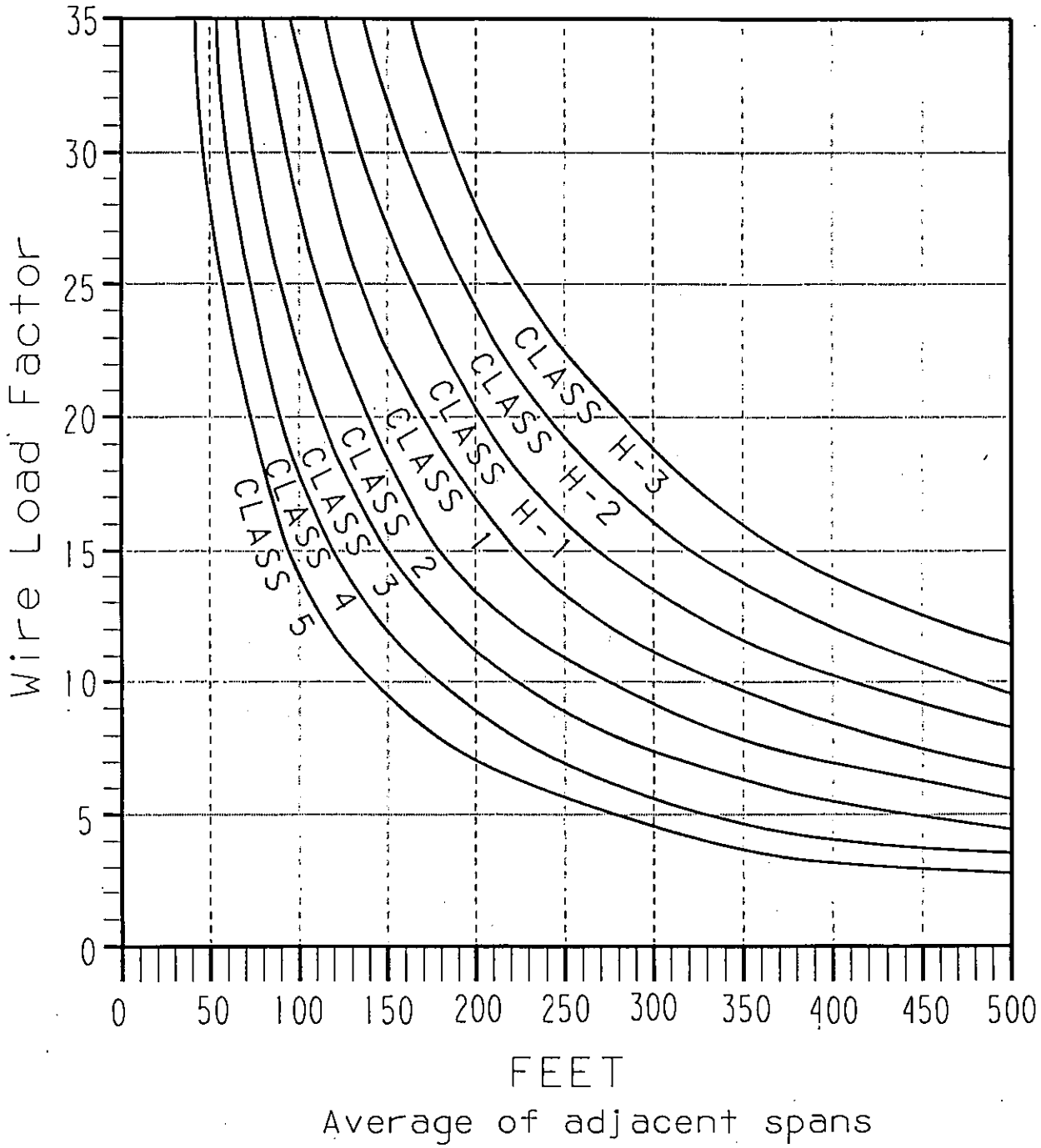
PAGE	DESCRIPTION	MACRO
307-7	POLE CLASS GRAPH 1	



Grade "B", for limited access highway and railroad crossing, spans and spans over lines that cross limited access highway or railroad in the same span.

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DATE	3/22/93	08/23/01

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DRAWN	JEC	
DATE	5/29/92	

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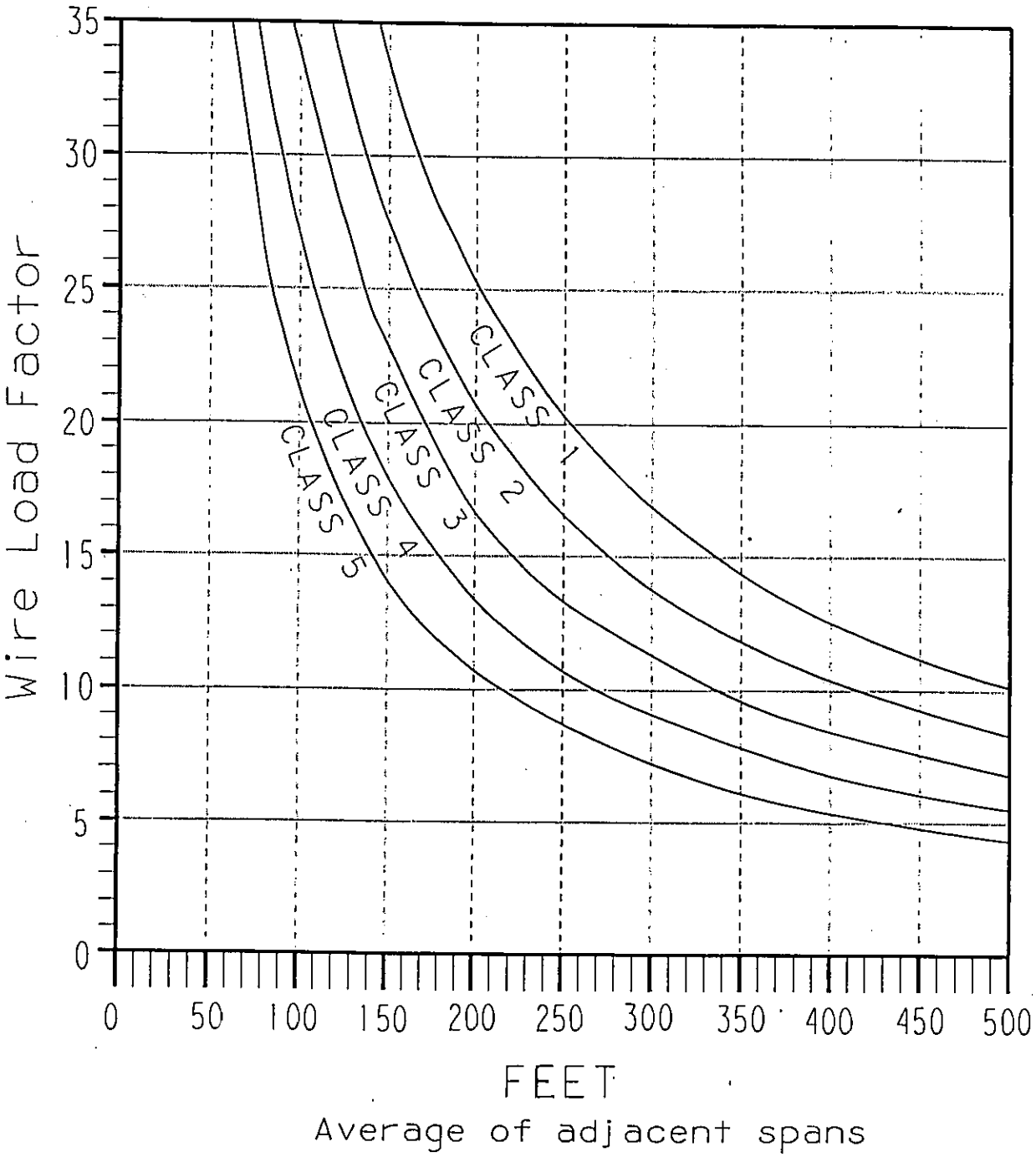
DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	POLE CLASS GRAPH 2	307-8

	REVISED	REVISED	REVISED
DESIGNED	GRG	CS	
DRAWN		REC	
DATE	3/24/93	08/23/01	

	ORIGINAL
DESIGNED	GRG
DRAWN	JEC
DATE	5/29/92



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Grade "C", for all primary lines other than spans that cross limited access highways or railroads and spans crossing over spans that cross limited access highways or railroads

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 307-9

DESCRIPTION POLE CLASSIFICATION - GUYED POLES

MACRO

TABLE #4 MINIMUM POLE CLASS REQUIREMENTS FOR GUYING IN CMP SPACE
(Disregard guys in communication space)

Required Guying	5/16" GUY					7/16" GUY					2-5/16" GUYS					2-7/16" GUYS				
Pole Height / Lead in Feet	30'	35'	40'	45'	50'	30'	35'	40'	45'	50'	30'	35'	40'	45'	50'	30'	35'	40'	45'	50'
10' or Less	5	5	4	4	3	5	4	3	3	2	4	3	3	2	2	3	2	1	1	*
12'	5	5	4	4	3	5	4	3	3	2	4	4	3	2	2	3	2	2	1	*
14'	5	5	4	4	3	5	4	3	3	2	4	4	3	2	2	3	2	2	1	*
16'	5	5	5	4	3	5	4	4	3	2	5	4	3	2	2	3	3	2	1	*
18'	5	5	5	4	3	5	4	4	3	2	5	4	3	2	2	3	3	2	1	-
20'	5	5	5	4	4	5	4	4	3	2	5	4	3	2	2	3	3	2	1	-
22'	5	5	5	4	4	5	4	4	3	3	5	4	3	3	2	4	3	2	1	-
24'	5	5	5	4	4	5	4	4	3	3	5	4	3	3	2	4	3	2	1	-
26'	5	5	5	4	4	5	5	4	3	3	5	4	3	3	2	4	3	2	1	-
28'	6	5	5	4	4	5	5	4	3	3	5	4	3	3	2	4	3	2	1	-
30'	6	5	5	4	4	5	5	4	3	2	5	4	4	3	2	4	3	2	2	-
32'	6	5	5	4	4	5	5	4	3	3	5	4	4	3	2	4	3	2	2	-
34'	6	5	5	5	4	5	5	4	3	3	5	4	4	3	2	4	3	2	2	-
36'	6	5	5	5	4	5	5	4	4	3	5	4	4	3	2	4	3	2	2	-
38'	6	6	5	5	4	5	5	4	4	3	5	4	4	3	3	4	3	3	2	-
40'	6	6	5	5	4	5	5	4	4	3	5	5	4	3	3	5	4	3	2	-
42'	6	6	5	5	4	5	5	4	4	3	5	5	4	3	3	5	4	3	2	1

* Indicates that pole cannot be guyed with this short length of load.

NOTE: All poles (class 6 or larger) are large enough to be guyed by a single 1/4" guy.

NOTE: Class 6 poles are usable for secondary lift poles, for aerial service lift poles and for area lighting.

EXAMPLE: The minimum required pole class for a 40' pole guyed by a 7/16" guy with a lead of 16 feet is 4.

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DRAWN	REC	
DATE	CS	08/23/01

MACRO	DESCRIPTION	PAGE
	POLE CLASSIFICATION - HEAVY EQUIPMENT	307-10

TABLE 5: MAXIMUM ALLOWABLE WEIGHT OF HEAVY EQUIPMENT MOUNTED ON POLES

The table below lists the maximum allowable weight of heavy equipment for each pole class and pole height. Single unit mounts include: single phase transformers, three phase transformers, regulators, reclosers, capacitor banks, etc. Cluster mounted units will be limited to three phase transformer banks. Two transformers mounted on the same pole shall be limited to the same allowable weight as a cluster unit. (Safety factor - 3). Large single unit mounts shall be guyed to offset the unbalance. Heavier equipment than listed below may be mounted on a pole if the equipment is positioned lower on the pole.

If the pole is guyed or is to be guyed, check the pole class requirements for guying and determine whether or not a stronger pole than required below is necessary. This table applies to all new poles and existing poles that are in good condition.

		Maximum allowable weight of equipment mounted 3 feet from top of pole		Maximum allowable weight of equipment mounted 7 feet from top of pole	
Pole Height	Pole Class	Single Unit	Cluster Unit	Single Unit	Cluster Unit
30'	5	1288 lbs.	2577 lbs.	2104 lbs.	4208 lbs.
	4	1914 lbs.	3829 lbs.	3049 lbs.	6098 lbs.
	3	2821 lbs.	5642 lbs.	4417 lbs.	8835 lbs.
	2	3837 lbs.	7674 lbs.	5951 lbs.	11902 lbs.
	1	5255 lbs.	10511 lbs.	8091 lbs.	16183 lbs.
35'	5	930 lbs.	1861 lbs.	1423 lbs.	2847 lbs.
	4	1466 lbs.	2933 lbs.	2172 lbs.	4344 lbs.
	3	2159 lbs.	4318 lbs.	3140 lbs.	6280 lbs.
	2	3037 lbs.	6074 lbs.	4366 lbs.	8732 lbs.
	1	4130 lbs.	8261 lbs.	5893 lbs.	11787 lbs.
40'	5	717 lbs.	1434 lbs.	1044 lbs.	2089 lbs.
	4	1140 lbs.	2281 lbs.	1603 lbs.	3206 lbs.
	3	1683 lbs.	3367 lbs.	2318 lbs.	4637 lbs.
	2	2365 lbs.	4731 lbs.	3218 lbs.	6436 lbs.
	1	2703 lbs.	5406 lbs.	4330 lbs.	8660 lbs.
45'	5	571 lbs.	1142 lbs.	809 lbs.	1619 lbs.
	4	922 lbs.	1845 lbs.	1256 lbs.	2512 lbs.
	3	1370 lbs.	2740 lbs.	1824 lbs.	3649 lbs.
	2	1999 lbs.	3999 lbs.	2624 lbs.	5248 lbs.
	1	2703 lbs.	5406 lbs.	3518 lbs.	7036 lbs.
50'	5	468 lbs.	936 lbs.	651 lbs.	1302 lbs.
	4	769 lbs.	1538 lbs.	1022 lbs.	2045 lbs.
	3	1149 lbs.	2298 lbs.	1492 lbs.	2984 lbs.
	2	1681 lbs.	3362 lbs.	2148 lbs.	4297 lbs.
	1	2346 lbs.	4692 lbs.	2970 lbs.	5940 lbs.

Listed below are typical weights of distribution transformers. For step-downs and regulators check name plates for weights.

10 kVA - 265 lbs.	50 kVA - 680 lbs.	250 kVA - 1975 lbs.
15 kVA - 255 lbs.	75 kVA - 930 lbs.	333 kVA - 2475 lbs.
25 kVA - 470 lbs.	100 kVA - 1060 lbs.	500 kVA - 3200 lbs.
37.5 kVA - 580 lbs.	167 kVA - 1625 lbs.	

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DESIGNED CS		
DRAWN CMH		
DATE 08/23/01		

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DRAWN CRC
DATE 11/7/94

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CENTRAL MAINE POWER CO. | DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
307-11	POLE CLASSIFICATION - EXAMPLE	

Example 1: Determine the class of pole required to support the following wires and equipment on a 40 foot, unguyed pole with a 150 foot average span;

3 - 336.4 MCM bare aluminum primaries, 1 - 336.4 MCM bare aluminum neutral, 1 - 1/0 triplex secondary, 1 - 5/16" strand supporting telephone cable, CATV and 1 - 75 kVA transformer mounted 3 feet from the top.

Height of pole - 40 feet
Length of span - 150 feet

	Type of Wire	Wire Load Factor
From Table #1	3 - 336.4 MCM bare aluminum primaries	3 x 1.7 = 5.1
From Table #1	1 - 336.4 MCM bare neutral	1 x 1.7 = 1.7
From Table #1	1 - 1/0 triplex secondary	1 x 1.9 = 1.9
From Table #2	1 - 5/16 strand and telephone cable	1 x 2.1 = 2.1
From Table #2	1 - CATV	1 x 1.7 = 1.7
	Total equivalent wire load factor	12.5

The total wire load factor is 12.5. Go to Graph 2, page 307-8. Graph 2 shows that for 150 foot spans and a 12.5 wire load factor, the minimum class of pole required is class 5.

Table #5 on page 307-10 must be checked in this case also. Table #5 shows the minimum class of pole required to support a 75 kVA transformer mounted 3 feet from the top of a 40 foot pole is class 4.

In every case, the strongest pole required shall be used. For this sample case a class 4 or larger pole must be used.

Example 2: If the same pole above is to be used as a corner pole, all three loadings must be checked. In this example the same pole above will be used as a 20 foot corner. The guy will have an 8 foot lead requiring the use of 2 - 5/16 guys, page 309-2.

Graph 2 and Table 5 will give the same class of pole as above.
Graph 2 requires a class 5 pole because of conductor loading.
Table #5 requires a class 4 pole because of equipment loading.

Table #4 on page 307-9 requires a class 3 pole for a pole guyed with 2 - 5/16" guys with 8 feet of lead.

CONTINUED ON PAGE 307-12

DESIGNED	CS
DRAWN	CMH
DATE	8/31/01

DESIGNED	GRG
DRAWN	
DATE	5/14/93

MACRO	DESCRIPTION	PAGE
	POLE CLASSIFICATION - EXAMPLE	307-12

Again, the strongest pole necessary must be used. In this case the Class 3 or larger pole must be used to satisfy all the loading requirements from conductors, equipment, and guying.

Example 3: All conditions remain the same as in Example 2, however, the length of the guy lead is increased to 17 feet allowing the use of 1 - 5/16th" guy, page 309-2.

The pole class due to conductor and equipment loading remains the same as above, Class 5 and Class 4 respectively.

However, Table #4 on page 307-9 requires a Class 5 pole for a pole guyed with 1 - 5/16" guy with 17 feet of lead.
Once again the strongest pole necessary must be used. In this case a Class 4 pole must be used to satisfy all the loading requirement from conductors, equipment and guying.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	10/01/01		

	ORIGINAL
DESIGNED	RG
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DATE	2/9/93

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STATE OF MAINE
KENT B. POOLE
#7801
REGISTERED
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	POLE SETTING	307-13

NO.	REVISION	DATE	CK.
	Changed Text Last Paragraph	7/21/97	KA

Poles shall be set according to chart specified below:

TABLE 1: POLE SETTING DEPTHS

Length of pole (in feet)	Minimum Setting Depth (1) Soil	Combination Soil and Ledge (2)	Ledge (3)
25	5' 0"	4' 6"	3' 6"
30	5' 6"	4' 6"	3' 6"
35	6' 0"	5' 0"	4' 0"
40	6' 0"	5' 0"	4' 0"
45	6' 6"	5' 6"	4' 6"
50	7' 0"	6' 0"	4' 6"
55	7' 6"	6' 0"	5' 0"
60	8' 0"	7' 0"	5' 6"
70	9' 0"	7' 6"	6' 0"

(1) Set 6' deeper for hard corners, limited access highway and railroad crossings.
(2) Combination setting depths may be used when at least half the hole is in solid ledge, otherwise use soil setting depths.
(3) Ledge depths shall be used only when the diameter of the hole in ledge is not larger than twice the diameter of the pole.

On side hills, hole depth shall be measured from downhill side of hole.

When a pole is to be set in soft soil where digging is difficult and setting is insecure, the pole may be set in a barrel worked into a hole to the required depth. All holes shall be dug as small in diameter as practical. Holes shall be generally dug only large enough to receive the butt end of the pole and to allow the use of tamping bars around the pole.

Tamping bars shall be used to tamp backfill around the pole for the full depth of the hole after the pole has been set. Backfill shall be placed and tamped in; lift no greater than 12".

Pole relocations by trenching shall be limited to 4 feet from the original site. The new hole shall be dug first, then a trench dug from the original site to the new site. Backfilling shall be done in such a manner as to provide thorough tamping of the fill material in the trench and around the pole.

When setting poles, all loose dirt shall be removed from the hole before setting the pole into the hole.

All deadend and corner poles shall be raked against the pull of the line. That rake shall be 2" of rake per 10' of pole.

Poles shall be set, face of pole to stake. (exception, when a stake cannot be set in the proper place a reference stake may be set).

	ORIGINAL
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STATE OF MAINE
RAYMOND A. BOUCHER
No. 7715
LICENSED
PROFESSIONAL ENGINEER
12/01

MACRO	DESCRIPTION	PAGE
	JOINT USE OF POLES - POLE SPACE	308-1

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	11/25/96	10/05/01	11/30/05

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	ORIGINAL
DESIGNED	REDRAW
DRAWN	GRG
DATE	4/21/93

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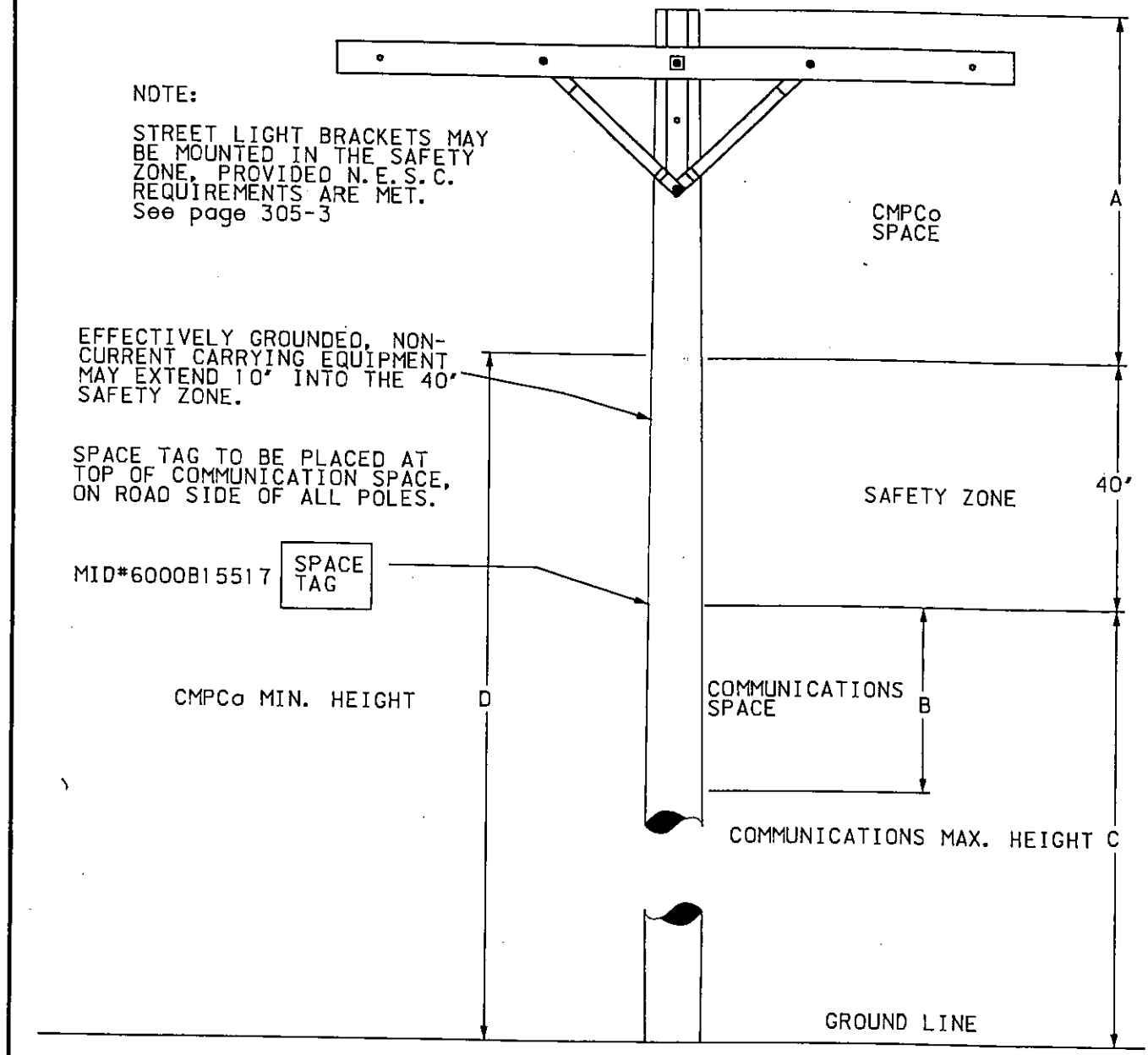

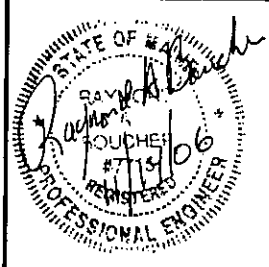

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
308-2	JOINT USE OF POLE - POLE SPACE	

A Space Allocation Tag, Material I.D.#6000815517 will be placed at the Top of the communication pole space on all new installations. Telephone and CATV companies will attach below this tag.

Field Planners will indicate in (SAP) (WMS) the proper measurement (from the top of the pole down) where the tag will be placed on the pole.

The measurements will be determined from the Distibution Construction Standards, page 308-3.

At the time of installation, the crew installing the pole(s) will place the tag on the pole(s) measuring from the top of the pole(s) down.

Space Allocation Tag
MID#6000815517

	DESIGNED	CS	CS	
	DRAWN	REC	REC	
	DATE	08/31/01	12/06/05	

	DESIGNED	JEC
	DRAWN	GRC
	DATE	11/25/96

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STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

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	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/14/94

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NO.	REVISION	DATE	BY	CK.
1	Chgd table pole heights, added CMP space inches	11/26/07		
2	Chgd values in table, combined values	05/12/08		
3	Added Mutual Excess Height section	10/30/08		

STATE OF MAINE
BRENT C. BROOKS
No. 8209
LICENSED PROFESSIONAL ENGINEER

	POLE SIZE	(A) CMPCo. SPACE Ft/In	(A) CMPCo. SPACE Inches	Space Tag Location Ft/In	Space Tag Location Inches	(B) Comm. SPACE	(C) Comm. MAX. HEIGHT	(D) CMPCo. MIN. HEIGHT
STANDARD POLE	40'	6'6"	78"	9'10"	118"	6'0"	24'2"	27'6"
MUTUAL EXCESS HEIGHT (OVER A 40' POLE)	45'	6'6"	78"	9'10"	118"	6'0"	28'8"	32'0"
	50'	6'6"	78"	9'10"	118"	6'0"	33'2"	36'6"
	55'	6'6"	78"	9'10"	118"	6'6"	37'8"	41'0"
MUTUAL EXCESS SPACE (OVER A 40' POLE)	45'	8'9"	105"	12'1"	145"	8'3"	26'5"	29'9"
	50'	11'0"	132"	14'4"	172"	10'6"	28'8"	32'0"
	55'	13'3"	159"	16'7"	199"	12'9"	0'11"	34'3"
FULL EXCESS SPACE. FOR CMPCo. (OVER A 40' POLE)	45'	11'0"	132"	14'4"	172"	3'6"	21'8"	25'0"
	50'	15'6"	186"	18'10"	226"	3'6"	21'8"	25'0"
	55'	20'0"	240"	23'4"	280"	6'0"	24'2"	27'6
FULL EXCESS SPACE FOR TELCo (OVER A 40' POLE)	45'	6'6"	78"	9'10"	118"	10'6"	28'8"	32'0"
	50'	6'6"	78"	9'10"	118"	15'0"	33'2"	36'6"
	55'	6'6"	78"	9'10"	118"	19'6"	37'8"	41'0"
CMPCo. BUYS 5' FES WITH MES TO 45' WITH MES TO 50'	50'	13'3"	159"	16'7"	199"	8'3"	26'5"	29'9"
	55'	15'6"	186"	18'10"	226"	10'6"	28'8"	32'0"
TELCo. BUYS 5' FES WITH MES TO 45' WITH MES TO 50'	50'	8'9"	105"	12'1"	145"	12'9"	30'11"	34'3"
	55'	11'0"	132"	14'4"	172"	15'0"	33'2"	36'6"
CMPCo. BUYS 10' FES WITH MES TO 45'	55'	17'9"	213"	21'1"	253"	8'3"	26'5"	29'9"
TEL. Co. BUYS 10' FES WITH MES TO 45'	55'	8'9"	105"	12'1"	145"	17'3"	35'5"	38'9"
OPTIONAL 35' POLE	35'	4'0"	48"	7'4"	88"	3'6"	21'8"	25'0"

MEH=Mutual Excess Height - MES=Mutual Excess Space - FES=Full Excess Space

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
JOINT USE OF POLE - POLE SPACE

PAGE
308-3

Phase Conductor/ Neutral Conductor	Span	Highest Neut. Pos. Std. Pole Top	Highest Neut. Pos. Semi-Strain or Deadend	Highest Neut. Pos. 30' Pole Top	Min. CMP Space Std. Pole Top	Min. CMP Space Semi-Strain or Deadend	Std. Pole Top Minimum Pole Height/ Coordination	Std. Pole Top Tag Loc	Std. Pole Top Lowest Allowable Neutral Position	Semi-Strain or Deadend Minimum Pole Height/ Coordination	Semi-Strain or Deadend Tag Loc	Semi-Strain or Deadend Lowest Allowable Neutral Position
1/0 AAAC Bare/	150	46	46	18	46	46	40' STD	118	78	40' STD	118	78
1/0 AAAC Bare	175	46	46	18	46	46	40' STD	118	78	40' STD	118	78
	200	46	46	18	47	47	40' STD	118	77	40' STD	118	77
	225	46	50	18	55	59	40' STD	118	69	40' STD	118	69
250' ruling span	250	46	56	18	63	73	40' STD	118	61	40' STD	118	61
	275	46	64	26	73	91	40' STD	118	52	45' MES	145	79
	300	52	72	34	88	108	45' MES	145	69	45' FES or 50' MES	172	96
	325	61	81	43	109	129	45' FES or 50' MES	172	85	45' FES or 50' MES	172	85
	350	70	90	52	129	149	45' FES or 50' MES	172	73	55' MES	199	100
1/0 AAAC 15kV Covered/	150	46	46	18	46	46	40' STD	118	78	40' STD	118	78
1/0 AAAC Bare	175	46	49	18	46	49	40' STD	118	78	40' STD	118	78
	200	46	57	19	47	58	40' STD	118	77	40' STD	118	77
	225	47	67	29	56	76	40' STD	118	69	40' STD	118	69
250' ruling span	250	56	76	38	73	93	40' STD	118	61	45' MES	145	88
	275	69	89	51	96	116	45' MES	145	79	45' FES or 50' MES	172	106
	300	82	102	64	118	138	45' FES or 50' MES	172	96	55' MES	199	123
	325	97	117	79	144	164	55' MES	199	112	50' FES	226	139
	350	111	131	93	170	190	50' FES	226	127	MES to 45' w/10' FES (55')	253	154
1/0 AAAC 35kV Covered/	150	46	51	18	46	51	40' STD	118	78	40' STD	118	78
1/0 AAAC Bare	175	46	62	24	46	62	40' STD	118	78	40' STD	118	78
	200	53	73	35	54	74	40' STD	118	77	40' STD	118	77
	225	66	86	48	75	95	40' STD	118	69	45' MES	145	96
250' ruling span	250	79	99	61	96	116	45' MES	145	88	45' FES or 50' MES	172	115
	275	97	117	79	123	143	45' FES or 50' MES	172	106	55' MES	199	133

1. Where additional ground clearance is needed (ex. Road crossing), alternate space tag locations are possible as long as consideration is given to minumum CMP space. See example #1, page 308-7.

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DATE	03/12/08

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NO.	REVISION	DATE	BY	CK.
1	Changed text size & example page #	09/15/08		

PROFESSIONAL ENGINEER — STATE OF MAINE — DANIEL R. LITTLEFIELD No. 11440 LICENSED 9/15/08

MACRO

DESCRIPTION
Pole Space and Pole Height Calculations (Continued)

PAGE
308-5

CENTRAL MAINE POWER CO.

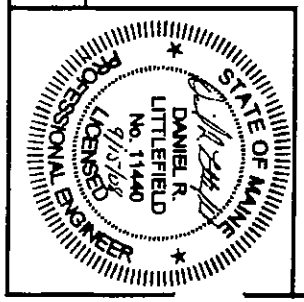
DISTRIBUTION-CONSTRUCTION STANDARDS

Phase Conductor/ Neutral Conductor	Span	Highest Neut. Pos. Std. Pole Top	Highest Neut. Pos. Semi-Strain or Deadend	Highest Neut. Pos. 30' Pole Top	Min. CMP Space Std. Pole Top	Min. CMP Space Semi-Strain or Deadend	Std. Pole Top Minimum Pole Height/ Coordination	Std. Pole Top Tag Loc	Std. Pole Top Lowest Allowable Neutral Position	Semi-Strain or Deadend Minimum Pole Height/ Coordination	Semi-Strain or Deadend Tag Loc	Semi-Strain or Deadend Lowest Allowable Neutral Position
	300	114	134	96	150	170	55' MES	199	123	50' FES	226	150
	325	134	154	116	181	201	50' FES	226	139	MES to 45' w/10' FES (55')	253	166
	350	153	173	135	212	232	MES to 45' w/10' FES (55')	253	154	50' FES or MES> 45' w/10' FES	280	181
336.4 AL Bare/	150	46	46	18	47	47	40' STD	118	77	40' STD	118	77
336.4 AL Bare	175	46	46	18	59	59	40' STD	118	66	40' STD	118	66
	200	46	46	18	70	70	40' STD	118	54	40' STD	118	54
	225	46	46	18	85	85	45' MES	145	67	45' MES	145	67
250' ruling span	250	46	46	18	99	99	45' MES	145	52	45' MES	145	52
2000 lb. maximum tension	275	46	46	18	117	117	45' FES or 50' MES	172	61	45' FES or 50' MES	172	61
	300	46	47	18	135	136	55' MES	199	70	55' MES	199	70
	325	46	53	18	156	163	55' MES	199	49	50' FES	226	76
	350	46	58	20	177	189	50' FES	226	55	MES to 45' w/10' FES (55')	253	82
336.4 AL 15kV Covered/	150	46	46	18	47	47	40' STD	118	77	40' STD	118	77
336.4 AL Bare	175	46	46	18	59	59	40' STD	118	66	40' STD	118	66
	200	46	46	18	70	70	40' STD	118	54	40' STD	118	54
	225	46	52	18	85	91	45' MES	145	67	45' MES	145	67
250' ruling span	250	46	59	21	99	112	45' MES	145	52	45' FES or 50' MES	172	79
2000 lb. maximum tension	275	48	68	30	119	139	45' FES or 50' MES	172	61	55' MES	199	88
	300	57	77	39	146	166	55' MES	199	70	50' FES	226	97
	325	67	87	49	177	197	50' FES	226	76	MES to 45' w/10' FES (55')	253	103
	350	77	97	59	208	228	MES to 45' w/10' FES (55')	253	82	50' FES OR MES> 45' w/10' FES	280	109

1. Where additional ground clearance is needed (ex. Road crossing), alternate space tag locations are possible as long as consideration is given to minumum CMP space. See example #1, page 308-7.

Phase Conductor/ Neutral Conductor	Span	Highest Neut. Pos. Std. Pole Top	Highest Neut. Pos. Semi-Strain or Deadend	Highest Neut. Pos. 30' Pole Top	Min. CMP Space Std. Pole Top	Min. CMP Space Semi-Strain or Deadend	Std. Pole Top Minimum Pole Height/ Coordination	Std. Pole Top Tag Loc	Std. Pole Top Lowest Allowable Neutral Position	Semi-Strain or Deadend Minimum Pole Height/ Coordination	Semi-Strain or Deadend Tag Loc	Semi-Strain or Deadend Lowest Allowable Neutral Position
336.4 AL 35kV Covered/	100	46	46	18	46	46	40' STD	118	78	40' STD	118	78
336.4 AL Bare	125	46	46	18	46	46	40' STD	118	78	40' STD	118	78
150' ruling span	150	46	56	18	53	63	40' STD	118	71	40' STD	118	71
2000 lb. maximum tension	175	47	67	29	66	86	40' STD	118	59	45' MES	145	86
	200	60	80	42	94	114	45' MES	145	71	45' FES or 50' MES	172	98
336.4 AL 35kV Covered/	150	46	46	18	47	47	40' STD	118	77	40' STD	118	77
336.4 AL Bare	200	46	46	18	70	70	40' STD	118	54	40' STD	118	54
250' ruling span	250	46	46	18	99	99	45' MES	145	52	45' MES	145	52
3000 lb. Maximum tension	300	46	56	18	135	145	55' MES	199	70	55' MES	199	70
(2000 lb. on neutral)	350	48	68	30	179	199	50' FES	226	55	MES to 45' w/10' FES(55')	253	82
336.4 AL Bare/	150	46	46	18	46	46	40' STD	118	78	40' STD	118	78
2/0 CU Bare	200	46	46	18	60	60	40' STD	118	64	40' STD	118	64
250' ruling span	250	46	48	18	83	85	45' MES	145	68	45' MES	145	68
15kV	300	46	61	23	112	127	45' FES or 50' MES	172	66	45' FES or 50' MES	172	66
	350	57	77	39	157	177	55' FES	199	59	50' FES	226	86
336.4 AL Bare/	100	46	46	18	46	46	40' STD	118	78	40' STD	118	78
4/0 CU Weatherproof	125	46	46	18	46	46	40' STD	118	78	40' STD	118	78
150' ruling span	150	46	46	18	58	58	40' STD	118	66	40' STD	118	66
15kV	175	46	46	18	72	72	40' STD	118	52	40' STD	118	52
	200	46	46	18	89	89	45' MES	145	62	45' MES	145	62
336.4 AL Bare/	200	46	46	18	51	51	40' STD	118	73	40' STD	118	73
336.4 AL Bare	250	46	46	18	69	69	40' STD	118	55	40' STD	118	55
300' ruling span	300	46	54	18	91	99	45' MES	145	60	45' MES	145	60
3000 lb. Maximum tension	350	47	67	29	119	139	45' FES or 50' MES	172	60	55' MES	199	87
15kV			81	43	164	184	50' FES	226	83	50' FES	226	83

1. Where additional ground clearance is needed (ex. Road crossing), alternate space tag locations are possible as long as consideration is given to minumum CMP space. See example #1, page 308-7.



DATE	09/15/08
DRAWN	REC

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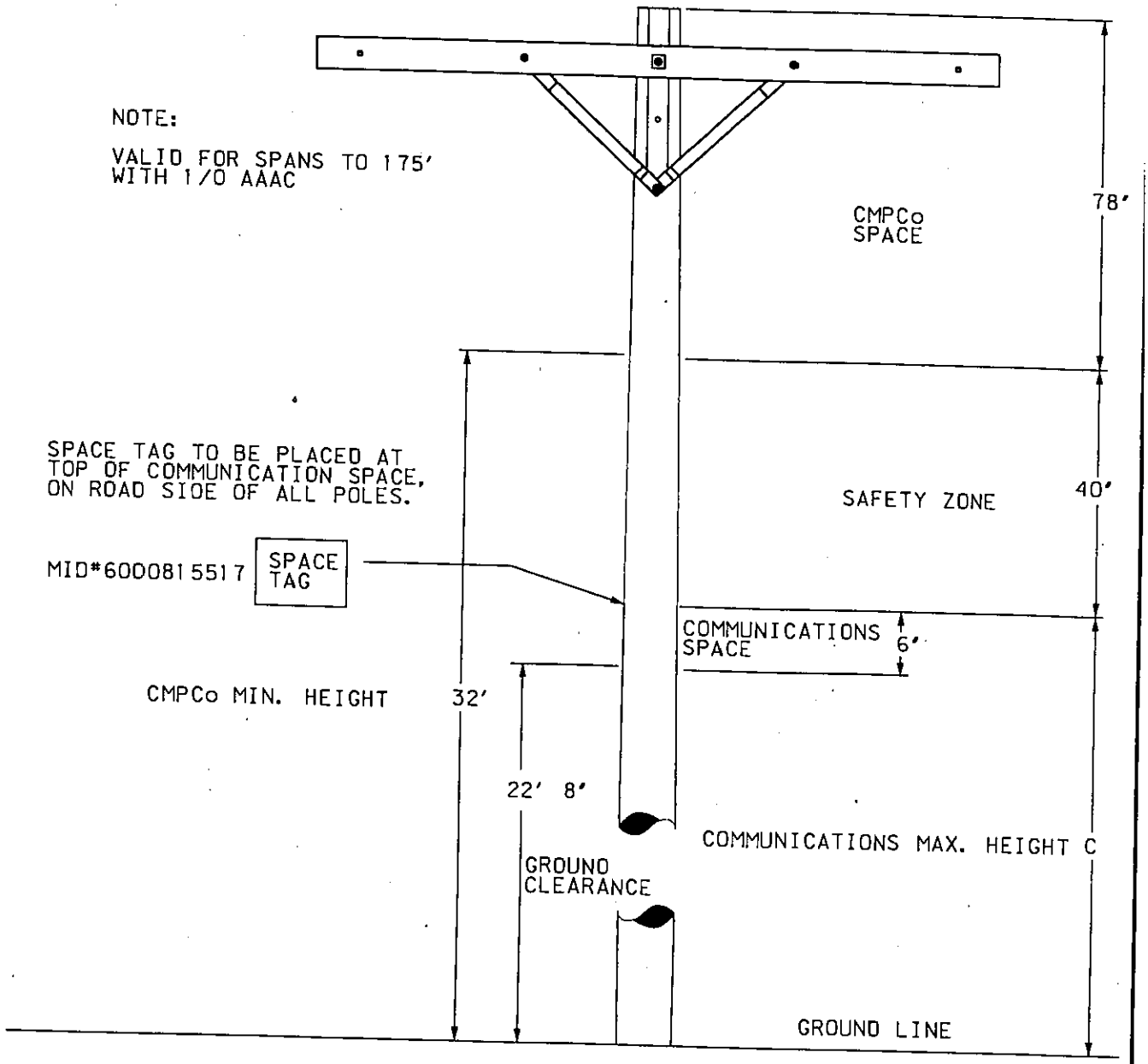
MACRO	DESCRIPTION EXAMPLE #1 45' POLE FOR ROAD CROSSING, 40' POLE SPACING	PAGE 308-7

NO.	REVISION	DATE	CK.
1	Changed page from 308-6 to 308-7	06/19/08	



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DATE	02/21/08

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STATE OF MAINE
BRENT C. BROOKS
No. 8209
LICENSED PROFESSIONAL ENGINEER
6/23/08

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	GUYING - GENERAL	309

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/16/01	11/18/06	

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRC
DATE	11/30/94

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GUYING

GENERAL: Guys shall be installed wherever necessary to balance any load which tends to pull a pole, crossarm, or other structure out of place as at deadends, or angles in the line great enough to move the pole. Guys shall also be required when there are changes in the number, size or material of line conductors. This is to prevent undue increase of sag in the conductors as well as to provide sufficient strength to support ice and wind loads with the safety factors required by the code.

See construction drawing for guy attachments.

Guys shall also be installed where additional safety is required for unusually exposed poles, and where required by law or specified by another utility which is being crossed by the line.

Poles carrying services which cause an unbalanced side pull and poles on which secondaries are deadended shall also be guyed.

SIZE OF GUYS: Two methods for determining the size and number of guys are provided. Pages 309-1 and 309-2 provide tables for guying single phase and three phase lines respectively, based on a tension factor of 2.0 (2000#) for each conductor and allowing for wind loading and safety factors required by the code. Page 309-3 provides a table for 3 phase long span construction, based on a tension factor of 3.0 (3000 lbs. maximum loaded tension). Pages 309-5 and 309-6 provide conductor tension factors and guy tension graph. Instructions and example for use of the graph are on pages 309-7 and 309-8.

ANCHOR GUY COMPONENTS: The guy components usable on the CMP system are listed on page 309-4. Each guy component is given a maximum tension rating. This rating should never be exceeded by the guy tension graph. A complete anchor guy will be determined by choosing each individual component to meet the requirements of the particular situation. When using the guy tables on pages 309-1 and 309-2, the anchors and rods must be chosen to hold the load of all the attached guys. Each guy hook on the pole shall be limited to one guy strand, and that strand shall be matched to a guy hook of equal or greater rating.

Guy tensions exceeding 36,000 lbs. shall be referred to the Distribution Field Engineer.

GUY ATTACHMENTS TO BUILDINGS: Guys attached to buildings are generally not permitted. Attachment of guys to buildings must be approved by the Distribution Field Engineer. Guy shall not be attached to buildings unless the proper easements for the attachments are obtained.

STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
11/17/06

PAGE	DESCRIPTION	MACRO
309-1	SINGLE PHASE GUY TABLE	

SINGLE PHASE GUY TABLE

Minimum Leads for Various Cases

Guy size	5/16 " Guy				7/16 " Guy				Two 5/16 " Guy			
Pole Size	45	40	35	30	45	40	35	30	45	40	35	30
Deadend	22	19	16	15	13	11	9	9	10	9	8	7
Corner = 50'	22	19	16	15	13	11	9	9	10	9	8	7
47'	20	18	15	14	12	10	9	8	9	8	7	6
43'	18	16	14	12	11	10	8	7	9	8	7	6
40'	17	15	13	12	10	9	8	7	8	7	6	6
37'	16	14	12	11	9	8	7	7	8	7	6	5
33'	14	12	10	10	9	8	6	6	7	6	5	5
30'	13	11	10	9	8	7	6	5	6	6	5	5
27'	12	10	9	8	7	6	5	5	6	6	5	5
23'	10	9	8	7	7	6	5	5	6	6	5	5
20'	9	8	7	6	6	5	5	5	6	6	5	5
17'	8	7	7	6	5	5	5	5	6	6	5	5
13'	7	6	5	5	5	5	5	5	6	6	5	5
10'	6	6	5	5	5	5	5	5	6	6	5	5
6'	6	6	5	5	5	5	5	5	6	6	5	5

Single Phase = 1 primary plus 1 neutral or 1 primary plus 1 secondary cable.

Lead listed is minimum for each case, greater lead may be used.

For pulls not given, minimum lead may be averaged.

For example: 35 foot pull, 35 foot pole, 5/16 " guy, minimum lead 11 feet

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STATE OF MAINE RAYMOND A. BOUCHER No. 7716 LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION THREE PHASE GUY TABLE 2000 # MAXIMUM CONDUCTOR TENSION	PAGE 309-2

NO.	REVISION	DATE	CK.
1	REM TAP FROM 3φ & CHNGD DEADEND		

THREE PHASE GUY TABLE

Minimum Leads for Various Cases
Maximum Tension Per Conductor - 2000 Pounds

Guy Size	5/16" Guy	7/16" Guy	Two 5/16" Guy
Pole Sizes	45 40 35 30	45 40 35 30	45 40 35 30
Deadend	Aerial Guy Only	30 26 22 20	22 19 16 15
Corner = 50'	Aerial Guy Only	30 26 22 20	22 19 16 15
47'	Aerial Guy Only	27 24 20 18	21 18 15 14
43'	Aerial Guy Only	24 21 18 16	18 16 14 12
40'	Aerial Guy Only	22 20 17 15	17 15 13 12
37'	44 38 33 30	20 18 15 14	16 14 12 11
33'	36 31 27 24	18 16 13 12	14 12 10 10
30'	31 27 23 21	16 14 12 11	13 11 10 9
27'	27 24 20 18	15 13 11 10	12 10 9 8
23'	22 20 17 15	13 11 10 9	10 9 8 7
20'	19 17 14 13	11 10 9 8	9 8 7 6
17'	17 15 12 11	10 9 7 7	8 7 6 6
13'	13 12 10 9	8 7 6 6	7 6 6 6
10'	11 10 8 7	7 6 5 6	7 6 6 6
6'	7 6 6 5	7 6 5 6	7 6 6 6

Three phase = 3 primary plus 1 neutral or 3 primary plus 1 secondary cable.

Lead listed is minimum for each case, greater lead may be used.

For pulls not given, minimum lead may be averaged.

For example: 45' pull, 45 foot pole, ⅜" guy, minimum lead = 26 feet.

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DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
309-3	Long Span 3Ø Guy Table	

GUY TABLE FOR
LONG SPAN CONSTRUCTION
400' Ruling Span with 3000 lb. Maximum Tension
Minimum Lead for Various Cases

Guy Size	5/8" Guy				3/8" Guy				Two 5/8" Guy				Two 7/16" Guy			
Pole Sizes	45	40	35	30	45	40	35	30	45	40	35	30	45	40	35	30
Deadend					Aerial Guy Only				45	39	33	30	21	18	15	14
Corner = 50'	5/8" Guy not adequate in any case				Aerial Guy Only				45	39	33	30	21	18	15	14
47'					Aerial Guy Only				40	35	29	27	19	17	14	13
43'					Aerial Guy Only				32	28	24	22	17	15	13	11
40'					Aerial Guy Only				31	27	23	21	16	14	12	11
37'					41	36	30	27	27	24	20	19	15	13	11	10
33'					34	30	25	23	24	21	18	16	14	12	10	9
30'	Aerial Guy Only				29	26	22	20	22	19	16	15	12	11	9	8
27'	Aerial Guy Only				26	23	19	17	19	17	14	13	11	10	9	8
23'	Aerial Guy Only				20	18	15	14	16	14	12	11	9	8	7	7
20'	39	34	29	26	19	17	14	13	15	13	11	10	9	8	7	6
17'	31	27	23	21	16	14	12	11	13	11	10	9	8	7	6	6
13'	23	21	17	16	13	12	10	9	11	9	8	7	7	6	6	6
10'	19	17	14	13	11	10	8	8	9	8	7	6	7	6	6	6
6'	13	11	9	9	8	7	6	5	9	8	7	6	7	6	6	6

For use with 3 phase 4 wire long span line.

Lead listed is minimum for each case, greater lead may be used.

For pulls not given, minimum lead may be averaged.

For example: 35' pull, 40 foot pole, 7/16" guy, minimum lead = 33 feet.

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NO.	REVISION	DATE	CK.
1	Added NOTE to require 3" washers for guys	12/31/07	

ANCHOR GUY COMPONENTS

Anchors:

The holding strength of anchors depends on the soil conditions. The values given below are average values determined by manufacturer's tests.

Anchor Type	Rod Size	Holding Strength Normal	Holding Strength High
Power Installed 10'	3/4"	14,000#	23,000#
Power Installed 10'	1"	14,000#	36,000#
Power Installed 15'	3/4"	16,000#	23,000#
Power Installed 15'	1"	16,000#	36,000#
Expanding	1"	18,000#	36,000#
Rock	5/8"		16,000#
Rock	3/4"		23,000#
Rock	1"		36,000#

Normal holding strength is for anchors installed in firm soils without difficulty. Value for 15' swamp anchor is based on anchor being run through muck or mud and at least 2 feet into firmer soil. Normal value for expanding anchor is for anchor with backfill solidly tamped into place.

High holding strength is maximum strength developed by anchor installed in the hardest soil it will penetrate. High value for expanding anchor is for anchor backfilled with stone solidly driven into place with pole tamp for bottom 3 feet of hole.

Guy Strand	Guy Hook	Maximum Strength
*1/4" EHS	AG6X	11,200
5/16" EHS	P133A with 3/4" bolt	18,000
7/16" UG		

* Not used for new construction

NOTE: **All guy hooks shall be backed, using a minimum of a 3" washer.**

Preformed Grips

Preformed grips are designed to develop the full strength of the guy strand they fit.

Guy Strain Insulator	Rated Strength
Fiberglass 36 Inch	21,000#

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12/31/07

PAGE	DESCRIPTION	MACRO
309-5	LINE TENSION FACTOR	

ANCHOR GUY COMPONENTS - cont'd

TENSION FACTORS

Wire Size	Tension Factor	Wire Size	Tension Factor
#6 Copper	0.7	Triplex Cable	2.0
#4 Copper	1.0	Spacer Cable 252 Mess.	6.5
#2 Copper	1.5	Spacer Cable 052 Mess.	8.8
#1/0 Copper or Larger	2.0	Tel. Open Wire	0.7
#6A CW	1.5	B Wire	0.7
#4A and #2A	2.0	6M Messenger	3.6
#2 ACSR or Larger	2.0	10M Messenger	6.9
#1/0 Al or Larger	2.0	16M Messenger	10.8
#1/0 AAAC or Larger	2.0		
336,400 CM Long Span	3.0		

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DATE	8/24/01	04/19/06
		REC

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East

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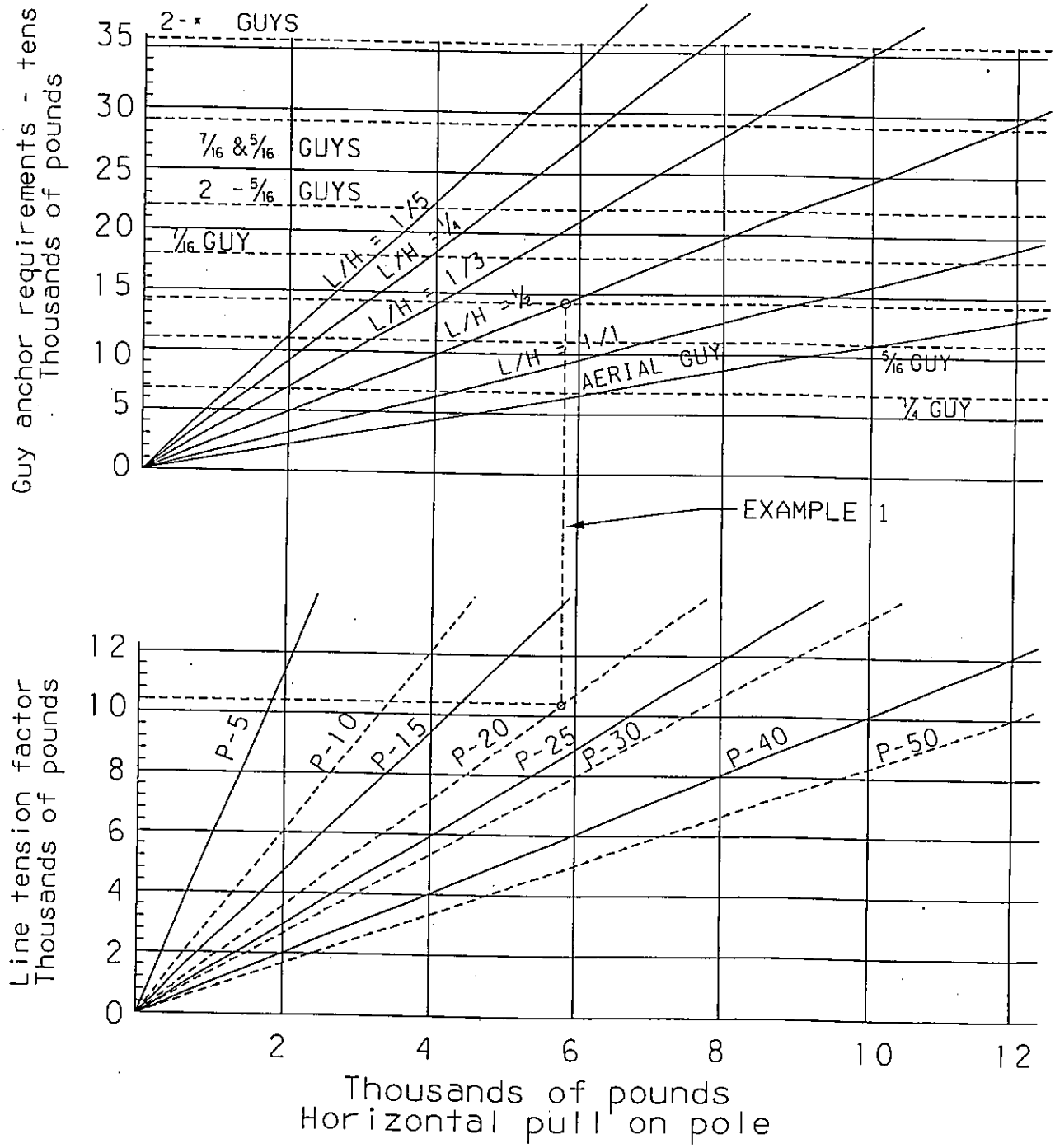
6/16/06

MACRO	DESCRIPTION	PAGE
	GUY TENSION GRAPH	309-6

Tension greater than 36,000# refer to Distribution Field Engineer



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DATE	10/04/01		

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DRAWN	CRC
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DISTRIBUTION CONSTRUCTION STANDARDS

USE OF GUY GRAPH

For situations not covered by the single phase and three phase guying charts the graph on page 309-6 must be used. This graph has been set up for various ratios of lead/height (L/H). This ratio should be as high as possible within practical limits. A minimum L/H of 1/3 is recommended. This means that the lead on any guy shall be at least 1/3 of the height of the guy attachment. Greater leads are preferred whenever possible. Lesser leads may be used if absolutely necessary. Particular care must be used so that the pole, guy and anchor are adequate for the resulting stresses; and extra care must be used in installation to insure that the pole is set on solid soil, and the anchor is installed properly, also in solid soil.

The size and number of wires on the pole to be guyed will determine the size and number of guy components to be used. The table on page 309-5 gives the tension factors to be used with the graph.

Joint use guys should be avoided wherever possible. Joint use anchors are permitted but anchor and rod requirements must be coordinated in the field.

EXAMPLE 1. Given a 35 foot pole carrying 3-1/0 AAAC primaries and 3-#2 WP copper secondaries. What guying is required for a 20 foot corner where a lead of 14 feet is possible and the guy attachment is 28 feet above the ground? (L/H = 14/28 or 1/2).

Solution: First determine the tension factor from page 309-5.

1/0 AAAC = 2.0 per wire	3 x 2.0 =	6.0
#2 WP cu. = 1.5 per wire	3 x 1.5 =	4.5
Total tension factor is		10.5

On the graph, start on the bottom left tension factor scale at 10.5, go to the right to the line marked P = 20' (A). Then move straight up to the line marked L/H = 1/2 (B). Then move straight to the left scale and read the guy tension in thousands of pounds. This particular guy requirement is approximately 14,100 pounds, so will require a 7/16" guy. If no other guy is attached to the anchor and it is in firm soil, any of the anchors listed will do. (Note: The swamp screw anchor cannot be installed in firm soil).

EXAMPLE 2. Use the example above except that a single phase tap of 2-1/0 AAAC wires is to come off the inside of the corner.

Solution: The tap coming off the inside of the corner increases the total pull on the pole. Determine the guy required for the main line as in example 1 above. By the same method, determine the guy required for the tap, which is approximately 12,000 lbs., or a 7/16" guy. If the tap guy is in line with the corner guy, a single anchor may be used. The total tension of the two guys is 14,100 lbs. plus 12,000 lbs. or 26,100 lbs., which will require a power installed 10,000# torque or a 1" rock anchor. If the two guys are not in line, separate anchors will be required.

DRAWN	REC	REC	
DATE	10/29/01	12/26/02	

DRAWN	CRG
DATE	7/7/95

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USE OF GUY GRAPH (continued)

EXAMPLE 3. Use example 2 except that the single phase tap is to come off the outside of the corner.

Solution: If the guy for the corner and the guy for the tap line up directly opposite each other, one of the guys may be omitted. To determine which guy may be omitted, determine the horizontal pull on the pole for each as follows:

A. Determine the tension factor of 10.5 for the main line as in example 1. On the graph, start at the bottom left tension factor scale at 10.5, go to the right to the line marked P = 20'(A). Then move straight down to the horizontal pull on pole scale at bottom, which reads approximately 5.8 thousand pounds.

B. The tension factor for the tap (2 - 1/0 AAAC is 4.0. On the graph, start at the bottom left tension factor scale at 4.0 go to the right to the line marked P = 50 (deadend). Then move straight down to the bottom which reads approximately 4.8 thousand pounds. Since the horizontal pull on the pole of the tap is less than that of the main line, the guy for the tap may be omitted.

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9783
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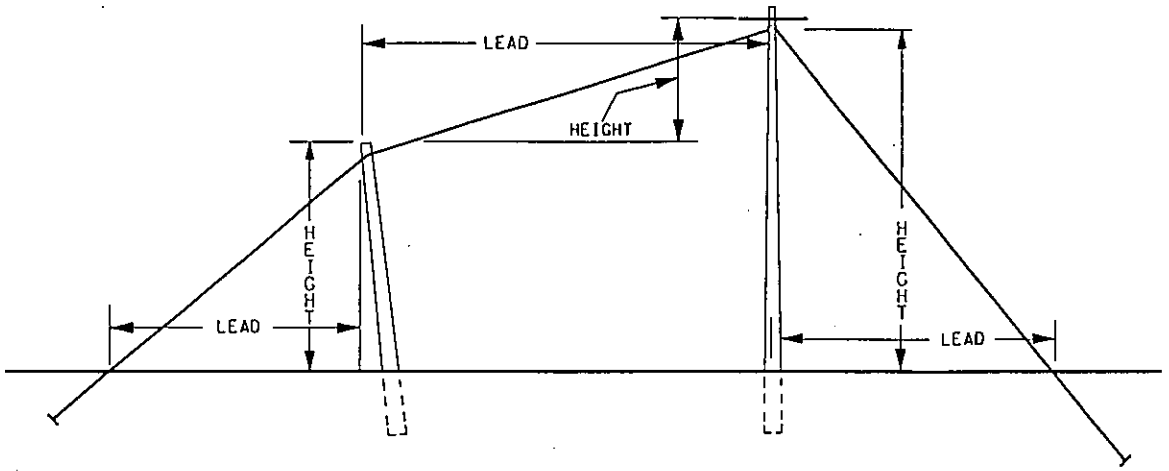
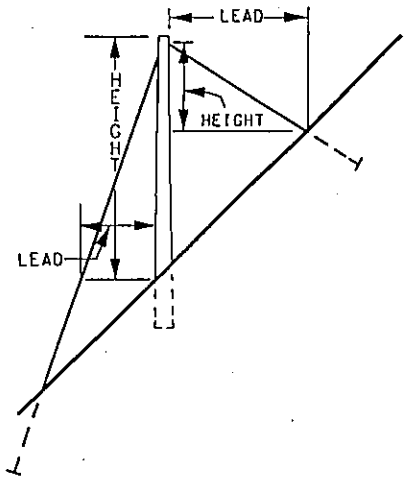
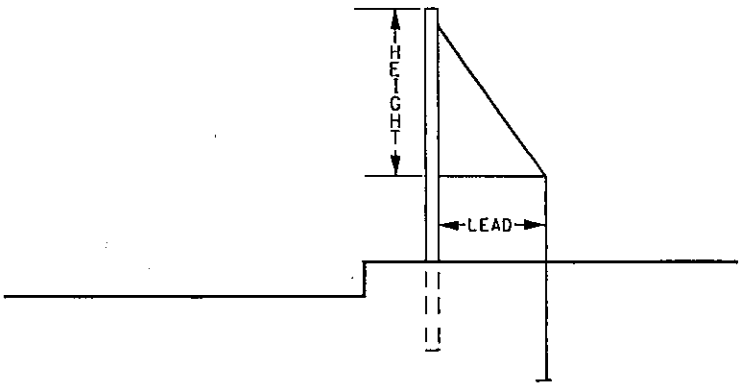
11/15/95

PAGE	DESCRIPTION	MACRO
309-9	METHOD OF MEASURING LEAD AND HEIGHT OF GUYS	





LEAD/HEIGHT: The slope or relation of the lead to the height of a guy has a great effect on the size of guy required and to much emphasis cannot be placed upon the desirability of installing a guy with as much lead as is possible. No guy shall ordinarily be installed with a lead of less than 1/3 the height of the guy attachment on the pole.



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DATE	10/04/01

DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/23/94

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DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

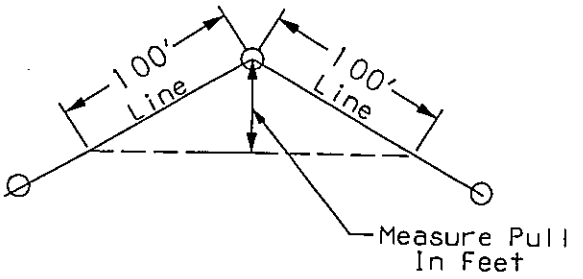
MACRO	DESCRIPTION	PAGE
	METHOD OF DETERMINING PULL AT ANGLE IN LINE	309-10

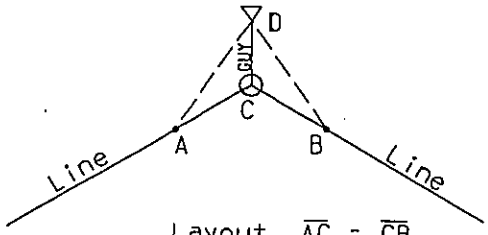
	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	10/16/01		

ANGULAR PULL

Double deadend corners are to be used on all corners over 50 feet pull, and may be used on corners less than 50 feet pull if adequate lead cannot be obtained to install a guy splitting the angle.

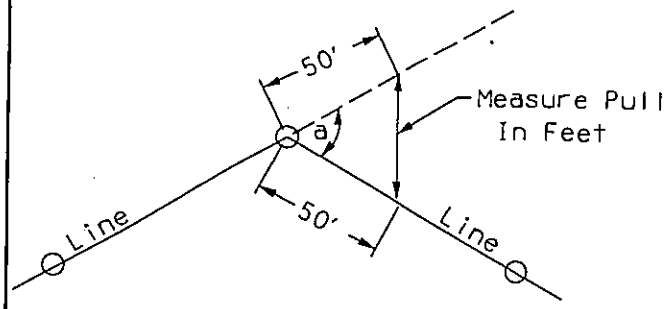
For angles of 50 feet or less pull, if possible, install the guy to bisect the angle. The sketches indicate how to measure pull and to bisect the angle using a tape measure.





Layout $\overline{AC} = \overline{CB}$
Then Layout $\overline{AD} = \overline{BD}$

METHOD OF DETERMINING GUYING DIRECTION WITH TAPE



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DESIGNED	REDRAWN
DRAWN	GRC
DATE	7/10/95

METHODS OF DETERMINING PULL BY TAPE

Relationship between pull in feet and Angle "a"; the angle the line deviates from being straight.

(For use when instrument is used)

Pull in Feet	Angle "a" in Degrees (Approx.)
5 Ft.	5 Deg.
10	11
15	17
20	23
25	29
30	35
35	41
40	47
45	53
50	60

It will be noted from above table, that for small values of pullin feet, the value of Angle "a" is approx. equal numerically to the pull in feet.

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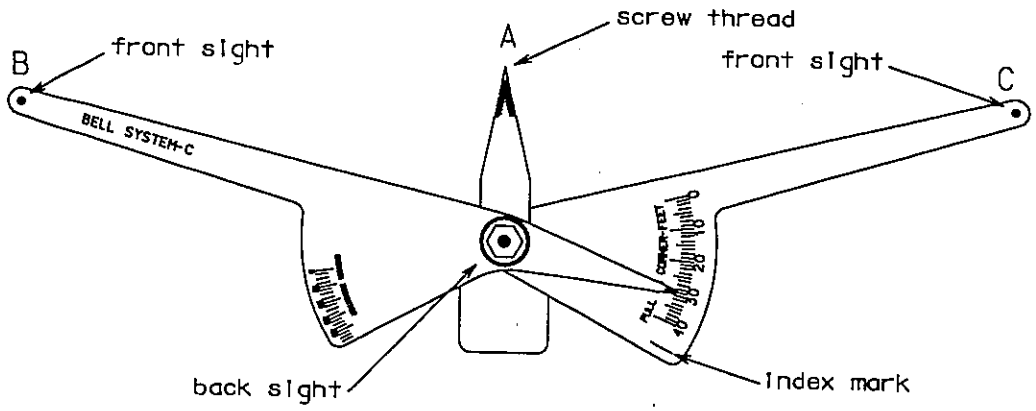
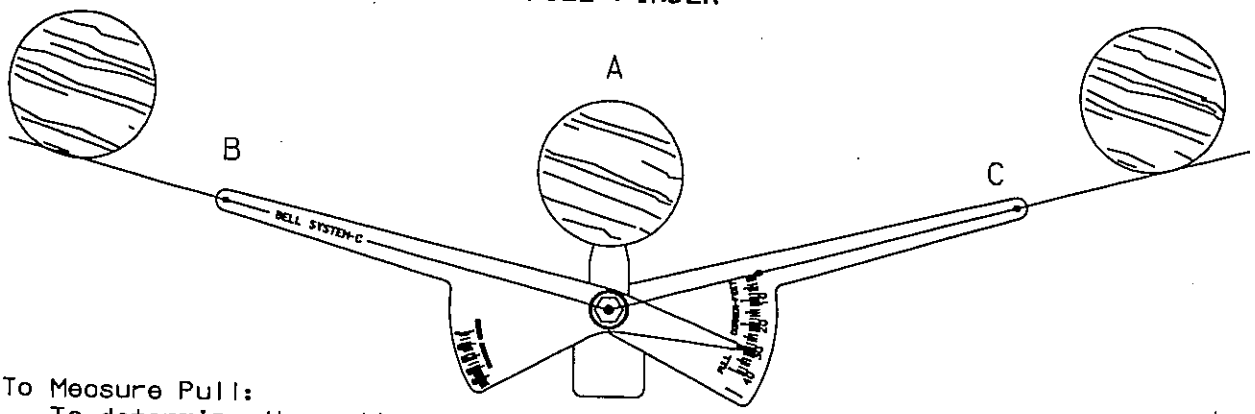
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	USING THE PULL FINDER	309-11

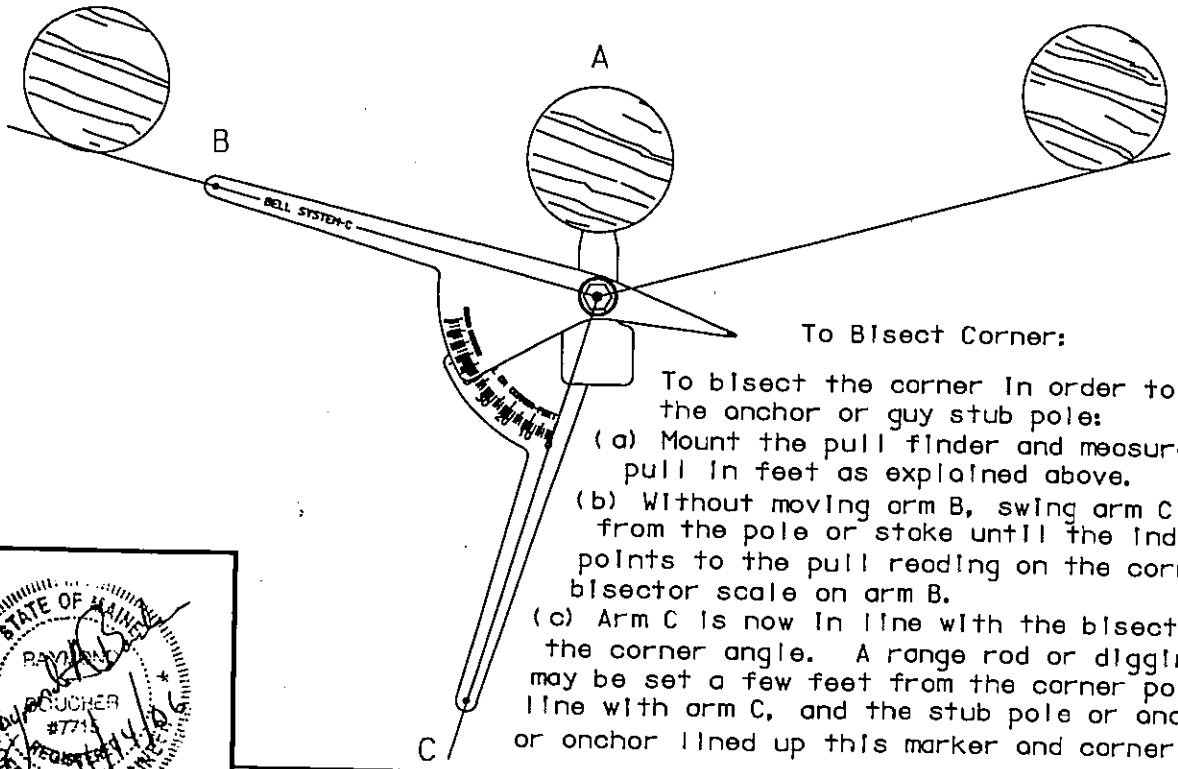


PULL FINDER



To Measure Pull:

To determine the pull at a corner by use of the pull finder, screw the short arm A into side of pole to be anchored or into a grade stake as shown. Adjust arm C so that it is lined up with the back sight and the next pole. In the same way, line up arm B. Check arm C to be sure it has not moved. The pointer on arm B now indicates on the scale on arm C the pull in feet on the corner.



To Bisect Corner:

To bisect the corner in order to locate the anchor or guy stub pole:

(a) Mount the pull finder and measure the pull in feet as explained above.

(b) Without moving arm B, swing arm C away from the pole or stake until the index mark points to the pull reading on the corner bisector scale on arm B.

(c) Arm C is now in line with the bisector of the corner angle. A range rod or digging bar may be set a few feet from the corner pole in line with arm C, and the stub pole or anchor or anchor lined up this marker and corner pole.

	REVISED	REVISED	REVISED
DESIGNED	REDRAWN	CS	CS
DRAWN	JRP	CMH	REC
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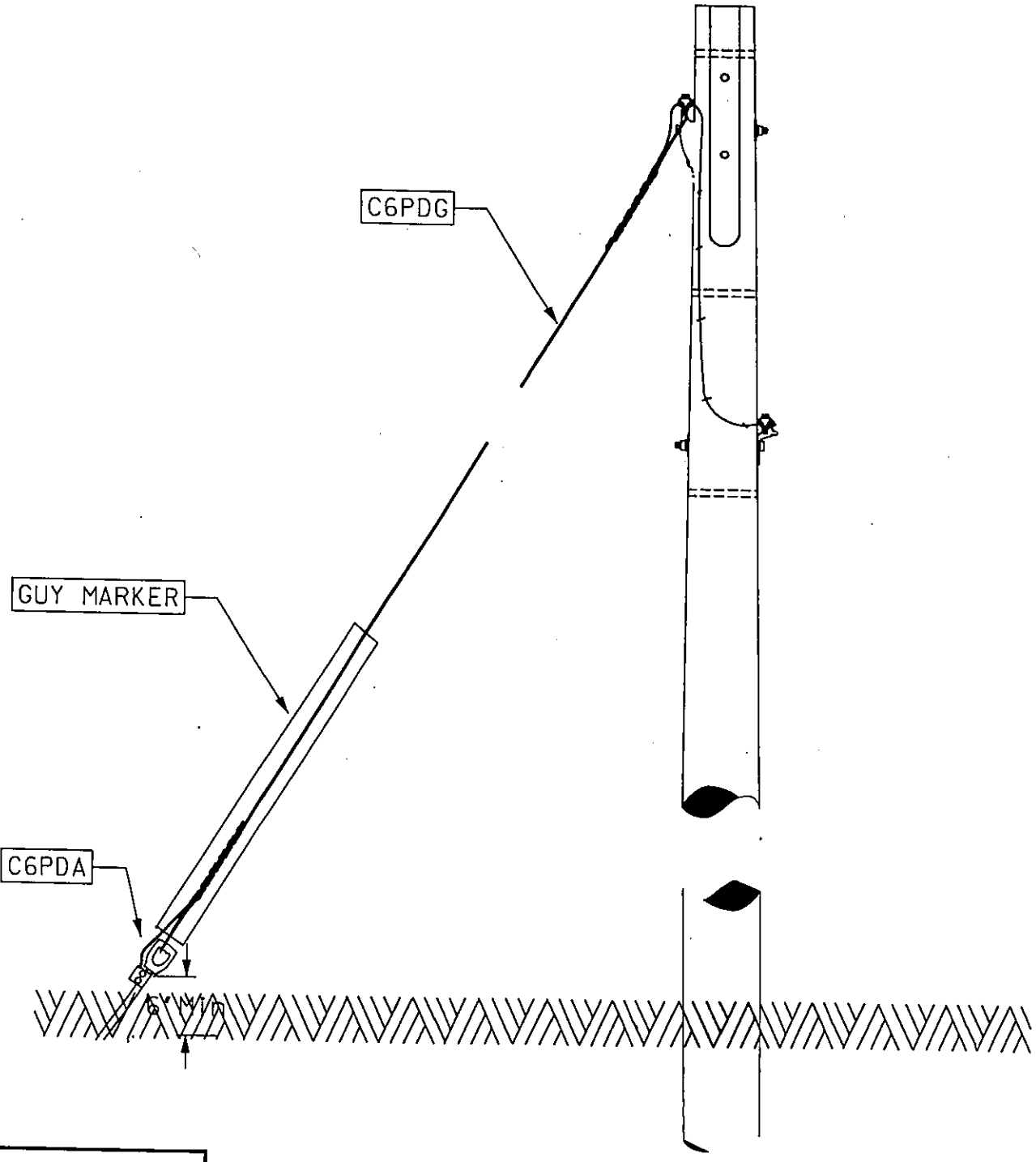
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MPGGD	GUY GROUNDED DOWN	309-12B

	REVISED	REVISED	REVISED
DESIGNED	C5	CS	CS
DRAWN	REC	REC	REC
DATE	08/24/01	02/04/03	12/02/05



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DISTRIBUTION CONSTRUCTION STANDARDS

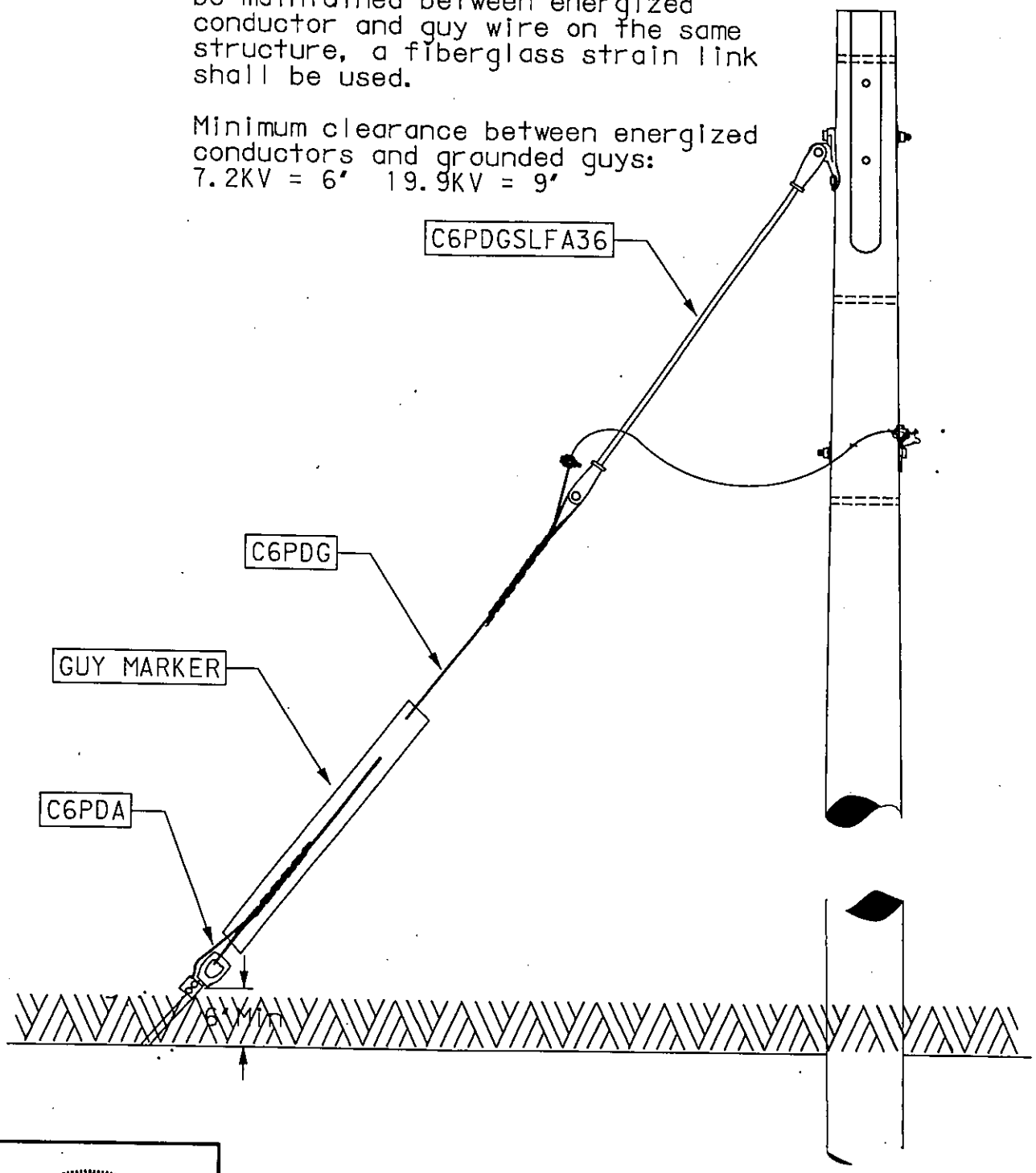
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDGSLFA36	1		GUY STRAIN LINK ASSEMBLY, F/G 36IN	
		1	INS STRAIN 21000LBX36IN	6000251620
		1	PLATE GUY ATT FG INS	6000251800
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	B LAG GALV FET 1/2 X 4	6000272540
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX

MACRO	DESCRIPTION	PAGE
C6MPGGD/FGSL	GUY GROUNDED DOWN W/FG STRAIN LINK	309-13B

NOTE:

Where adequate clearance cannot be maintained between energized conductor and guy wire on the same structure, a fiberglass strain link shall be used.

Minimum clearance between energized conductors and grounded guys:
7.2KV = 6′ 19.9KV = 9′



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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/24/01	02/04/08	

	ORIGINAL
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DRAWN	
DATE	8/30/93

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12/7/06

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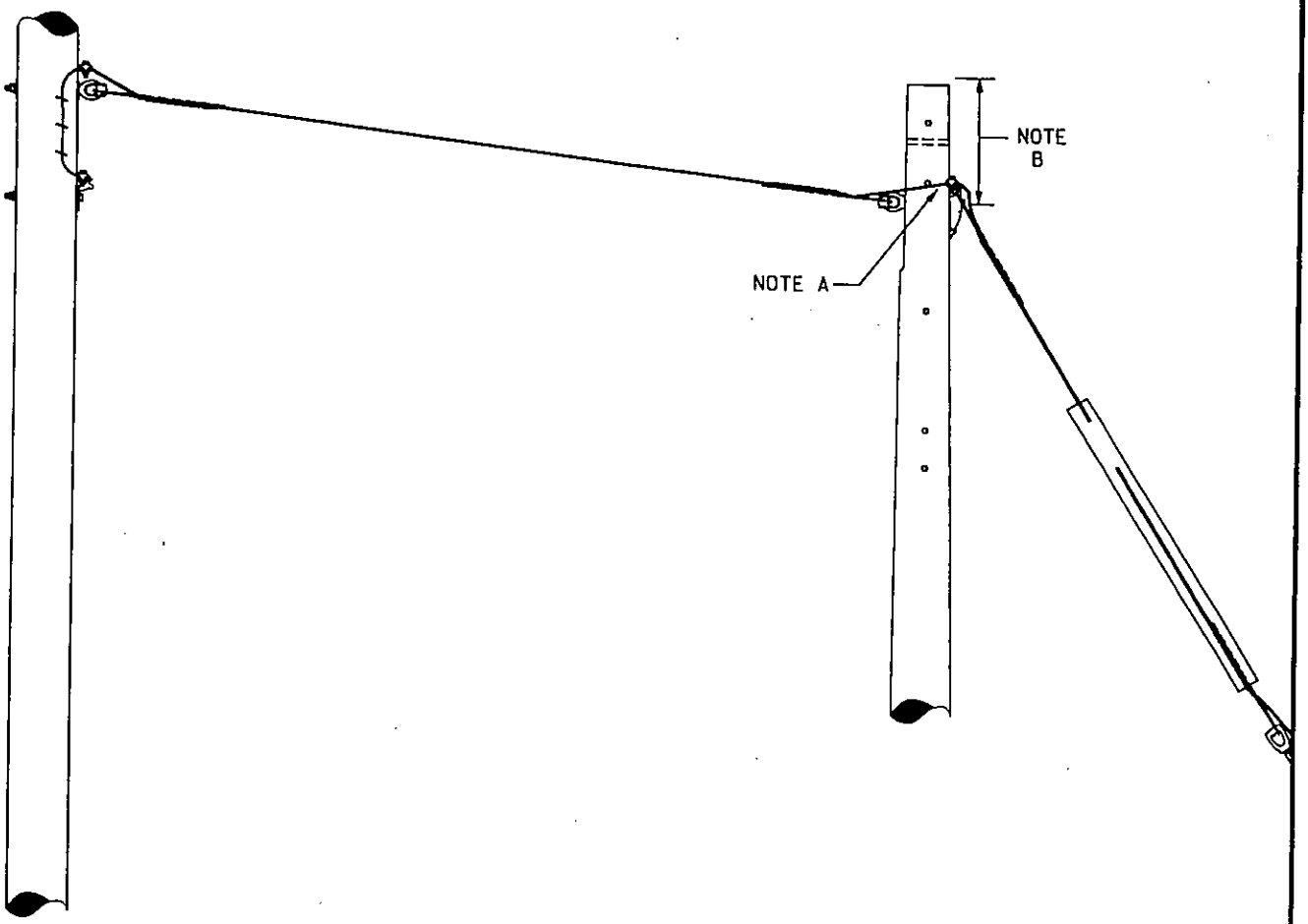
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDGAERIAL	1		AERIAL GUY	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MPGGA	GUY GROUNDED AERIAL	309-14B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	08/24/01	12/20/02	12/02/05



NOTES

A: Leave enough guy wire to bond down guy.
B: Put aerial guy as low as possible on stub pole and still allow telephone or other guys to maintain required clearances.

	ORIGINAL
DESIGNED	REDRAW
DRAWN	GRG
DATE	11/12/93

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DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDGAERIAL	1		AERIAL GUY	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDGSLF78	1		GUY STRAIN LINK, F/G 78IN (LINK ONLY)	
		1	INS GY STN 30K LB 78IN	6000251600

MACRO	DESCRIPTION	PAGE
C6MPGGA/FGSL78	GUY GROUNDED AERIAL WITH 78 IN FIBERGLASS STRAIN LINK	309-15B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	08/24/01	06/16/05	12/06/05

EnergyEast

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	7/5/95

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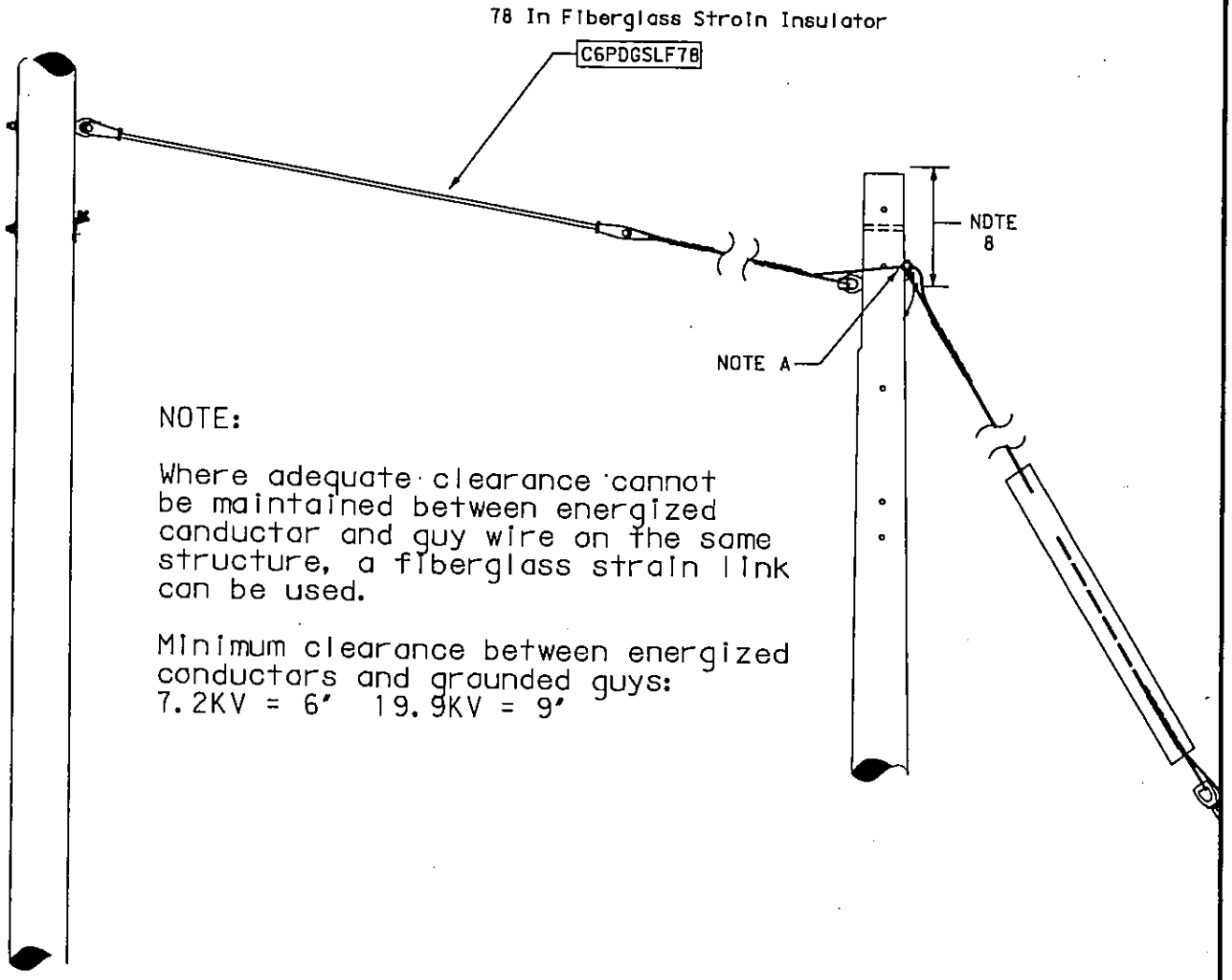

NOTE:

Where adequate clearance cannot be maintained between energized conductor and guy wire on the same structure, a fiberglass strain link can be used.

Minimum clearance between energized conductors and grounded guys:
7.2KV = 6′ 19.9KV = 9′

NOTES

A: Leave enough guy wire to bond down guy.
B: Put aerial guy as low as possible on stub pole and still allow telephone or other guys to maintain required clearances.

STATE OF MAINE
KENT B. POOLE #7938
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDGSW	1		SDWLK GUY, STANDOFF ASSEMBLY	
		1	BRACE SIDWALK CL OOUBLE	6000250670
		1	BRACE SIDWALK POLE PLT	6000250680
		10	PIPE STEEL GALV 2 IN	6000251740
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	B LAG GALV FET 1/2 X 4	6000272540
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WSHFLTGALVSQ2 1/4X3/16	6000274810

MACRO	DESCRIPTION	PAGE
C6MPGSWG	GUY GROUNDED SIDEWALK ASSEMBLY	309-16B

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	2/9/94	02/04/03	12/06/05

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	8/27/93

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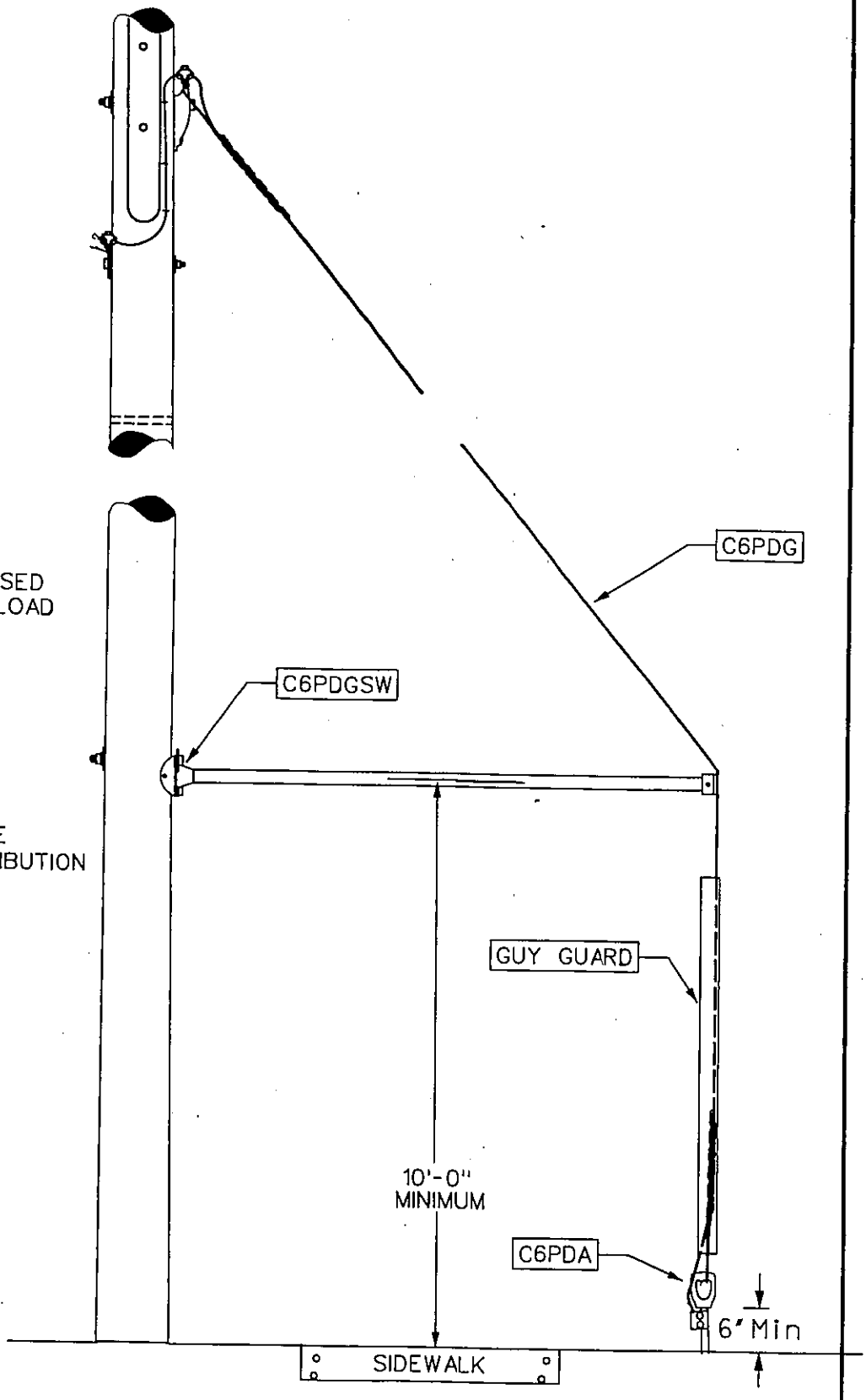
POLE SHALL BE CLASSED TO SUPPORT BRACE LOAD

POLE CLASS SHALL BE DETERMINED BY DISTRIBUTION FIELD ENGINEER



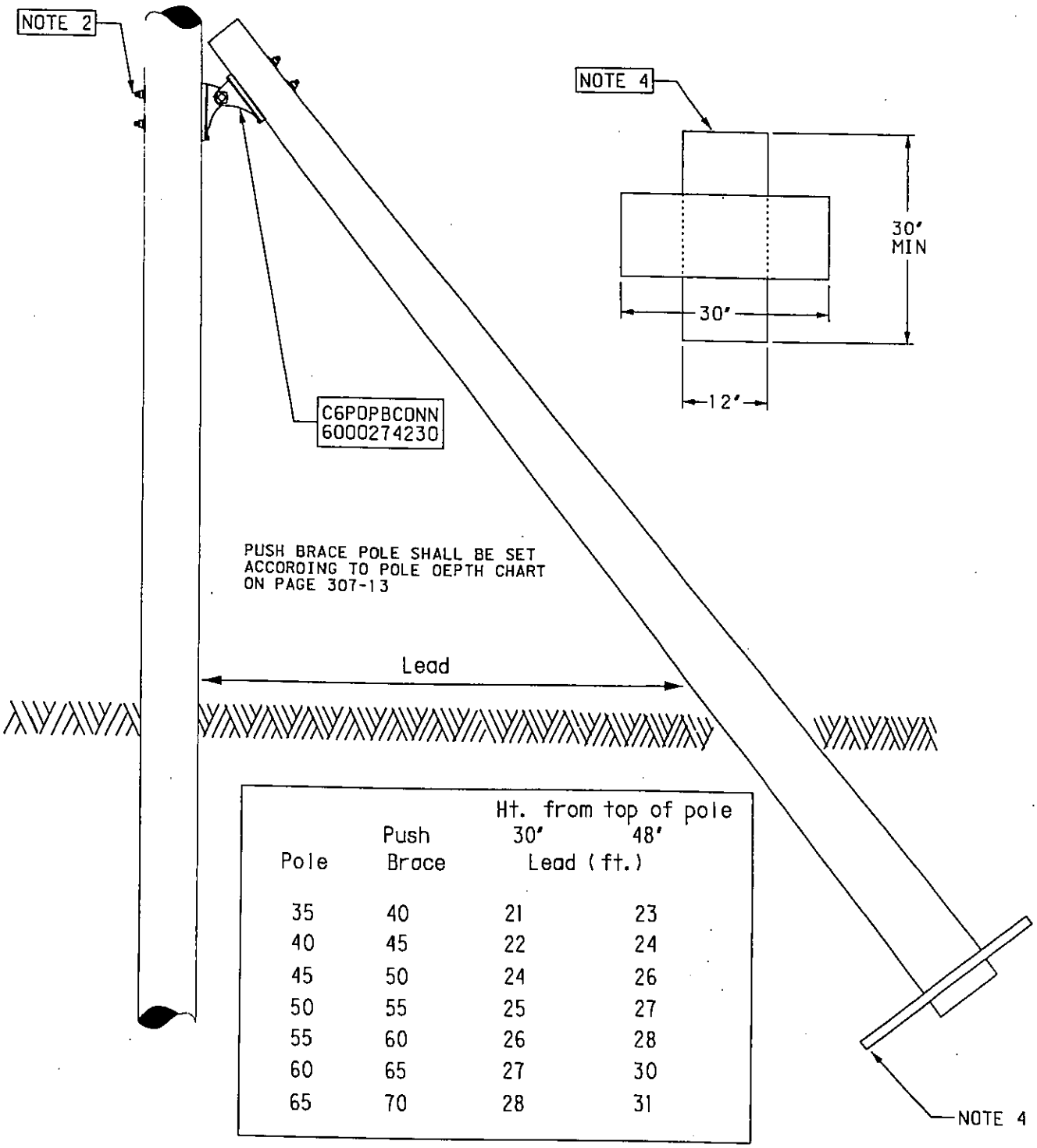
STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	PUSH BRACE	309-17

NO.	REVISION	DATE	BY	CK.
1	ADD "HDP" & STOCK CODE	04/27/09	REC	
1	ADDED NOTE 5 & ADDED TABLE			



Pole	Push Brace	Ht. from top of pole 30' Lead (ft.)	48' Lead (ft.)
35	40	21	23
40	45	22	24
45	50	24	26
50	55	25	27
55	60	26	28
60	65	27	30
65	70	28	31

NOTES:

1. DO NOT USE A PUSH BRACE unless there is no way to install a down guy or stub pole and guy.,
2. Attach push brace as high as possible an pole.
3. To determine length of push brace, an actual measurement is recommended.
4. Made of 2" plank, use only if needed due to soil conditions.
5. A class 5 pole for a push brace is acceptable in all cases.

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	11/12/93

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
4/28/09
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	GENERAL POLE TOP CONSTRUCTION	310

NO.	REVISION	DATE	CK.
1	Added note 6 to require 3' washers	12/28/07	

GENERAL
POLE TOP CONSTRUCTION

1. Standard construction to be based on 2000lb. Maximum (worst case) line tension
2. Tap lines exceeding two poles shall be protected with cut outs
3. Neutral position shall be determined, based on conductor sags. Positions shown in details are minimum for new construction.
4. Poles shown in details are typical, see section 307 to determine pole class. Height will be based on apparatus on pole.
5. Guy lead (distance between pole and anchor) shall be determined based on requirements of section 309 GUYING.
6. A minimum of 3' washers shall be used to back all guys.
7. On all poles using pole top pins, the neutral is to be installed on the roadside of the pole, unless (on an existing line) the neutral is on the field side of the adjacent poles in both directions, in which case the neutral is to be placed on the field side to avoid unnecessary crisscrossing of the neutral and phase wire.

EnergyEast

Conversions

When converting 7200/12470 to 20/34.5 kv the following should be noted:

1. All hardware on the pole shall be retightened.
2. The neutral must be lowered to the position shown.
3. Steel crossarm braces are to be removed and replaced with wood crossarm braces.
4. Steel crossarm pins shall extend a minimum of 6' above crossarm. Short pins shall be replaced.

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	CRG
DATE	6/29/94

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STATE OF MAINE
BRENT C. BROOKS
No. 8209
LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION RAILROAD CROSSINGS AND LIMITED ACCESS HIGHWAY CROSSINGS	PAGE 310-1

All lines crossing railroads and limited access highways must meet the following requirements. In addition, any line crossing a railroad outside the limits of a public highway requires a permit from the railroad involved.

1. Class of pole: To determine the minimum class of pole required for the poles at either end of the crossing span, check A, B and C. The largest class pole required by A, B and C shall be used.

   A. Graph on page 307-7. Use the average length of the crossing span and the adjacent span for span length to determine pole class from this graph.

   B. Chart on page 307-9. The minimum class of pole required due to guying on the pole may be determined directly from the chart without adjustment. (See item #2 for determination of guy wire size and lead length.)

   C. Chart on page 307-10. If transformers or other equipment are mounted on crossing poles, use double the actual weight of equipment with this chart to determine the minimum class pole required.

2. Guying: To determine the required guying on a crossing pole, increase the line tension factor by 1/3 before using the graph on page 309-6. On corners up to 37 feet of pull, the guying charts may be used by increasing the pull by one third, i.e., 37 + (1/3 x 37) = 49 1/3 = (50).

3. Crossarms: Double crossarms shall be used whenever crossarms are used on railroad and limited access highway crossings.

4. Conductor: No splices are to be used in railroad and limited access highway crossing spans or adjacent spans. No taps or hot line clamps are to be installed on the crossing span. If the crossing span is deadended, the conductors shall be run through the deadend clamps far enough to provide a connection point.

   NOTE: Splices may be used to make emergency repairs in crossing and adjacent spans, and may be left in place if the conductor is in good condition.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	LAW	REC	
DATE	08/31/01	10/16/06	

	ORIGINAL
DESIGNED	GRG
DRAWN	JEC
DATE	5/28/92

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EnergyEast

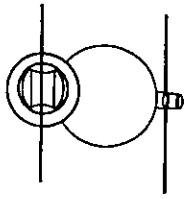
STATE OF MAINE
RAYMOND A. BOUCHER
12771
REGISTERED PROFESSIONAL ENGINEER

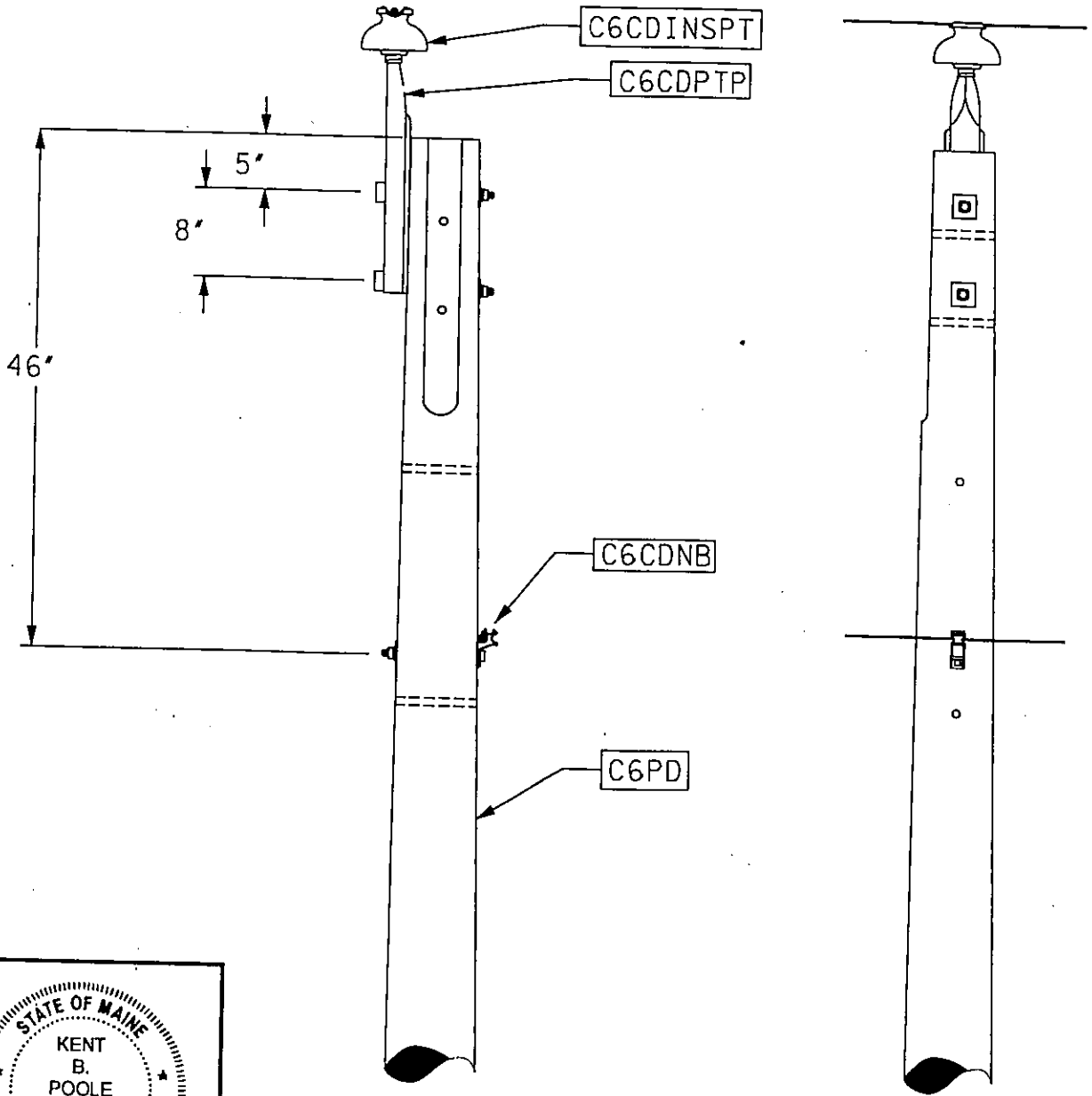
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SOUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX

MACRO	DESCRIPTION	PAGE
C6MC1PT	1 PH POLE TOP STRUCTURE	311-1B

UP TO 6FT CORNER AT 2000* LINE TENSION

NOTE:
Pole top to be located on field side of pole.





	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/02/05	

EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	12/9/92

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STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

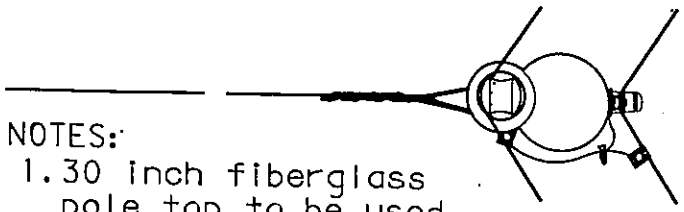
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDPTP30FG	1		POLE TOP PIN 30 INCH FIBERGLASS	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 30 IN FG	6000274190
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX

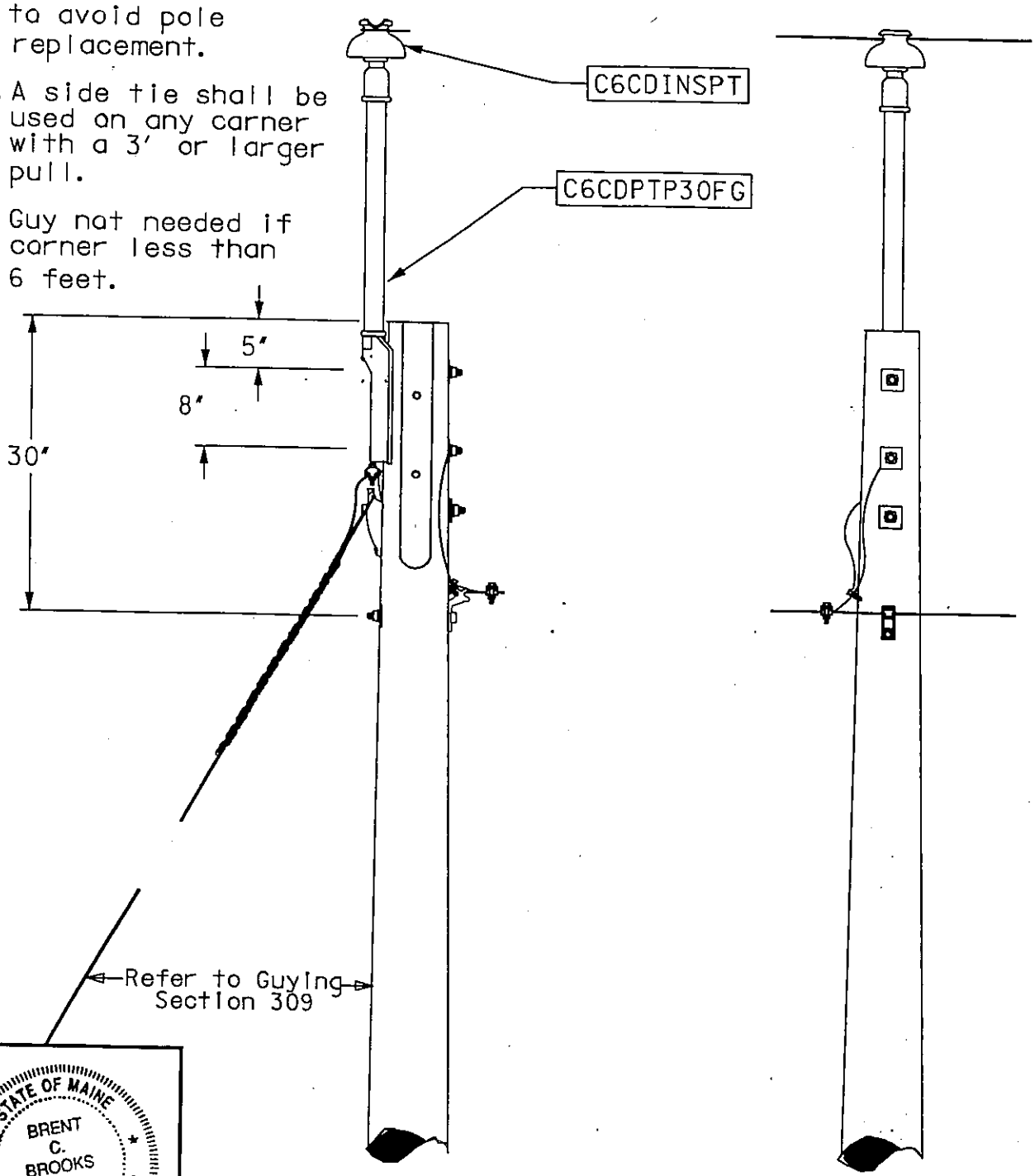
MACRO	DESCRIPTION	PAGE
C6MC1PTE30	PH POLE TOP EXTENSION 30IN	311-2B

30" FIBERGLASS POLETOP HAS MAXIMUM OF 10 FT. CORNER AT 2000* LINE TENSION



NOTES:

1. 30 inch fiberglass pole top to be used to avoid pole replacement.
2. A side tie shall be used on any corner with a 3' or larger pull.
3. Guy not needed if corner less than 6 feet.



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	09/07/01	06/19/06	

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	12/10/92

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STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
11/13/2006

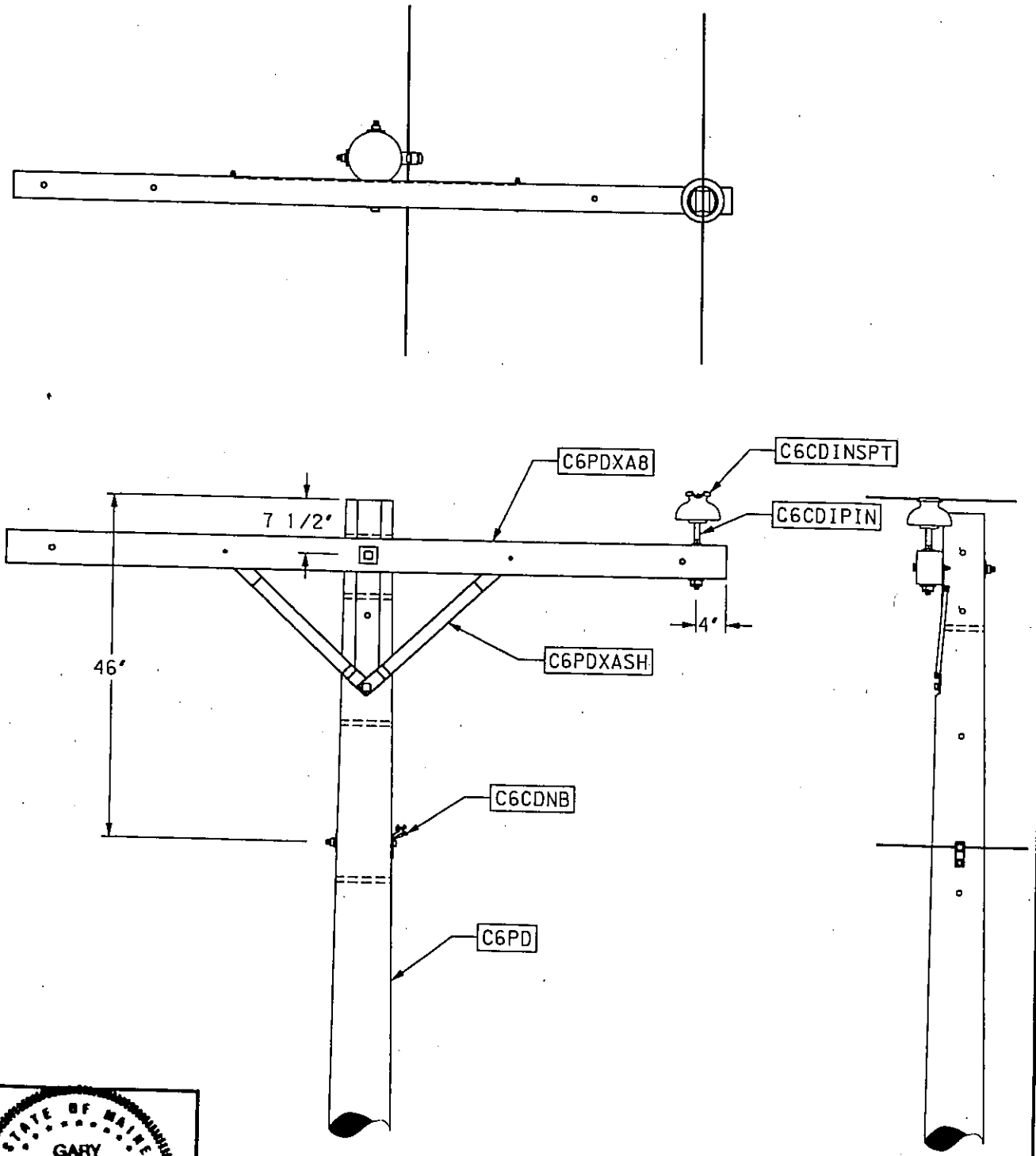
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	1		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6PO	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXA8	1		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC1SX	1 PH SINGLE XARM STRUCTURE	311-3B

0-6 FT. CORNER



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/02/05	

EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/17/93

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STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

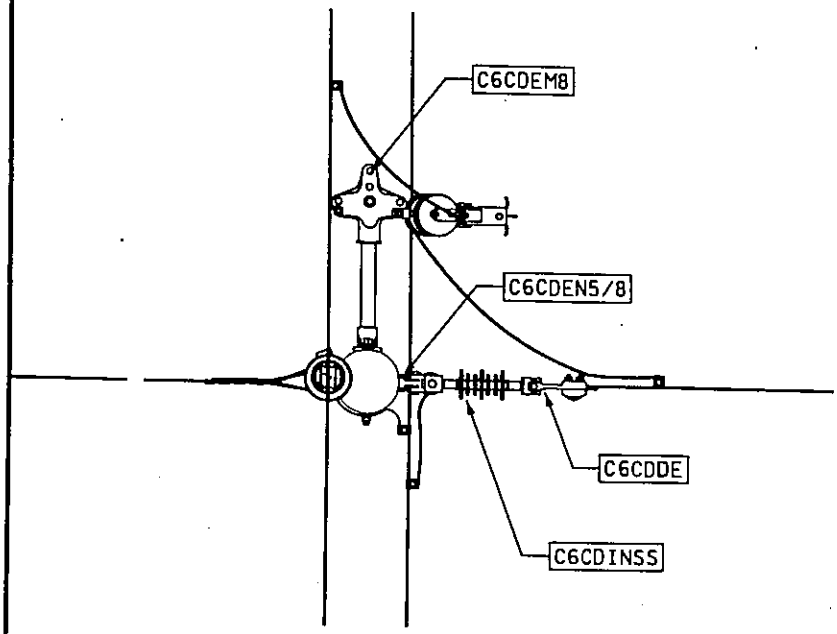
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

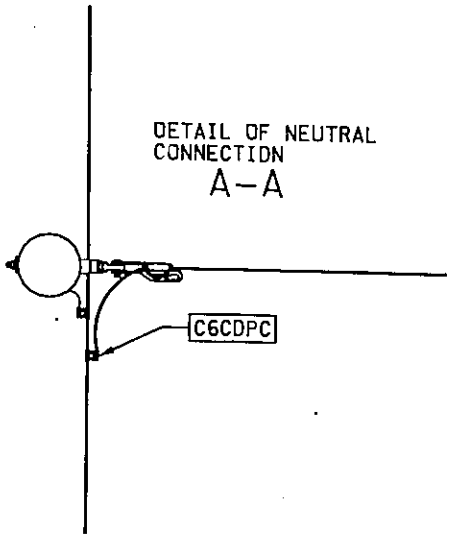
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6COFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	1		INS DEADENO GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDPC	1		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1 TFPT	1 PH TAP FROM POLE TOP STRUCTURE	311-4B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/08/05	

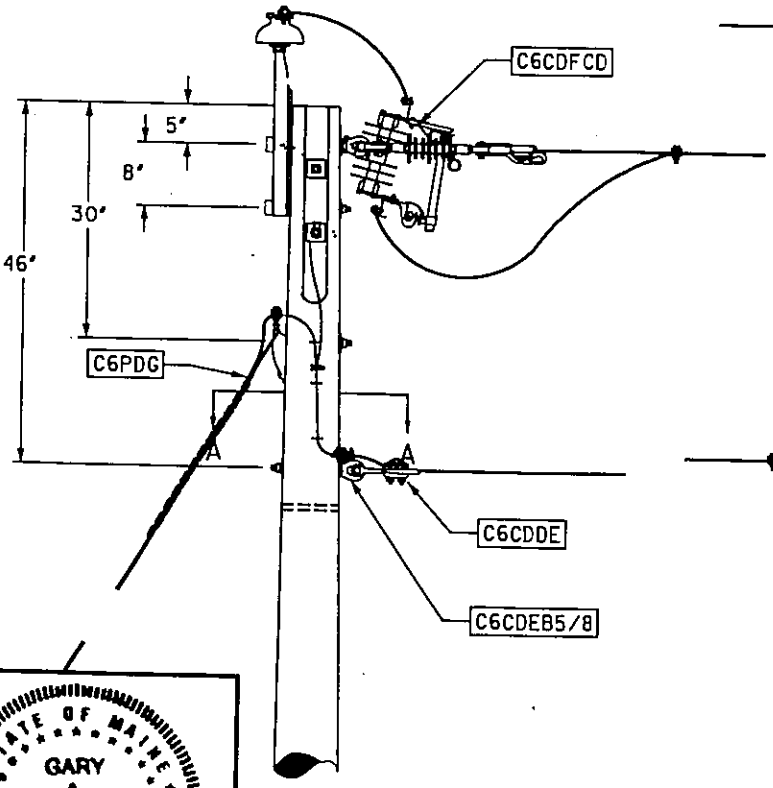


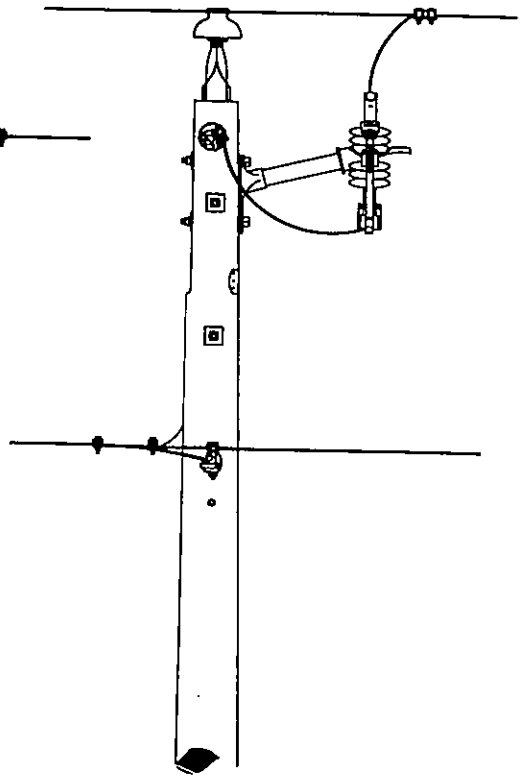
DETAIL OF NEUTRAL CONNECTION
A-A



EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/1/93





THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

CENTRAL MAINE POWER CO.

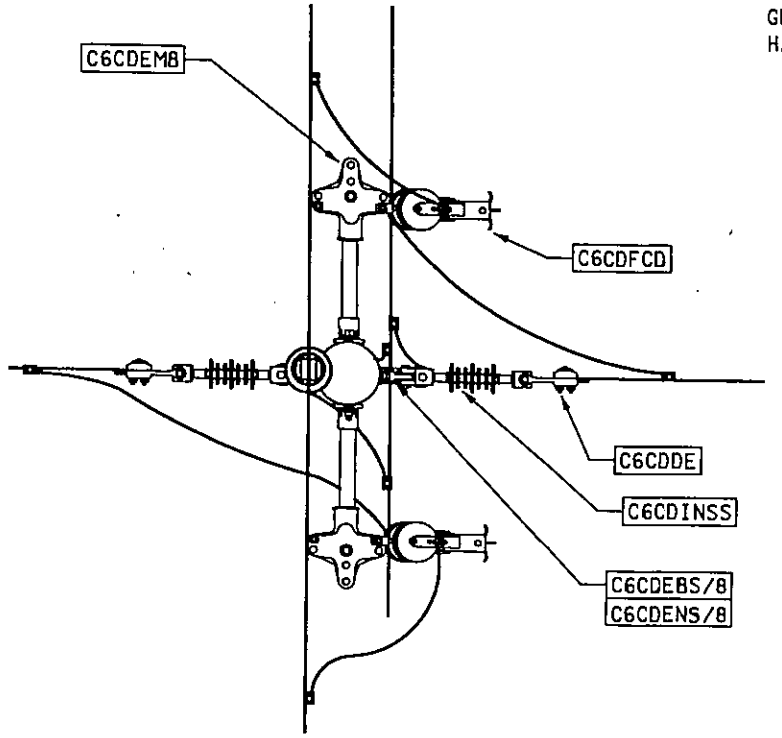
DISTRIBUTION CONSTRUCTION STANDARDS

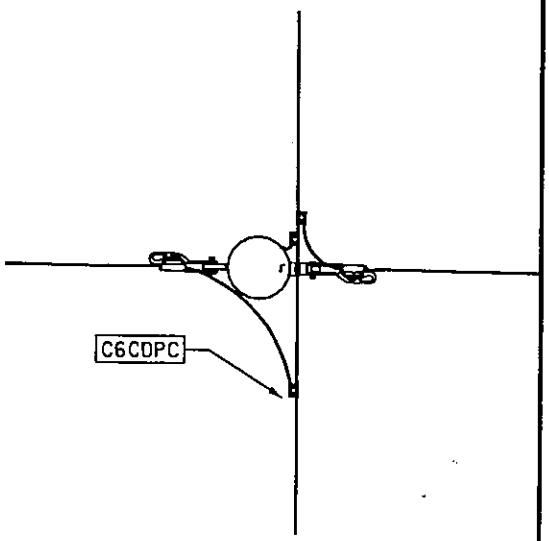
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	2		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	2		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	2		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	2		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDPC	2		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX

MACRO	DESCRIPTION	PAGE
C6MC1 TFPT2W	1 PH TAP FROM POLE TOP STRUCTURE 2 WAY	311-5B

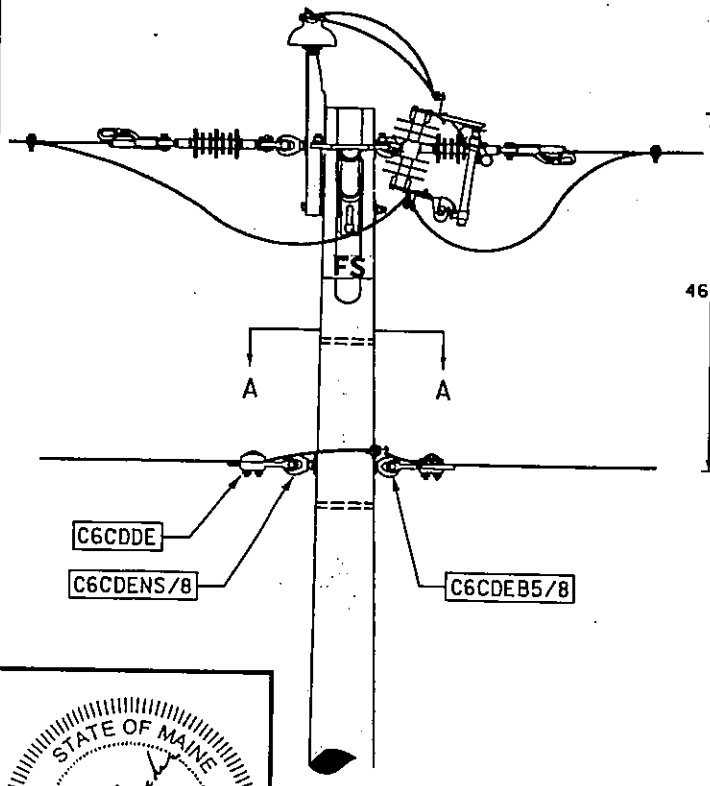
NO.	REVISION	DATE	CK.
1	Added border line one pole	7/27/7	EJ

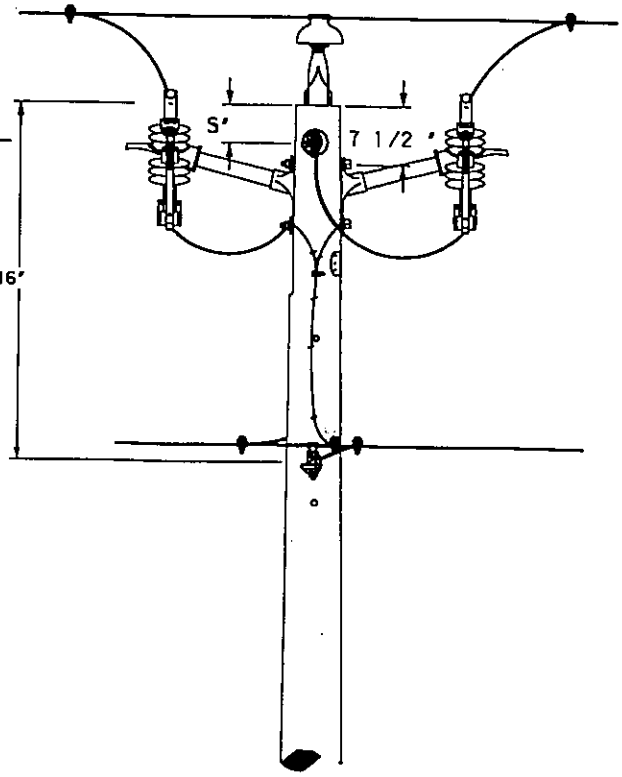
NOTE
GUYING REQUIRED WHEN OPPOSING TAPS HAVE DIFFERENT SIZE CONDUCTORS.





A - A
DETAIL OF NEUTRAL CONNECTION





ORIGINAL	
DESIGNED	GRG
DRAWN	
DATE	4/1/93

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STATE OF MAINE
RAYMOND A BOUCHER
LICENSED PROFESSIONAL ENGINEER

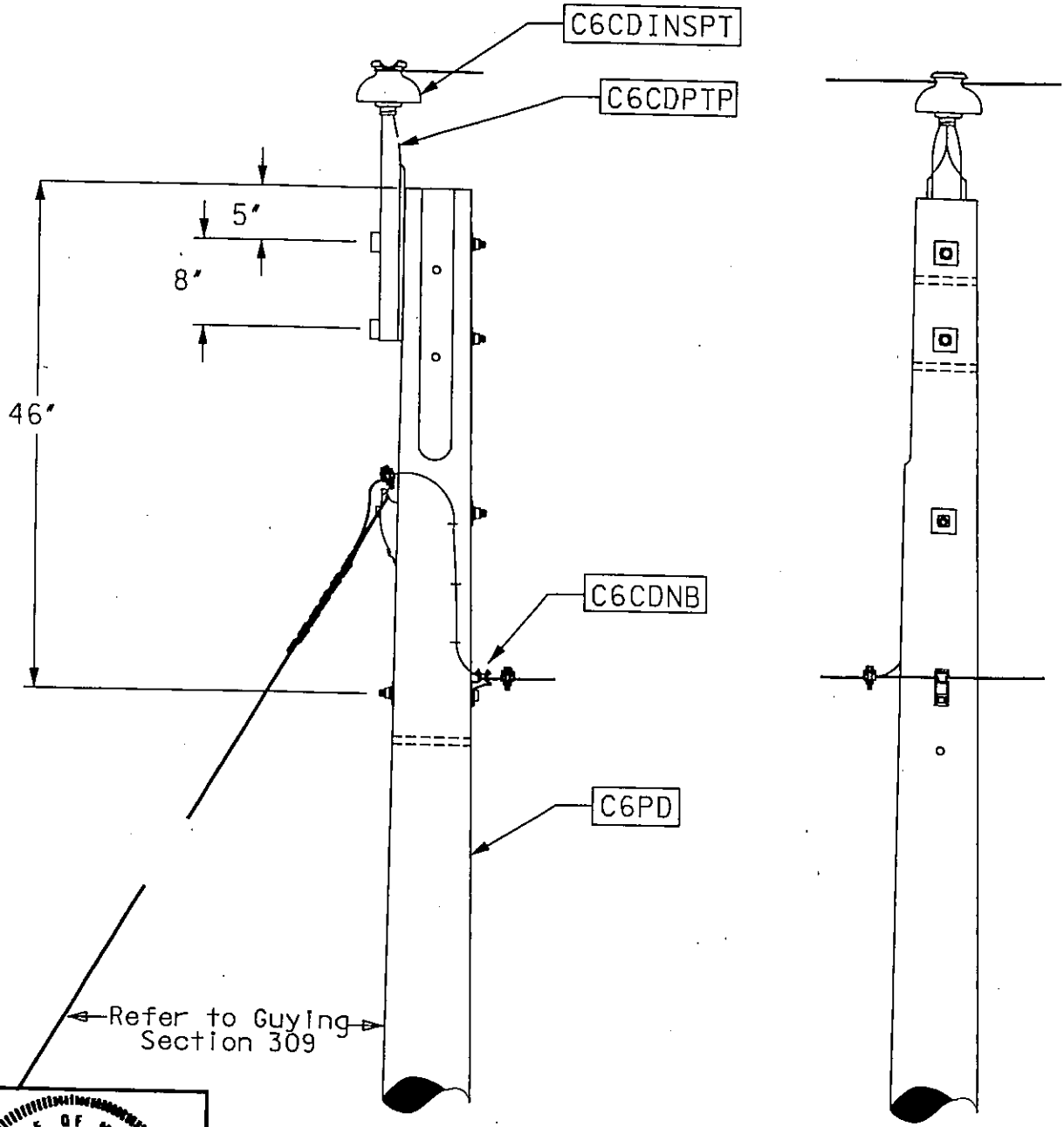
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1PTG	1 PH POLE TOP STRUCTURE WITH GUY	311-6B

UP TO 25FT CORNER AT 2000* LINE TENSION
UP TO 16FT CORNER AT 3000* LINE TENSION



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/08/05	

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	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	12/05/00

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STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

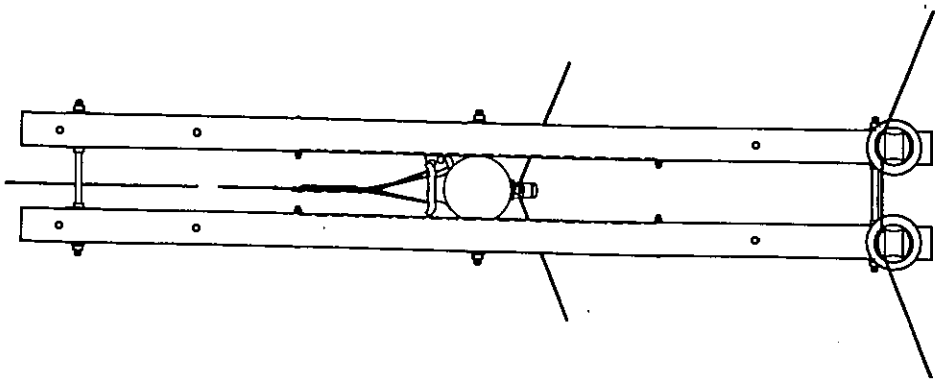
DISTRIBUTION CONSTRUCTION STANDARDS

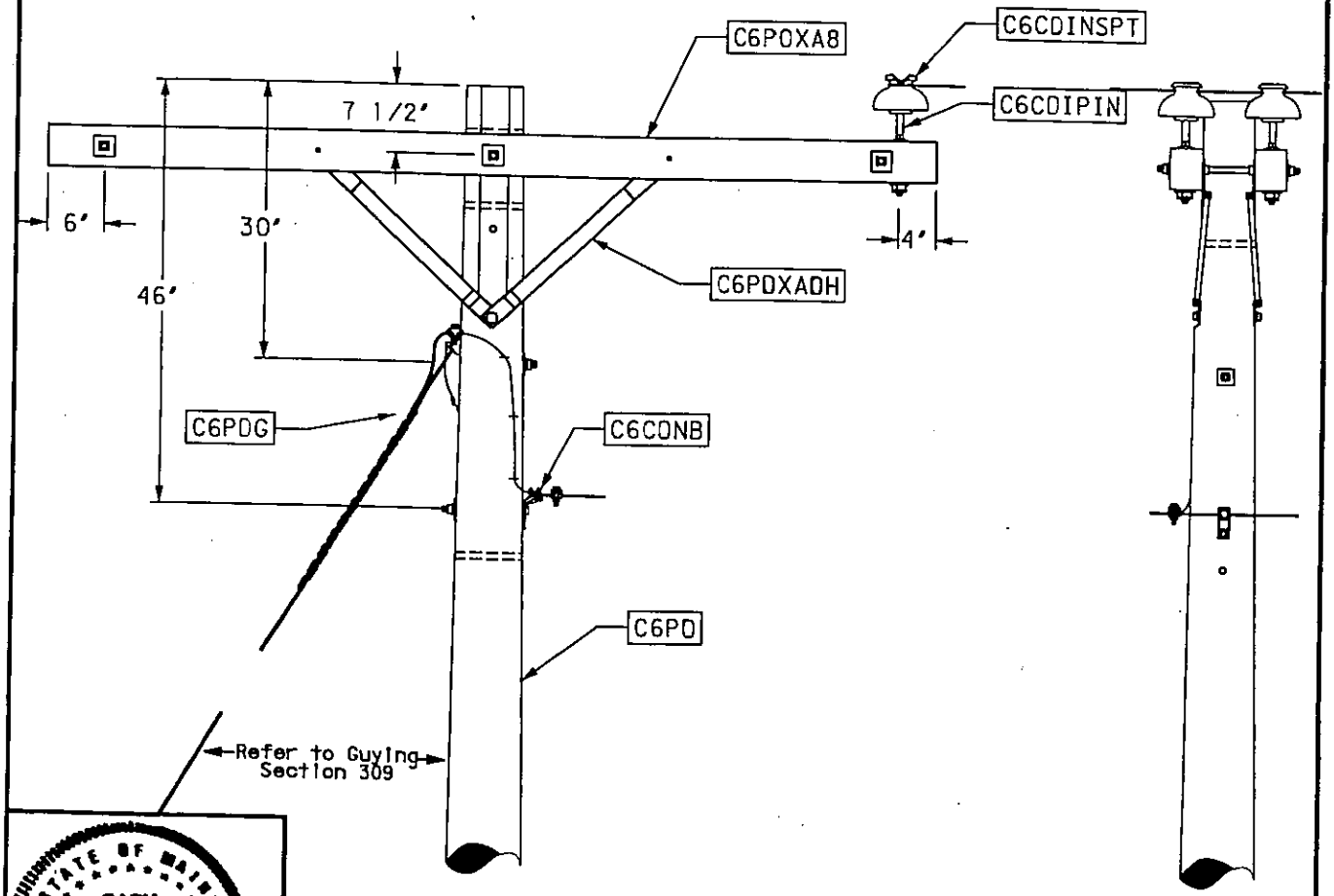
CU Number	*Quuntity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC1DX	1 PH DOUBLE XARM OFFSET	311-7B

UP TO 25 FT. CORNER AT 2000* LINE TENSION
UP TO 16 FT. CORNER AT 3000* LINE TENSION

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/29/05	





	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/28/93

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STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

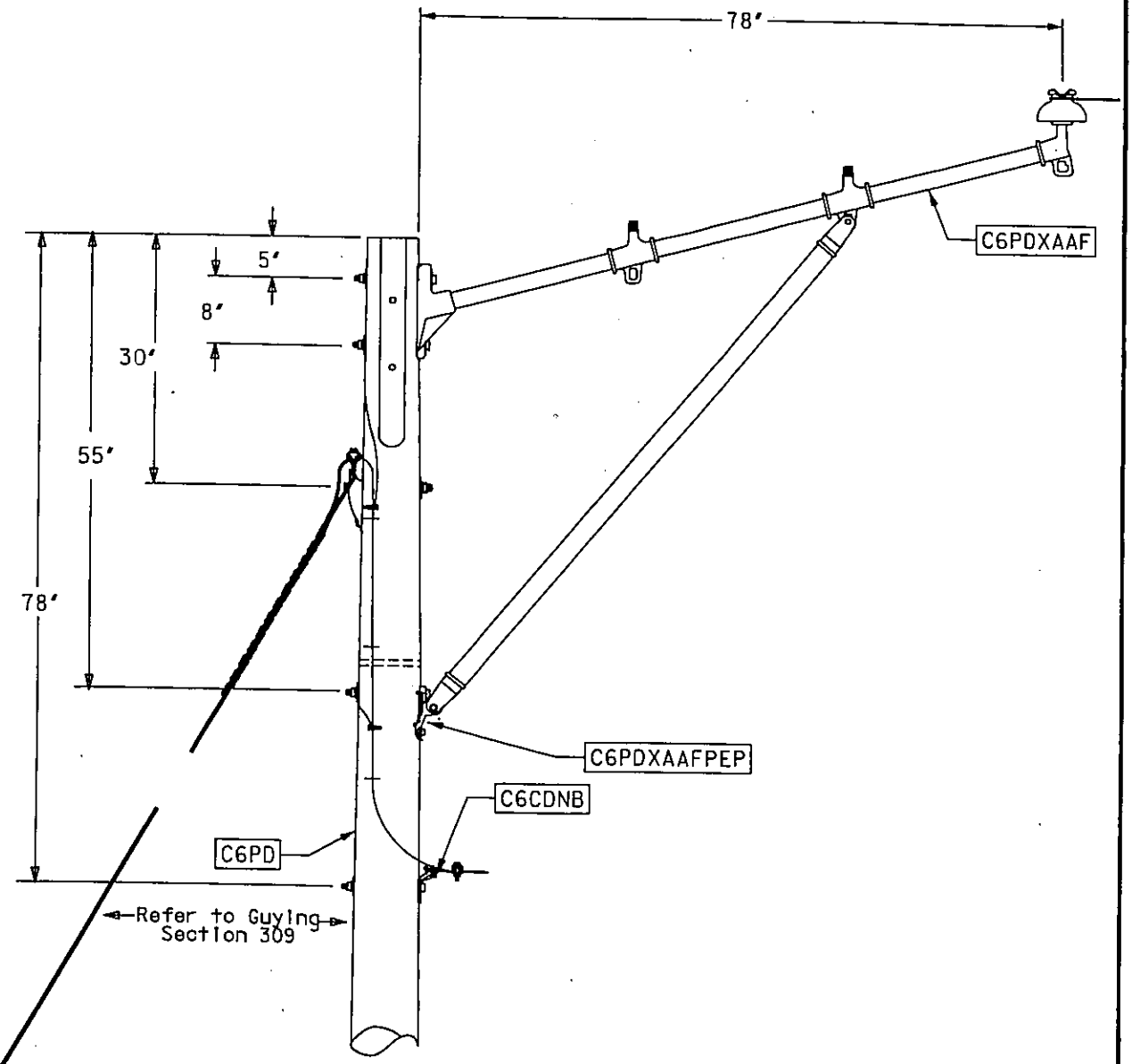
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXAAF	1		XARM, ALLEY, 3PH FIBERGLASS WITH BRACE	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	BRACKET, ALLEY ARM, 3 PH FIBERGLASS	6000272700
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PDXAAFPEP	1		FIBERGLASS ALLEY BRACE POLE EYE PLATE	
		1	PLATE GUY ATT FG INS	6000251800
		1	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
		2	B LAG GALV FET 1/2 X 4	6000272540
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER 3"X 4" CURVED FOR 3/4" BOLT	6000274850

MACRO	DESCRIPTION	PAGE
C6MC1 AAF	1 PH FIBERGLASS ALLEY ARM STRUCTURE	311-8B

Up to 15ft. corner at 2000* line tension

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	3/17/94	08/23/01	12/08/05



	ORIGINAL	REDRAWN
DESIGNED		
DRAWN	GRG	
DATE	2/22/93	

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STATE OF MAINE
GARY A. RICCI
#4737
PROFESSIONAL ENGINEER
JUNE 14, 1993

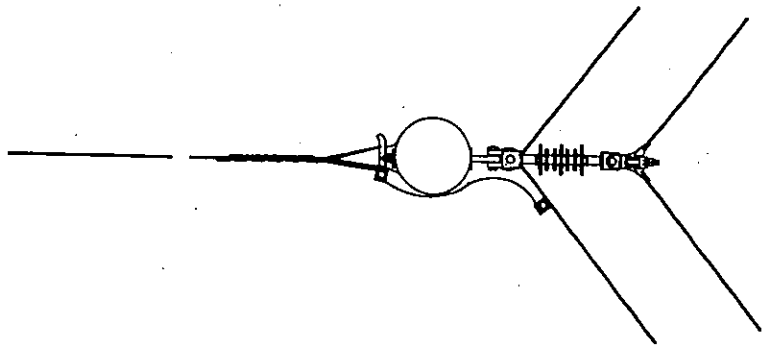
CENTRAL MAINE POWER CO.

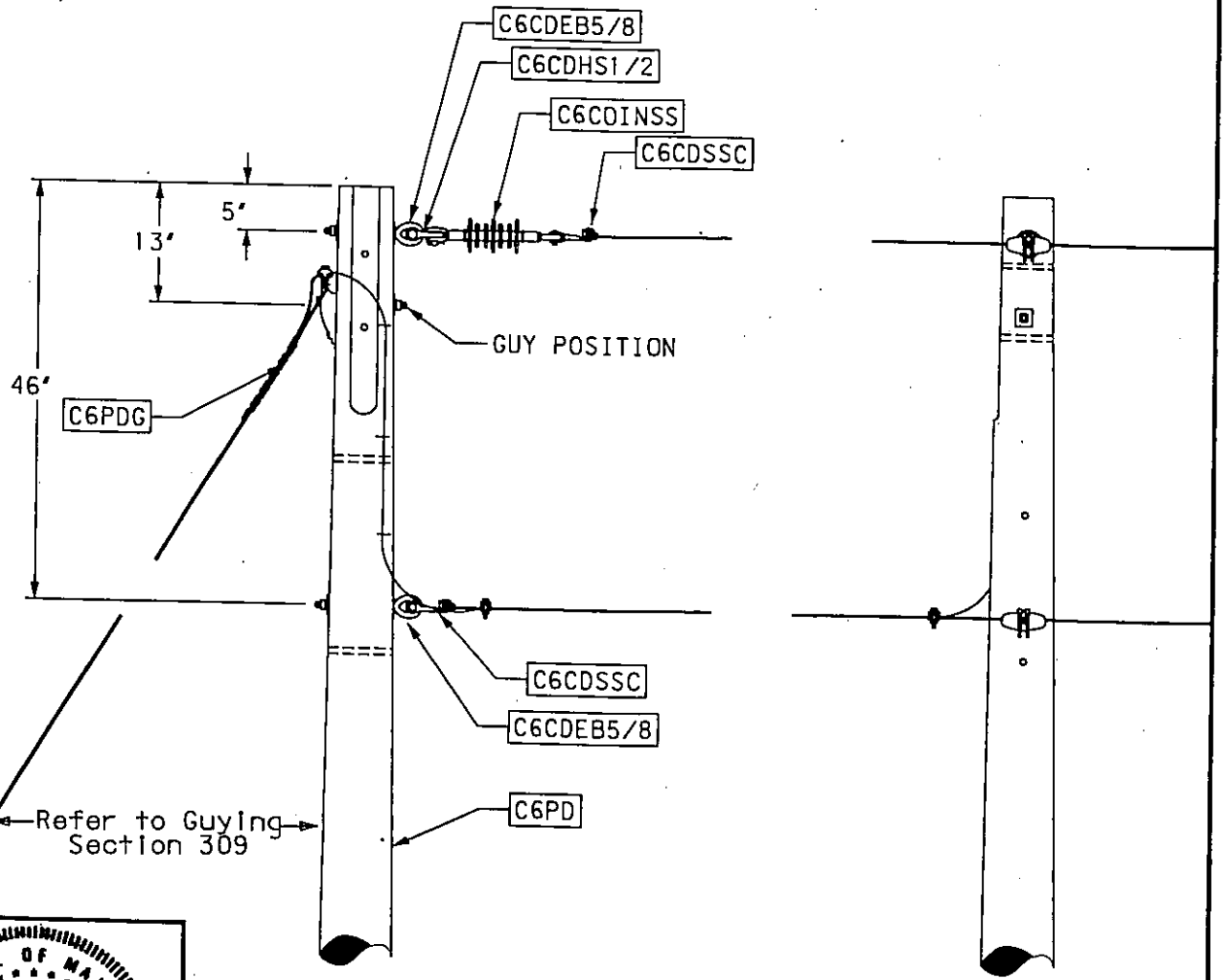
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDSSC	2		SEMI STRAIN CLAMP	
		1	SEMI STRAIN CLAMP ALUM OR GALV. STEEL	60001113XX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6POG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1SS	1 PH SEMI STRAIN STRUCTURE	311-9B

26-50 FT. CORNER AT 2000* LINE TENSION
17-50 FT. CORNER AT 3000* LINE TENSION





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DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	1/19/95	08/23/01	01/05/06

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	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	3/31/93

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STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

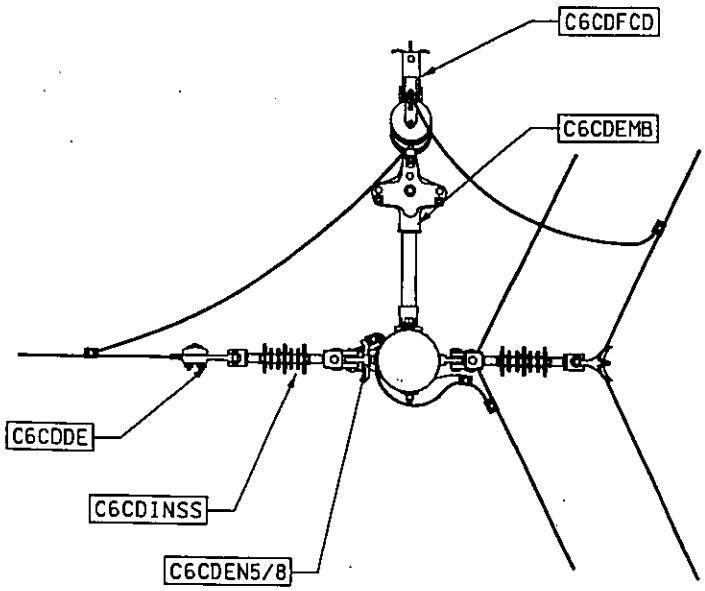
DISTRIBUTION CONSTRUCTION STANDARDS

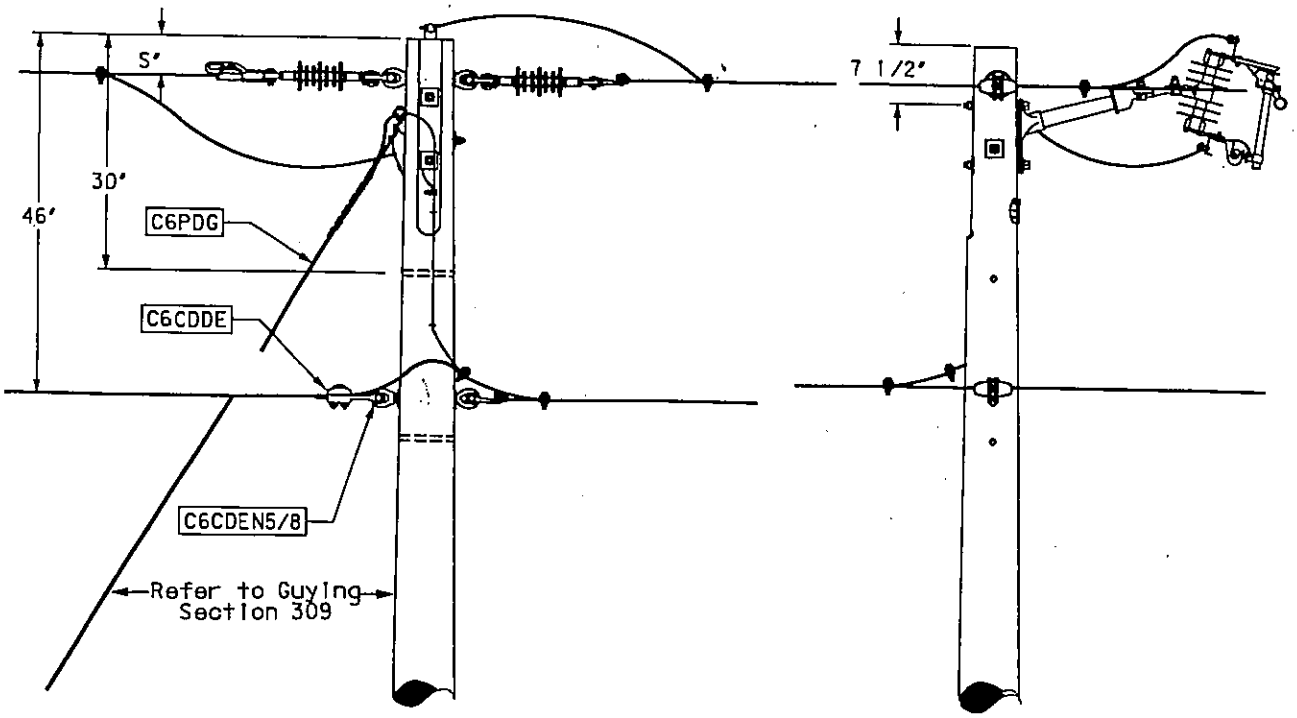
CU Number	*Quantity - CU/Mat'l*		*Description*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUNO 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDPC	1		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1 TFSS	1 PH TAKE OFF FROM SEMISTRAIN STRUCTURE	311-10B

NDTE:

WHERE SEMISTRAIN CORNERS ARE LESS THAN 40' GUYING IS REQUIRED TO HDLD TAKE OFF.





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DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	08/23/01	06/16/05	12/29/05

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	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/1/93

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STATE OF MAINE
GARY A. RICCI #4737
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

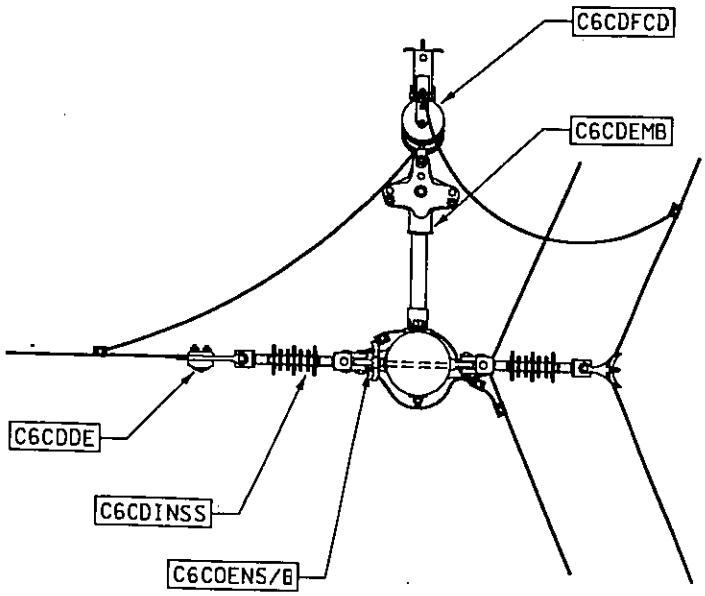
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CODE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	2		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	2		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	2		INS DEADEND GENERIC (SELECT FRDM CUCT)	
		1	INSULATORS	6000310XXX
C6CDSSC	2		SEMI STRAIN CLAMP	
		1	SEMI STRAIN CLAMP ALUM OR GALV. STEEL	60001113XX
C6PD1EXT	1		POLETOP FIBERGLASS EXTENSION, 60 IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP EXT 60IN FIBER	6000274218
		2	WSH 2 TURN SPR GALV 5/8	6000274600
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

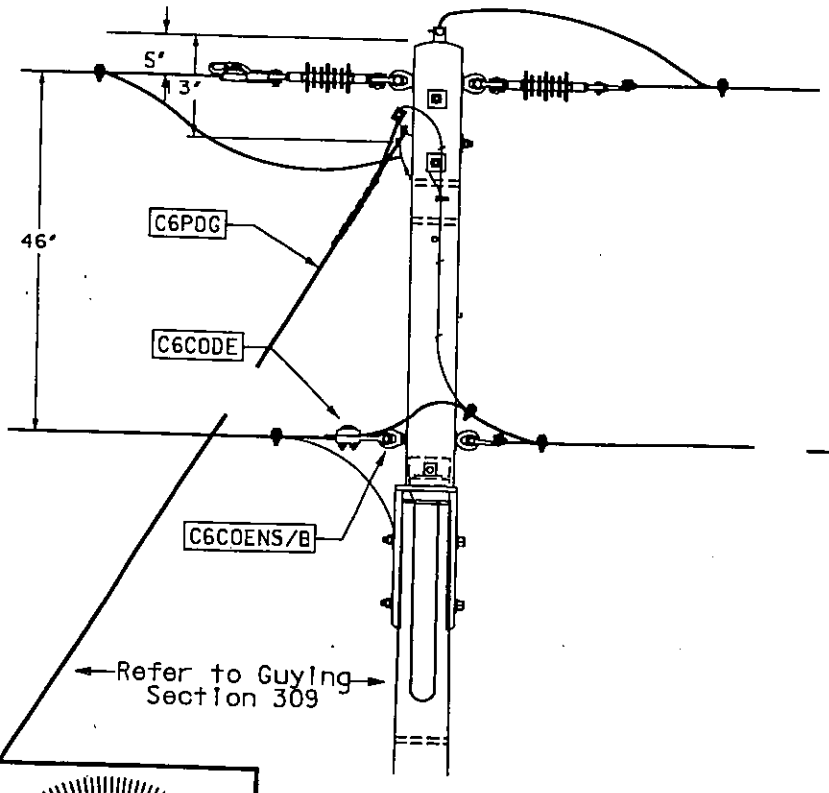
MACRO	DESCRIPTION	PAGE
C6MC1TFSSPTE60	1 PH TAP FROM SEMISTRAIN STRUCTURE W/60 IN FG EXT	311-11B

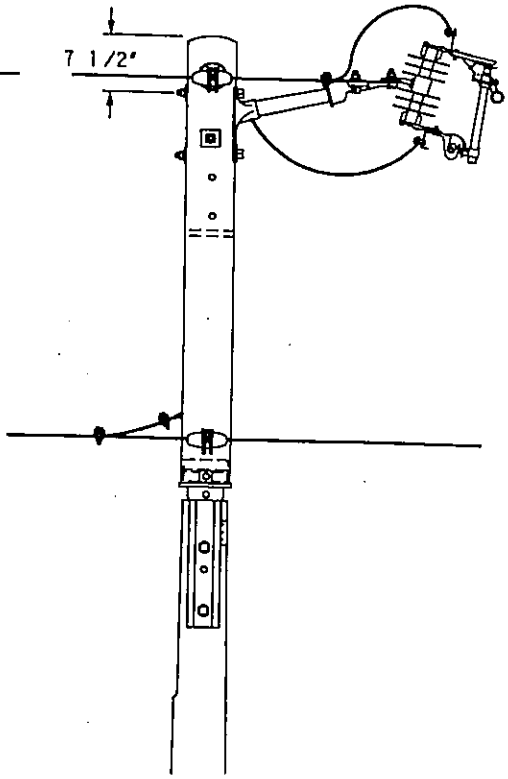
NO.	REVISION	DATE	CK.
1	Added note 2		

NOTES:

1. WHERE SEMISTRAIN CORNERS ARE LESS THAN 40' GUYING IS REQUIRED TO HOLD TAKE OFF.
2. 60' FIBERGLASS POLE TOP EXTENSIONS SHOULD NOT BE USED IN AREAS NOT ACCESSIBLE TO LINE TRUCKS.







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	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	04/12/07

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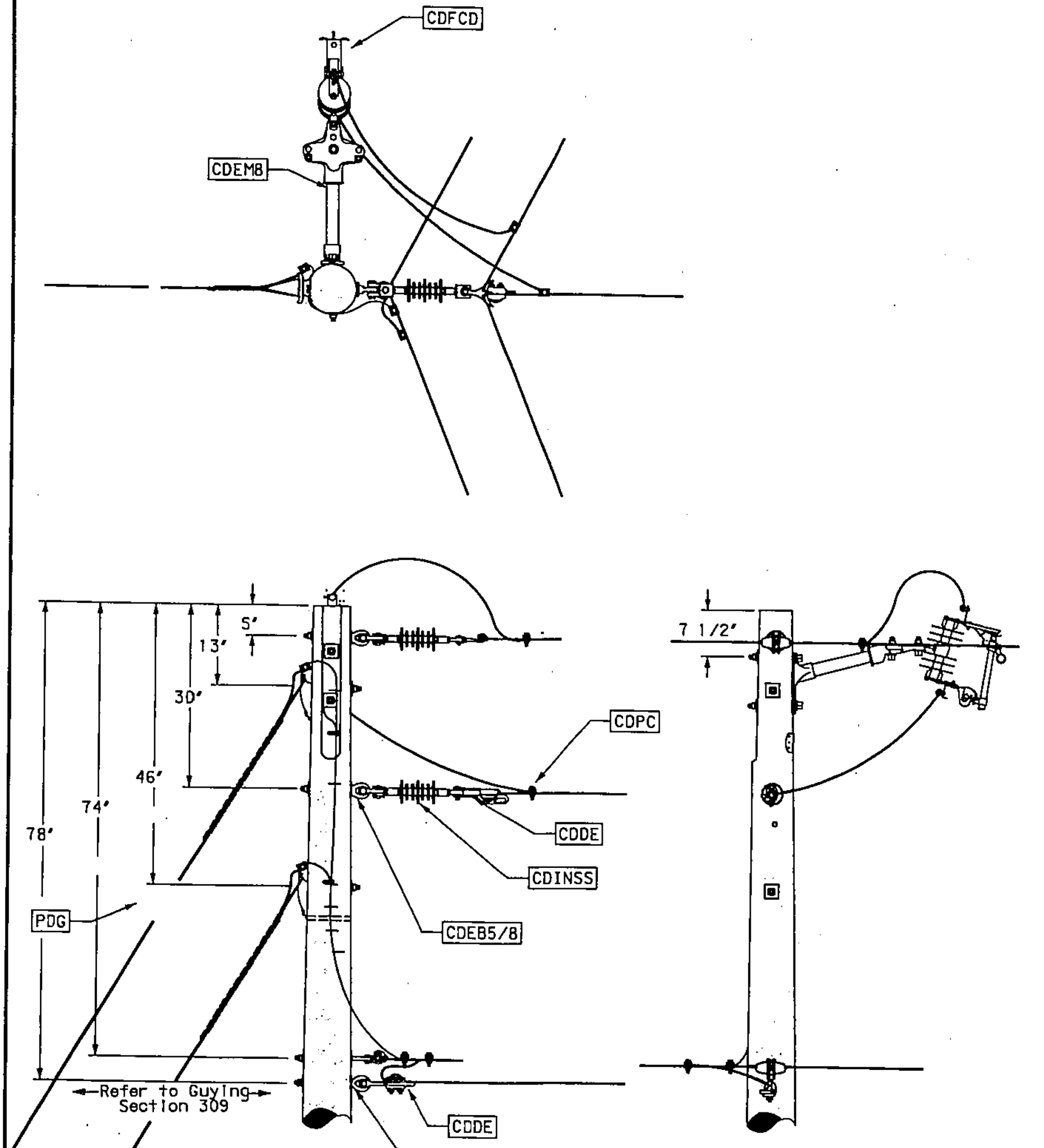
STATE OF MAINE
GARY A. RICCI
No. 4737
LICENSED PROFESSIONAL ENGINEER
3/24/08

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDPC	1		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1TF1SS	1 PH TAP FROM INSIDE SEMISTRAIN	311-12B



NOTE:
Guy for takeoff can be installed on existing anchor.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	11/18/06	

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DESIGNED	GRG
DRAWN	
DATE	4/1/93

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CENTRAL MAINE POWER CO. | DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1DE	1 PH DEADEND STRUCTURE	311-13B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	01/05/06	

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DESIGNED	
DRAWN	GRG
DATE	3/31/93

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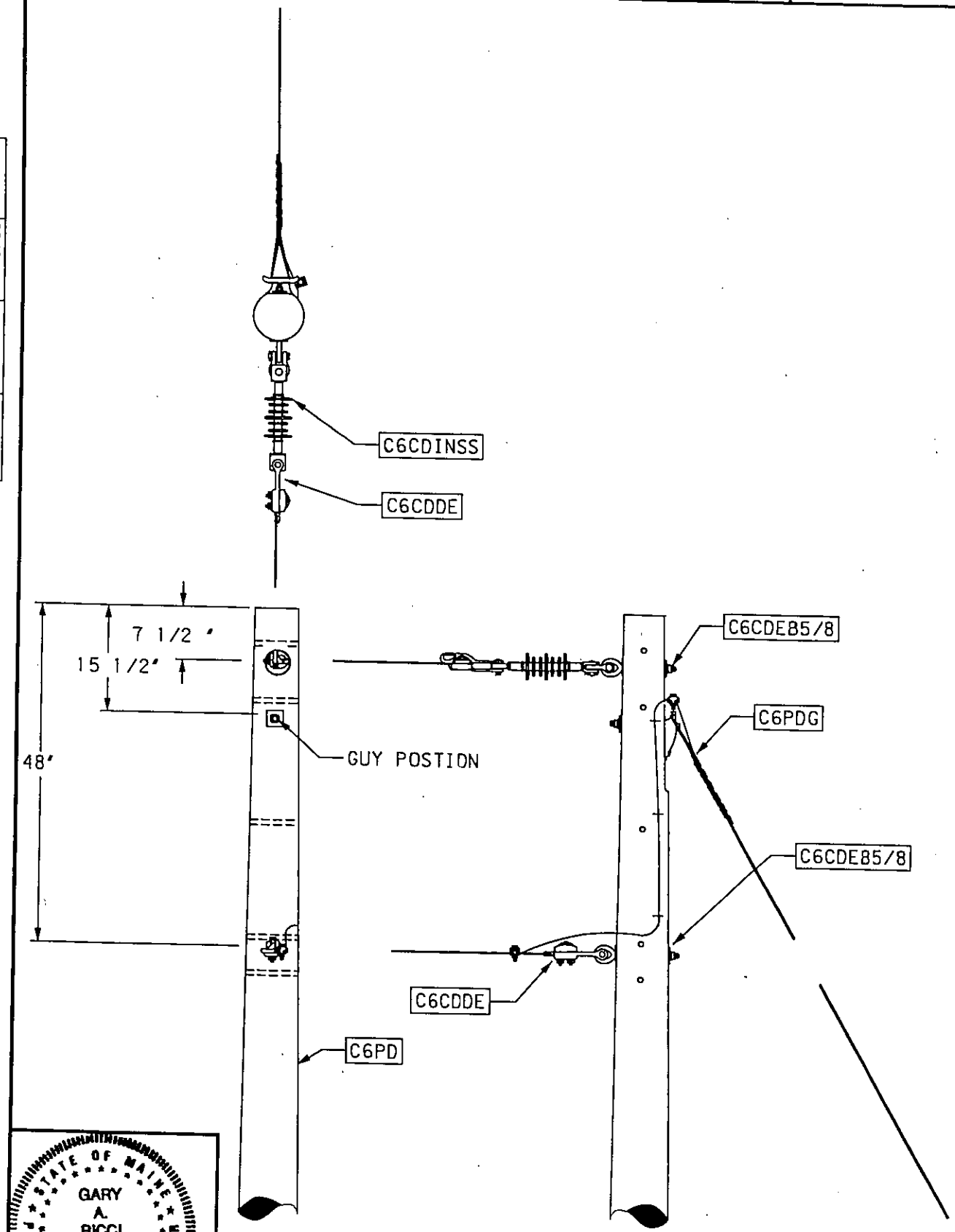


STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

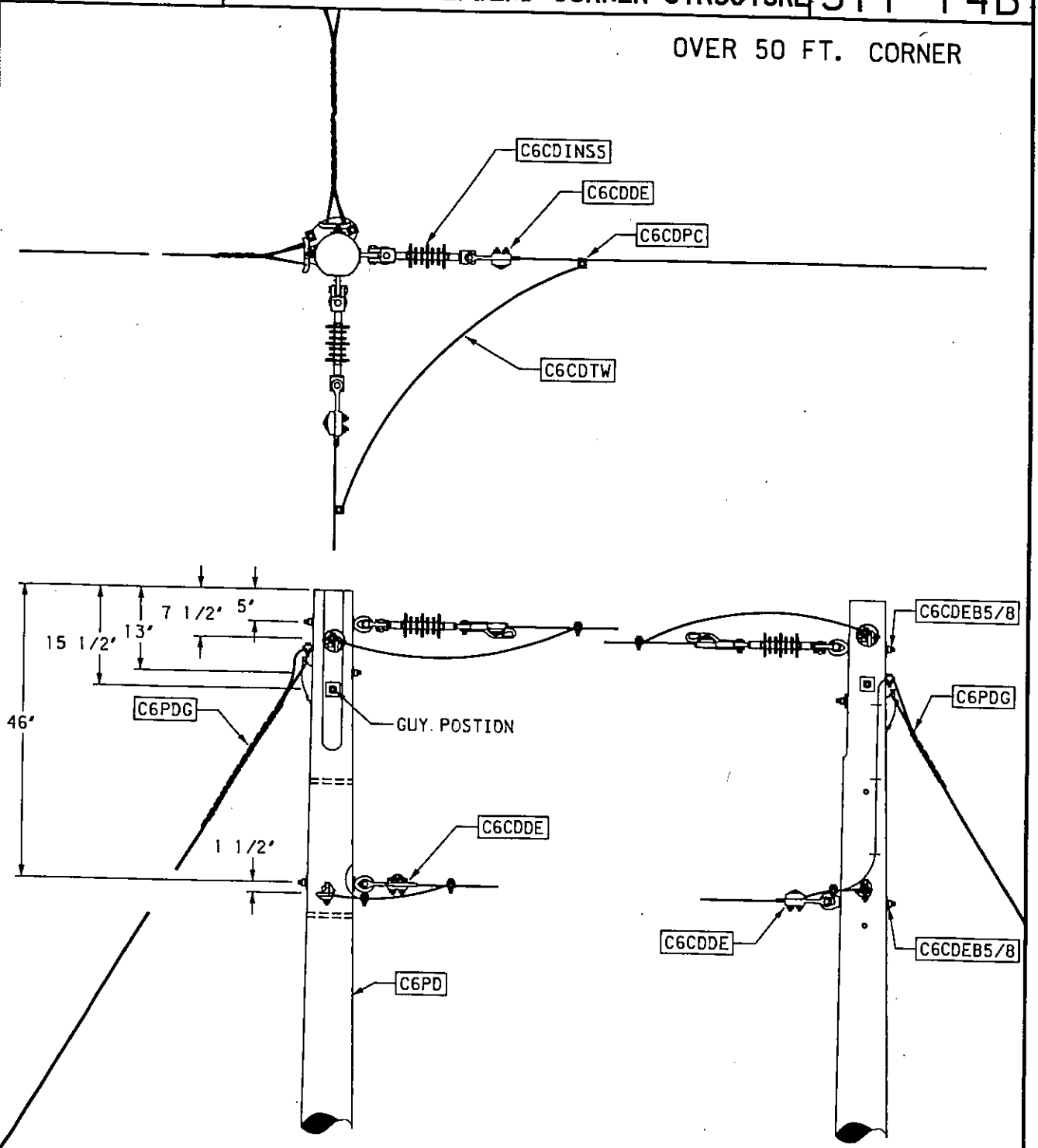
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	4		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDHS1/2	2		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDPC	3		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTW	7		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	2		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	2		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1 DDEC	1 PH DOUBLE DEADEND CORNER STRUCTURE	311-14B

OVER 50 FT. CORNER



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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	01/05/06	

	ORIGINAL
DESIGNED	
DRAWN	GRG
DATE	3/31/93

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

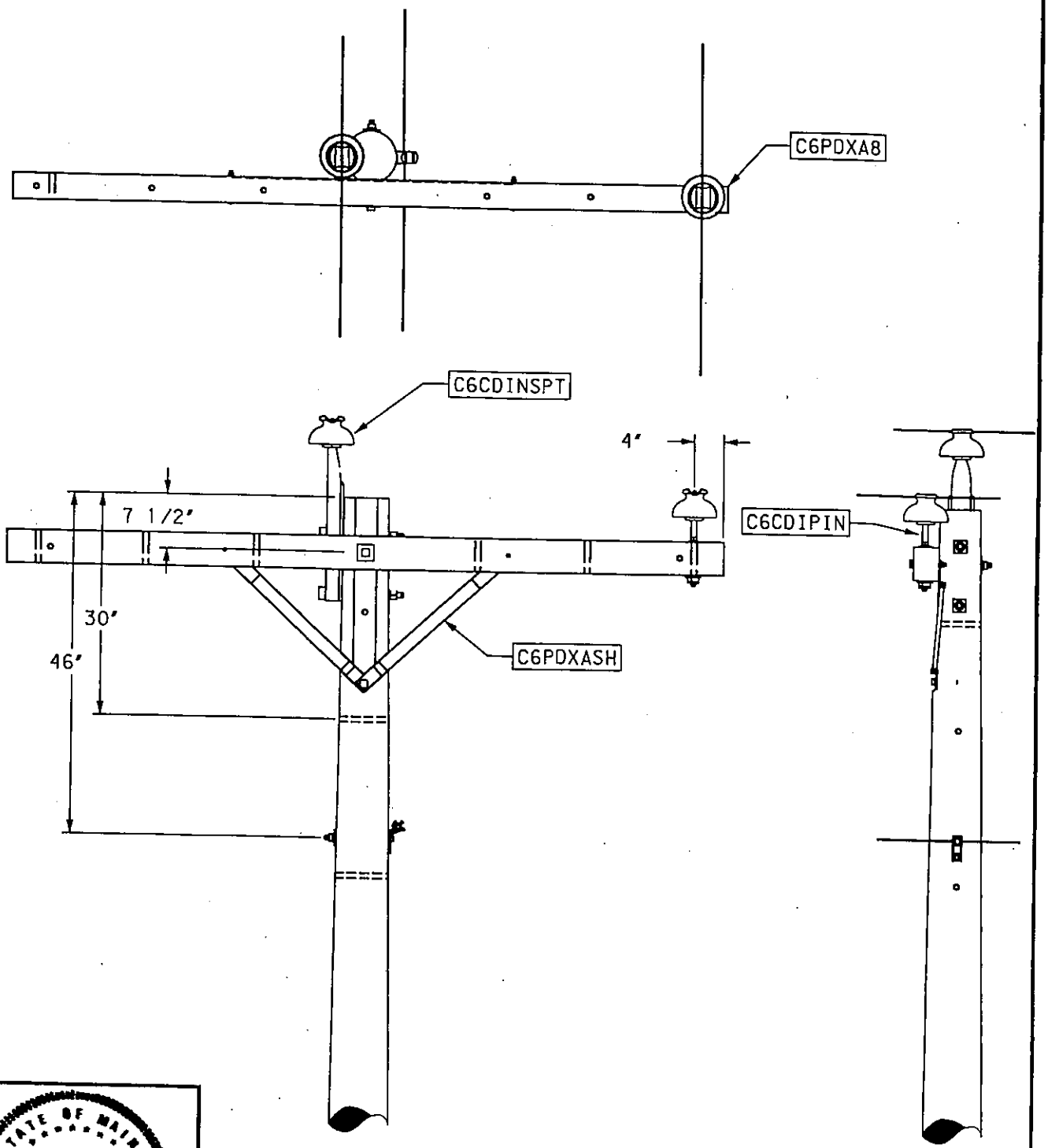
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6COINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6COIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6PDXA8	1		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6POXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC2SXO-6	2PH SINGLE XARM 0-6 FT. CORNER	312-1B

0 - 6 Ft. Corner at 2000# line tension
0 - 5 Ft. Corner at 3000# line tension



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/14/05	

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRC
DATE	2/2/94

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STATE OF MAINE
GARY A. RICCI
#4737
PROFESSIONAL ENGINEER

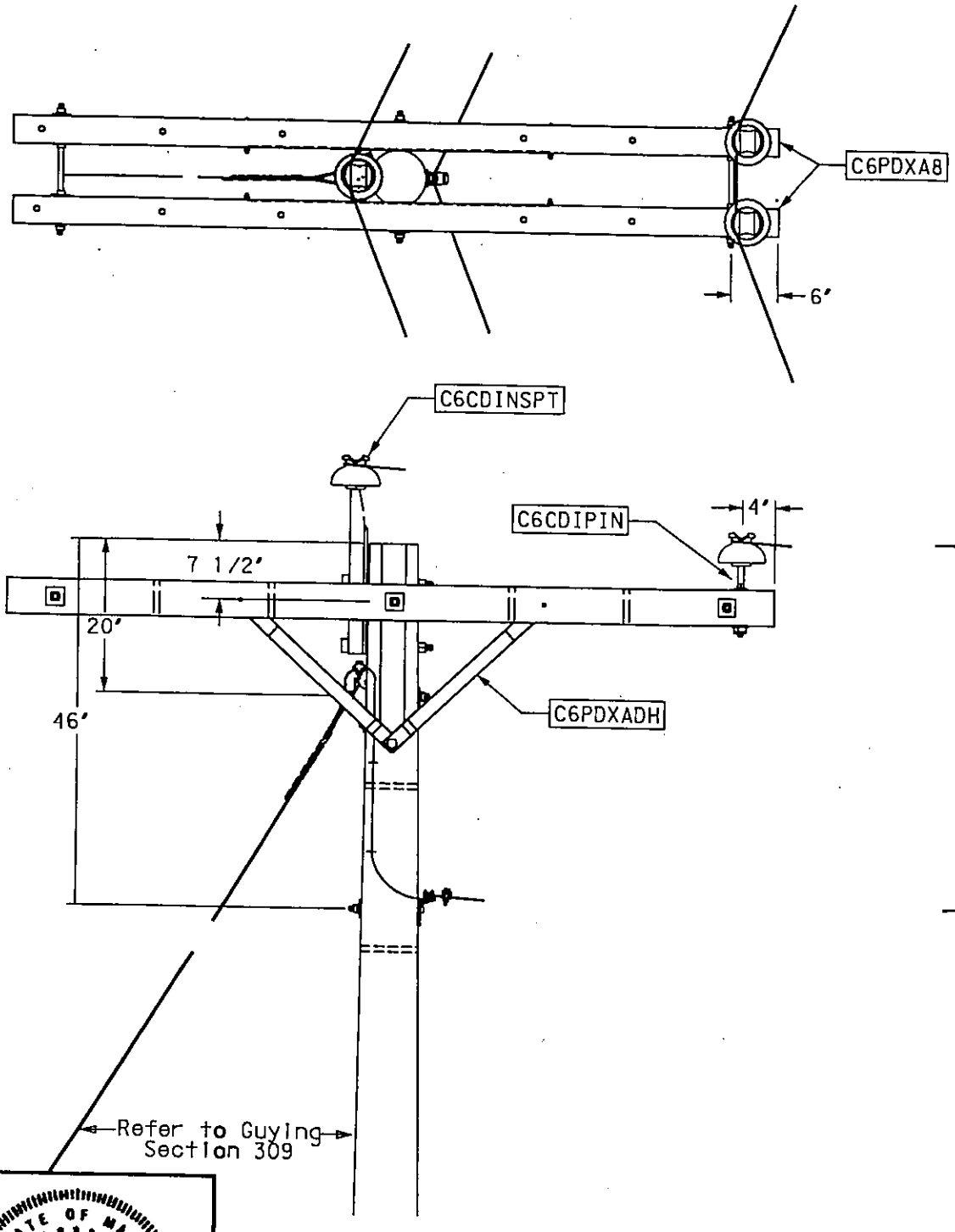
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Mutl*		*Description*	*Material ID*
C6CDINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6COIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC2DX6-25	2 PH DOUBLE XARM 6 - 25 FT. CORNER	312-2B

6 - 25 Ft. Corner at 2000# line tension
6 - 15 Ft. Corner at 3000# line tension



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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/01/01	01/05/06	

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	2/2/94

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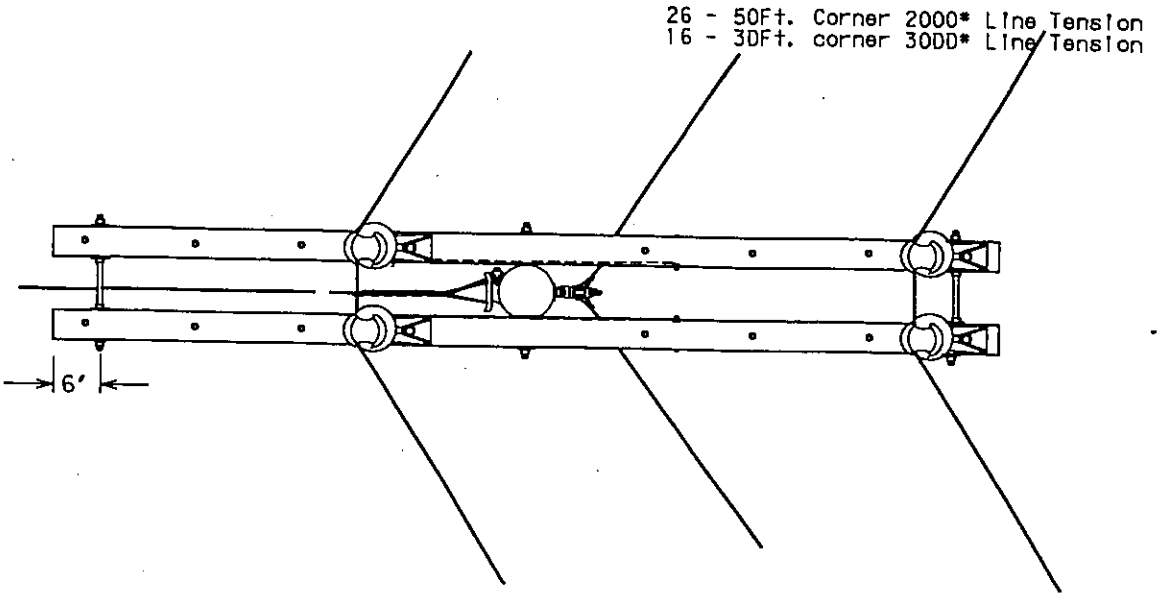
STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

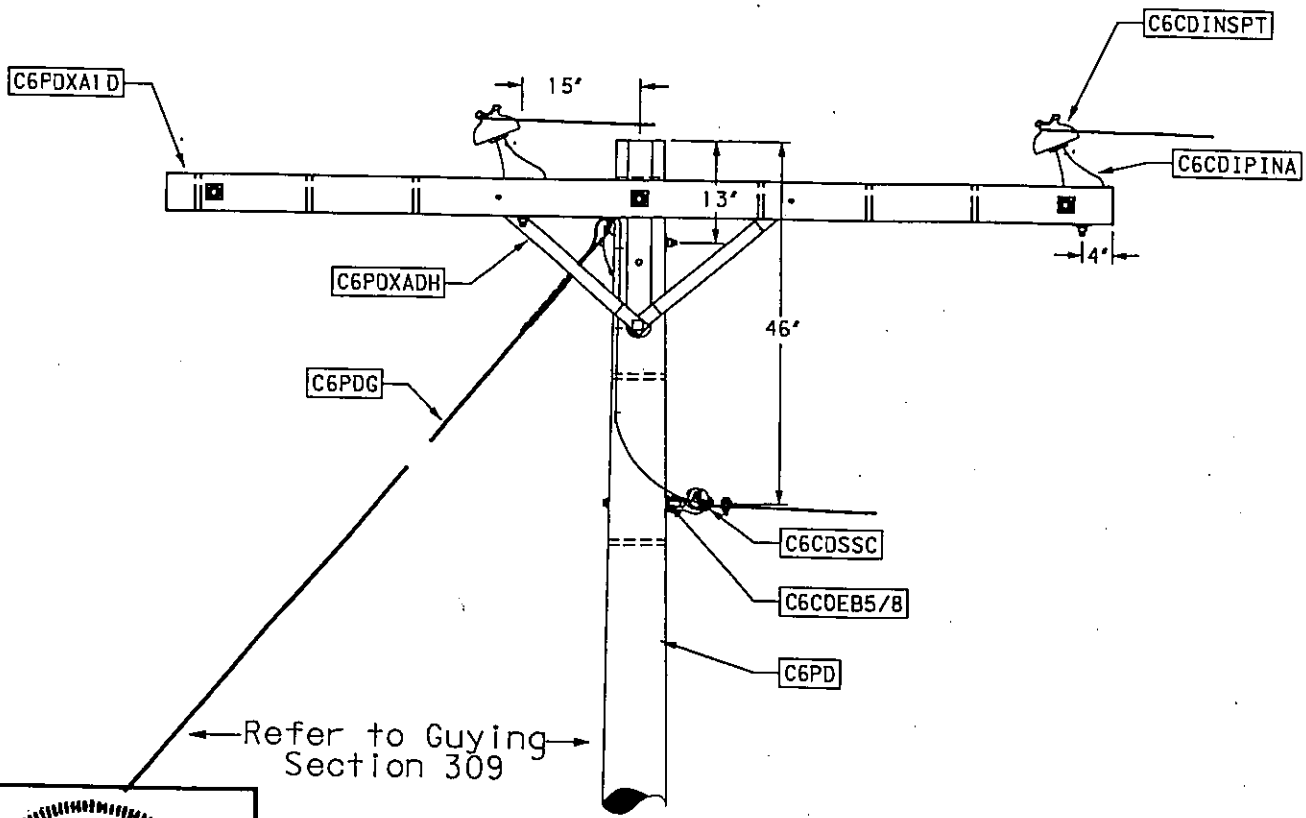
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDINSPT	4		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPINA	4		INSULATOR PIN ANGLE BRACKET 1INCH	
		1	PIN ANGLE BRACKET 1 IN	6000273B74
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WSHFLTGALVSO2 1/4X3/16	6000274810
		1	BOLT 5/8" X 7" MACH GALV W/ NUT	703061
C6CDSSC	1		SEMI STRAIN CLAMP	
		1	SEMI STRAIN CLAMP ALUM OR GALV. STEEL	60001113XX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA10	2		XARM, BPINB, 10 FT	
		1	XARM B PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC2DX26-50	2 PH DOUBLE ARM ANGLE PIN TO 50 FT CORNER	312-3B





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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/05/01	12/29/05	

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DESIGNED	JEC
DRAWN	GRG
DATE	10/10/95

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STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

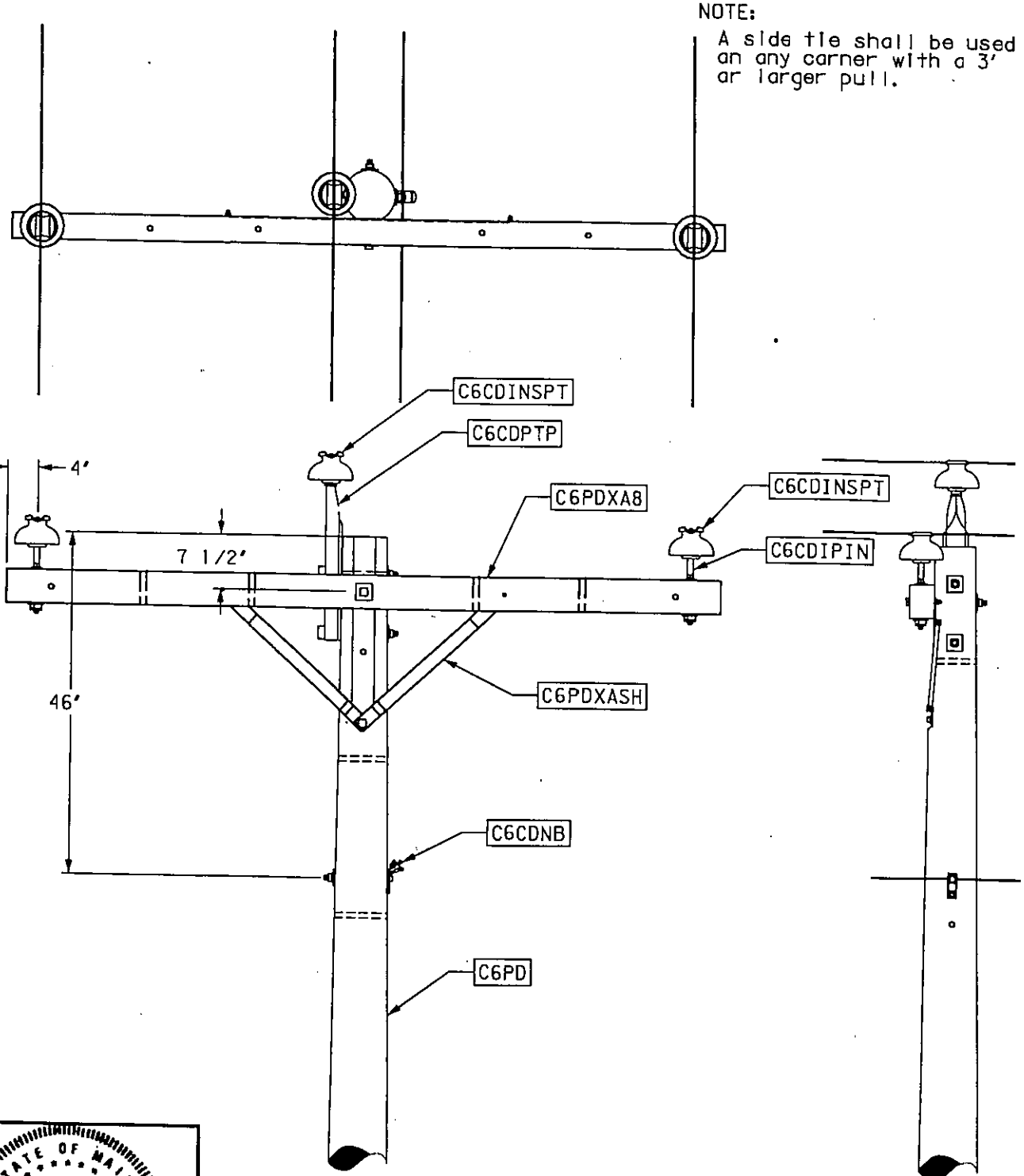
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Mat*		*Descriptian*	*Material ID*
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6COIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PO	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXA8	1		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3SX	3 PH SINGLE XARM FOR UP TO 6FT. CORNER	313-1B

0-6 FT. CORNER AT 2000# LINE TENSION
0-5 FT. CORNER AT 3000# LINE TENSION

NOTE:
A side tie shall be used on any corner with a 3' or larger pull.



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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/19/05	

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DESIGNED	GRG
DRAWN	
DATE	4/9/93

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

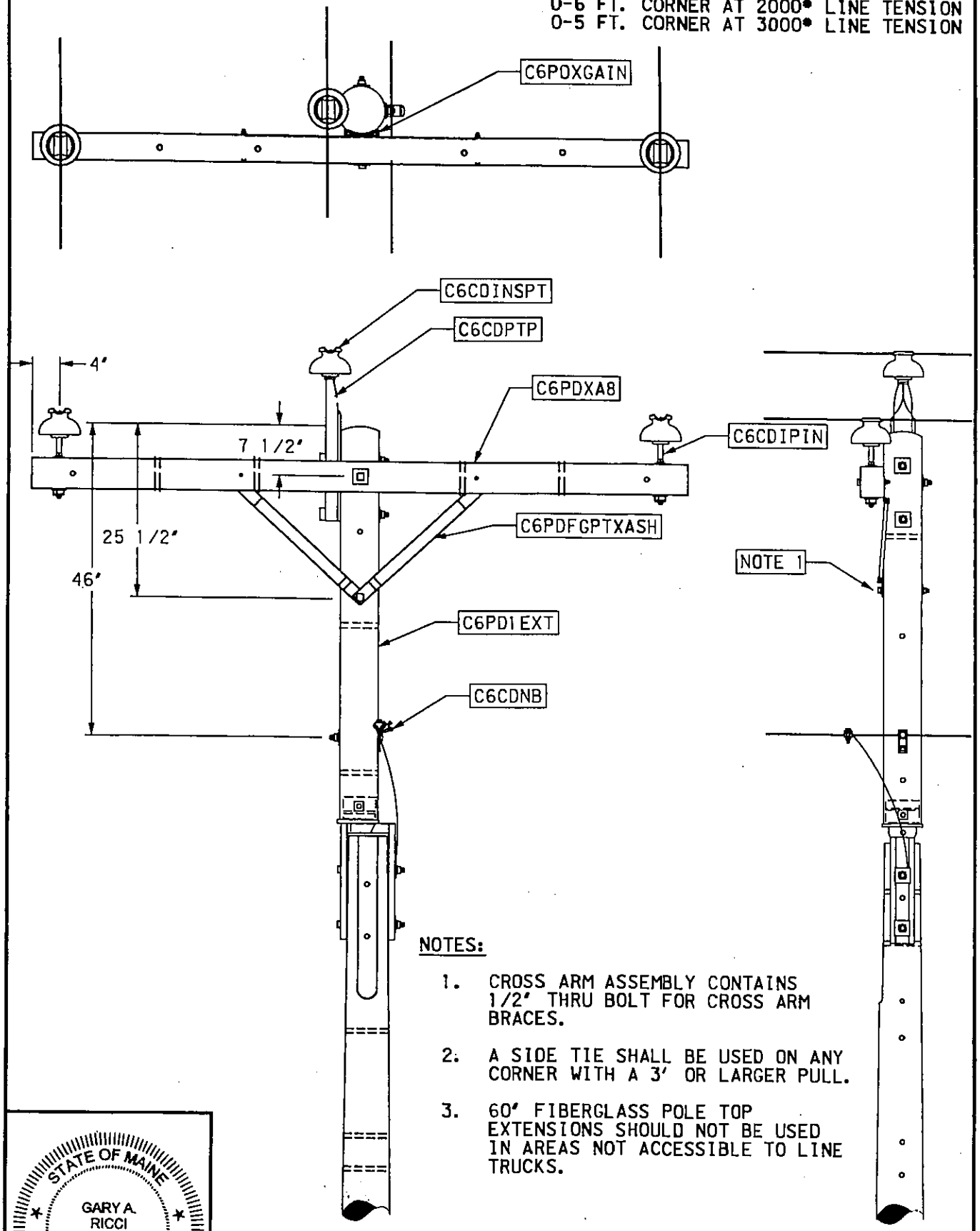
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PD1EXT	1		POLETOP FIBERGLASS EXTENSION, 60 IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP EXT 60IN FIBER	6000274218
		2	WSH 2 TURN SPR GALV 5/8	6000274600
C6PDFGPTXASH	1		FG POLE TOP EXT XARM SINGLE,HRDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 1/2 IN. ALL LENGHTS	600027205X
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	BRACE XARM 28 IN	6000272670
		1	GAIN XARM 8 FT.	6000273185
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		4	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PDXA8	1		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510

MACRO	DESCRIPTION	PAGE
C6MP3PTEO-6	3 PH POLE TOP EXTENSION F/G SINGLE ARM	313-2B

0-6 FT. CORNER AT 2000# LINE TENSION
0-5 FT. CORNER AT 3000# LINE TENSION



NOTES:

1. CROSS ARM ASSEMBLY CONTAINS 1/2' THRU BOLT FOR CROSS ARM BRACES.
2. A SIDE TIE SHALL BE USED ON ANY CORNER WITH A 3' OR LARGER PULL.
3. 60' FIBERGLASS POLE TOP EXTENSIONS SHOULD NOT BE USED IN AREAS NOT ACCESSIBLE TO LINE TRUCKS.

NO.	REVISION	DATE	CK.
1	Added note 3		

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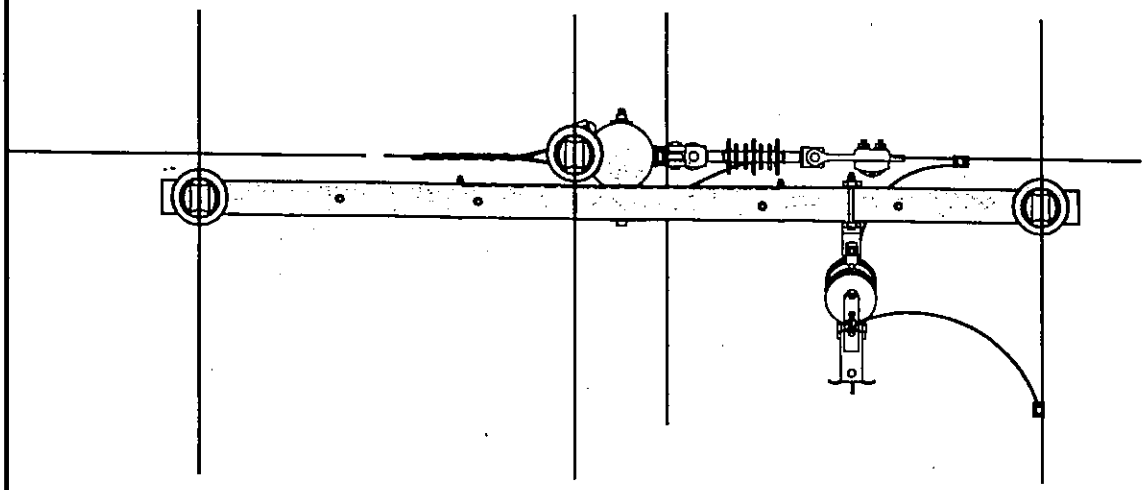
STATE OF MAINE
GARY A. RICCI
No. 4737
LICENSED PROFESSIONAL ENGINEER
3/24/08

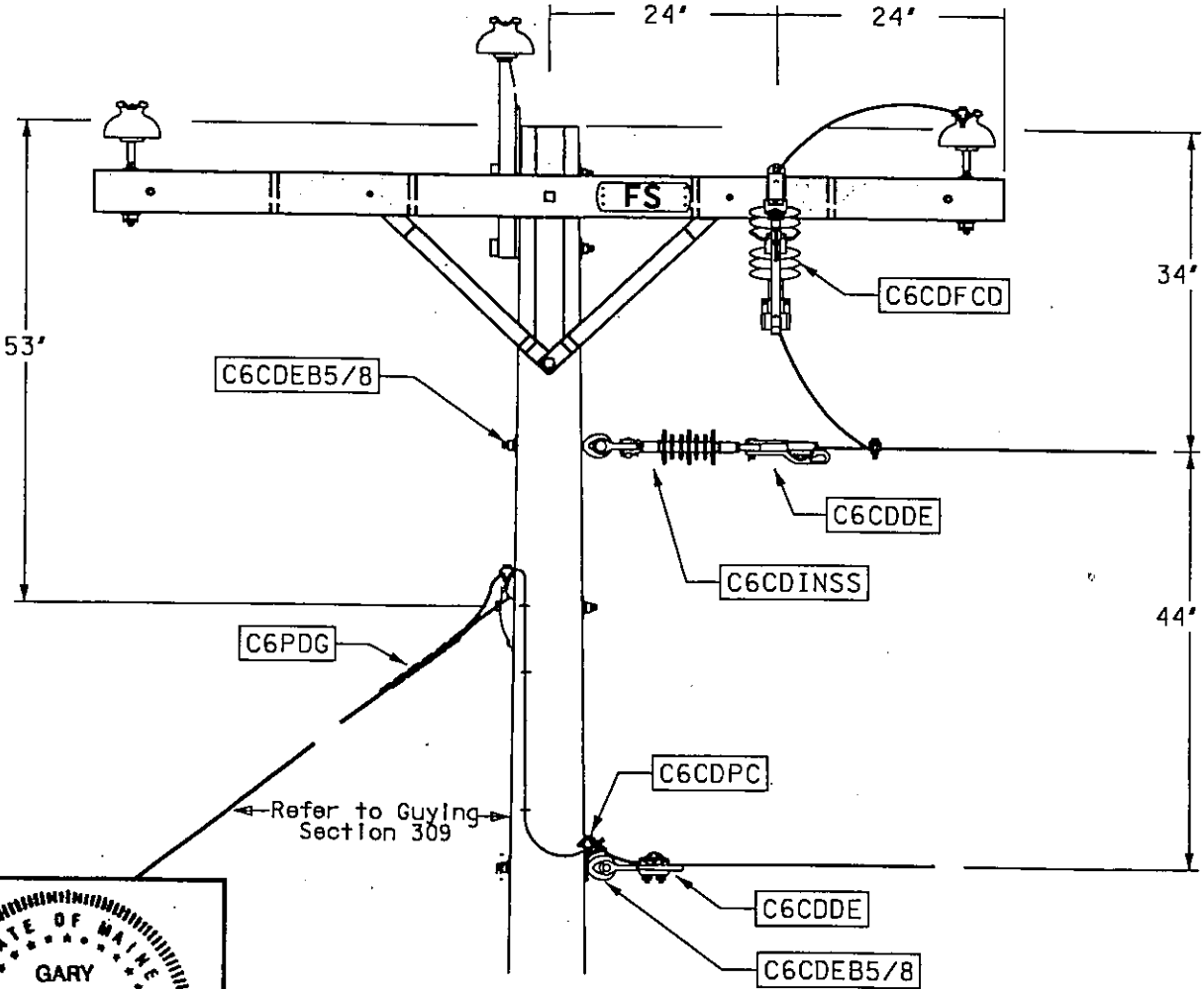
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDLAMB	1		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDPC	1		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC31 TFSX	1 PH TAP FROM 3 PH XARM STRUCTURE	313-3B





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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/19/05	

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DESIGNED	GRG
DRAWN	
DATE	4/9/93

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	2		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	2		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	2		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDLAMB	2		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDPC	2		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX

MACRO	DESCRIPTION	PAGE
C6MC32TFSX	TWO 1 PH TAPS FROM 3 PH XARM STRUCTURE	313-4B

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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/19/05	

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DRAWN	
DATE	6/16/93

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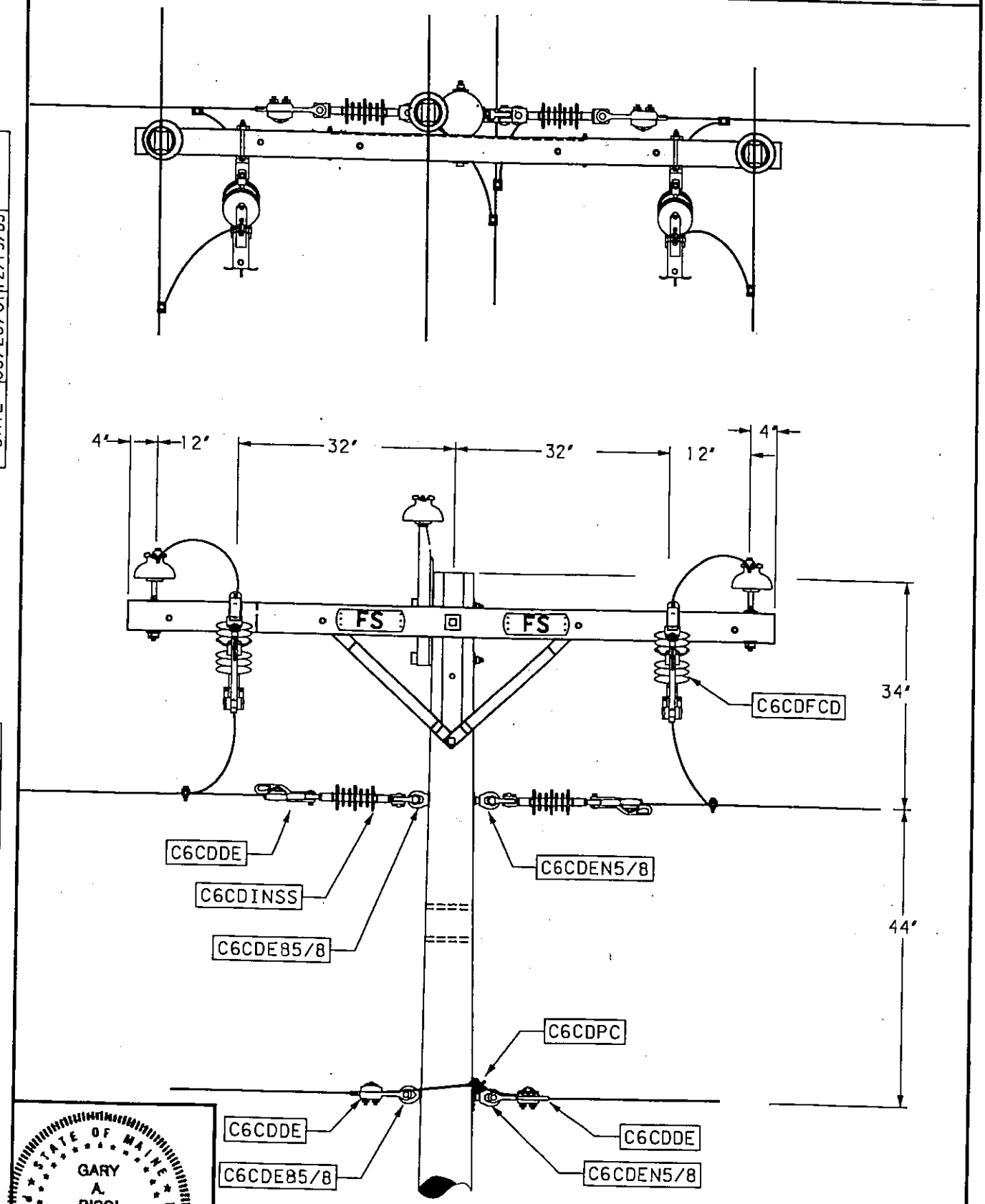


STATE OF MAINE
GARY A. RICCI #4737
PROFESSIONAL ENGINEER

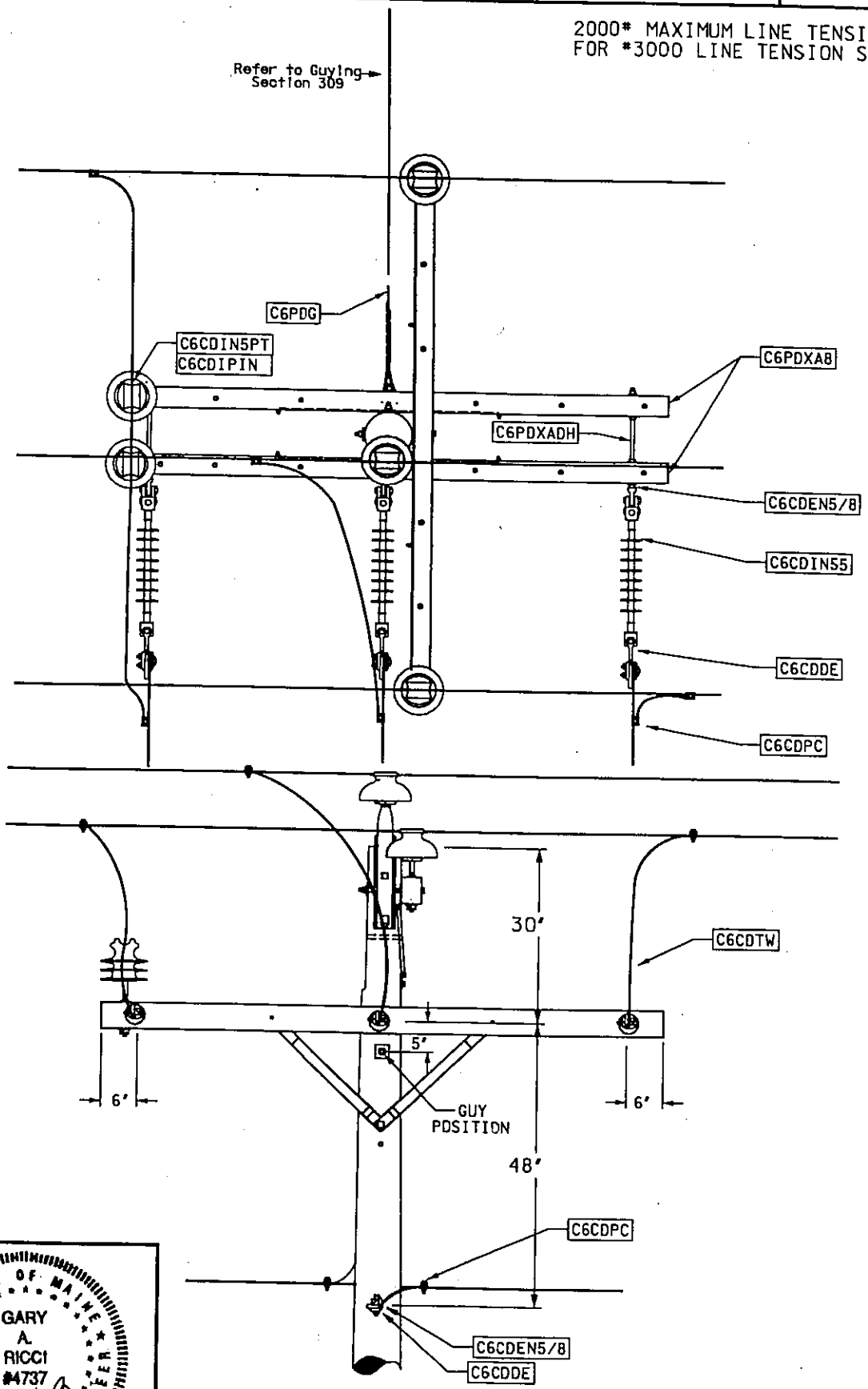
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEN5/8	4		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	8		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6COTW	20		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DXTNF	3 PH DOUBLE XARM TAP N/FUSED	313-5B

2000# MAXIMUM LINE TENSION
FOR #3000 LINE TENSION SEE 313-7B



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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	12/19/05	

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	7/13/93

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

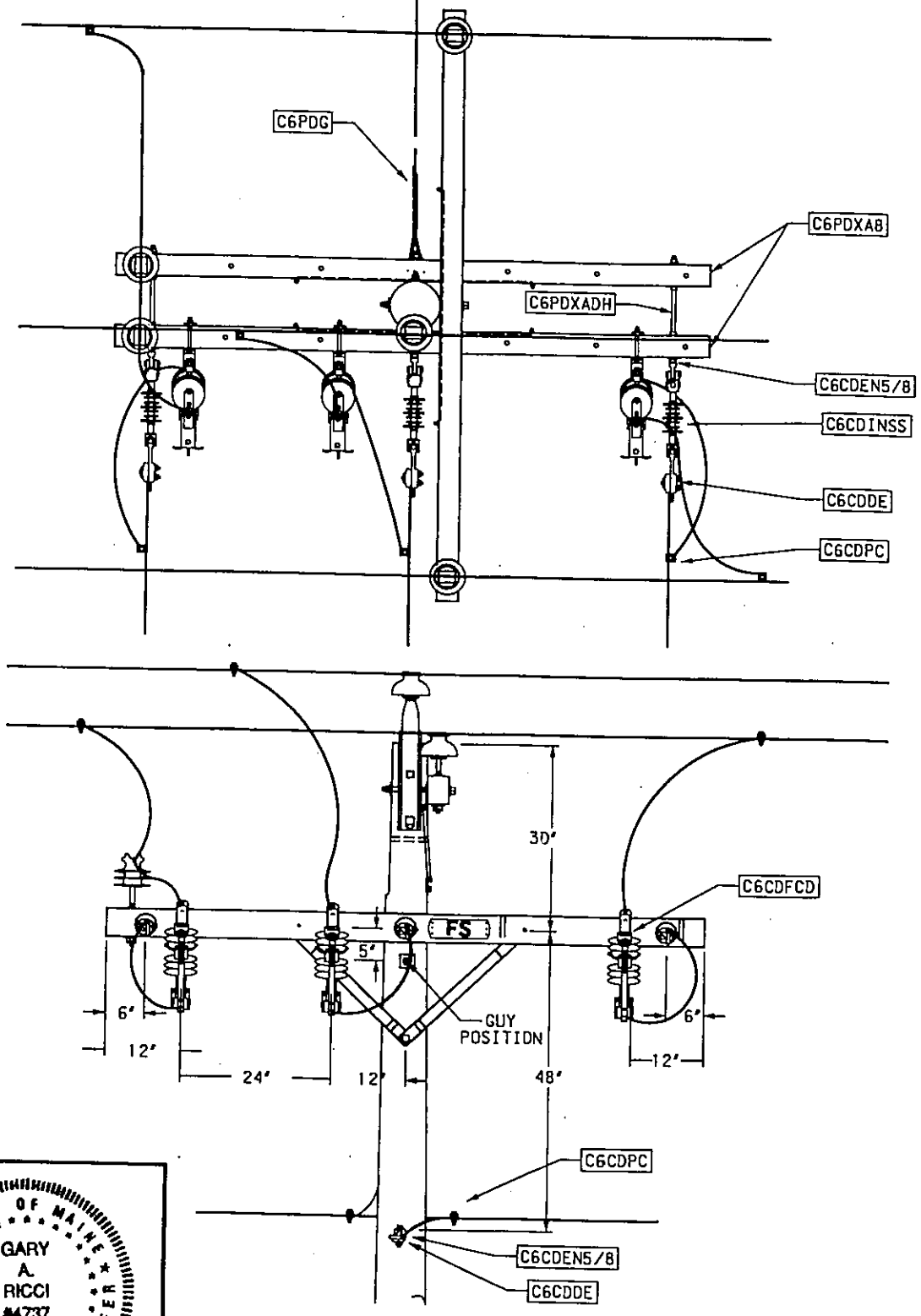
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEN5/8	4		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	3		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDLAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDPC	2		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DXTF12	3 PH DOUBLE XARM TAP FUSED FROM 12KV	313-6B

2000* MAXIMUM LINE TENSION
3000* LINE TENSION SEE 313-7B



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	01/05/06	

EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/16/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

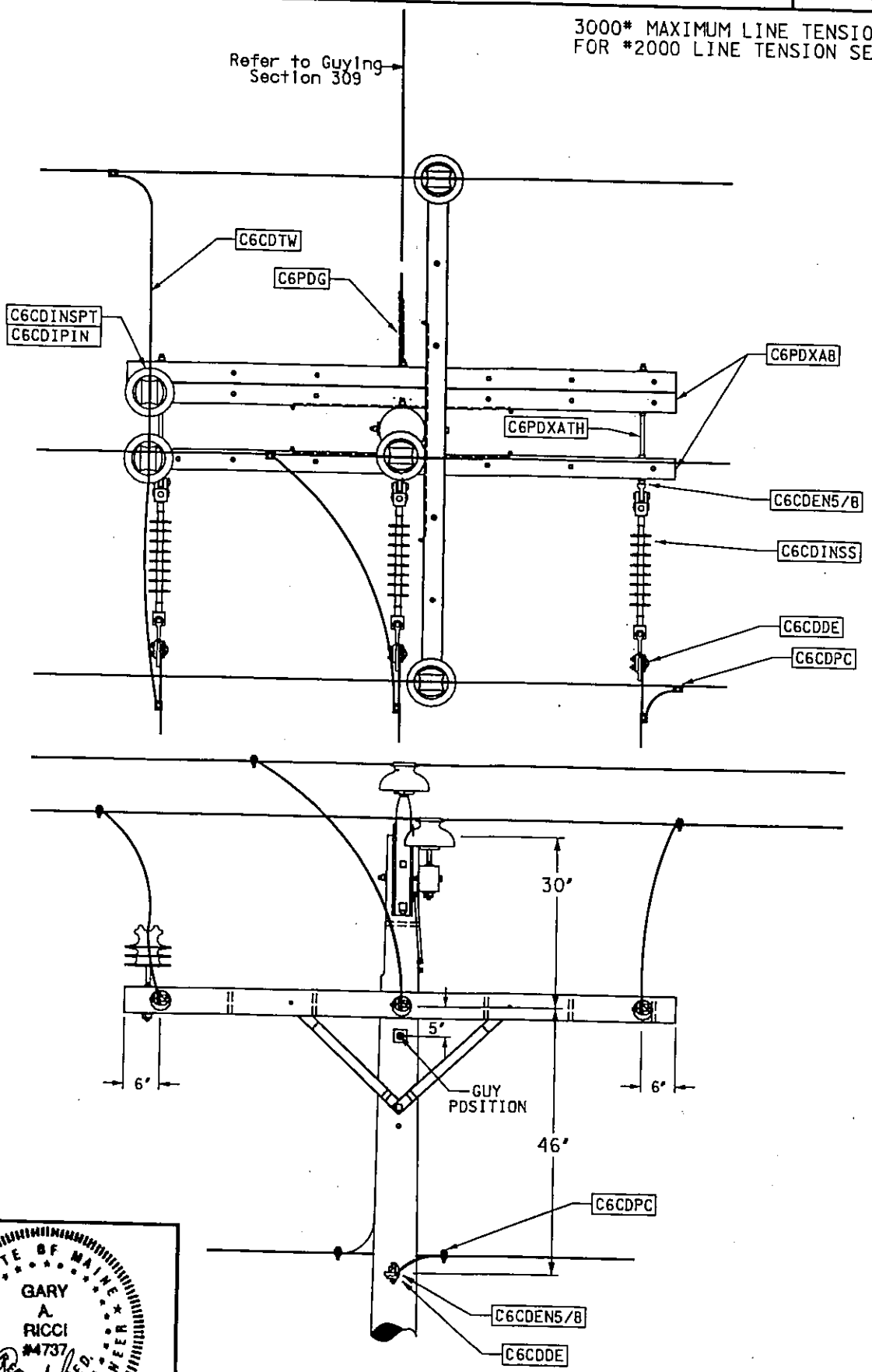
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEN5/8	4		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	8		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTW	20		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	3		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXATH	1		XARM, TRIPLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		13	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3TXTNF	3 PH TRIPLE XARM TAP N/FUSED	313-7B

3000* MAXIMUM LINE TENSION
FOR *2000 LINE TENSION SEE 313-5B



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	12/29/05	

EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	7/16/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

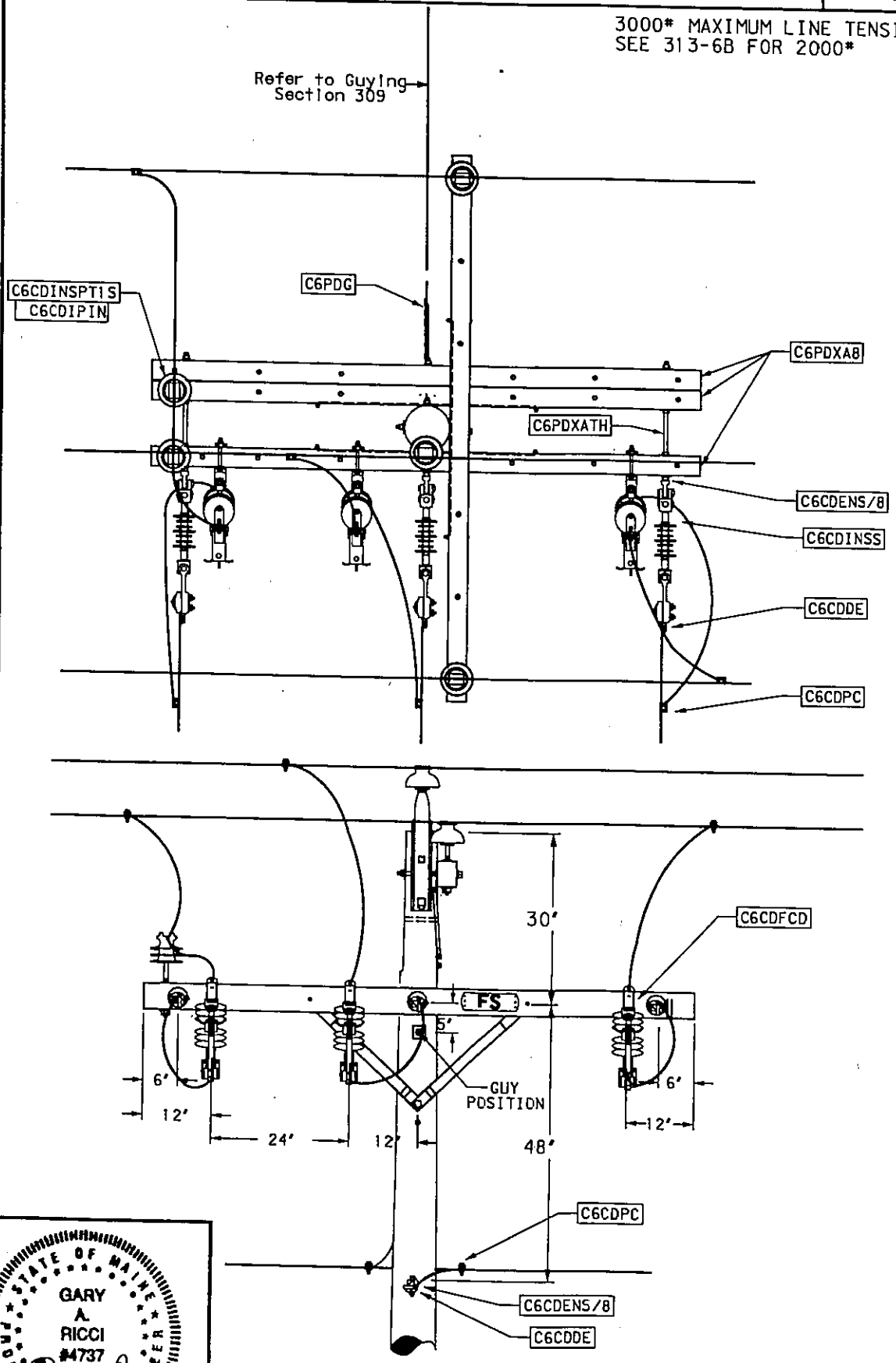
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Matl		Description	Material ID
C6CODE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEN5/8	4		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	3		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDLAMB	3		XARM MOUNTING BRACKET	
		1	BKT,EQUIP MTG CROSSARM	6000620100
C6CDPC	2		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	3		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXATH	1		XARM, TRIPLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		13	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3TXTF12	3 PH TRIPLE XARM TAP FUSED FROM 12KV	313-8B

3000* MAXIMUM LINE TENSION
SEE 313-6B FOR 2000*



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	12/29/05	

EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	6/25/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
GARY A. RICCI #4737
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

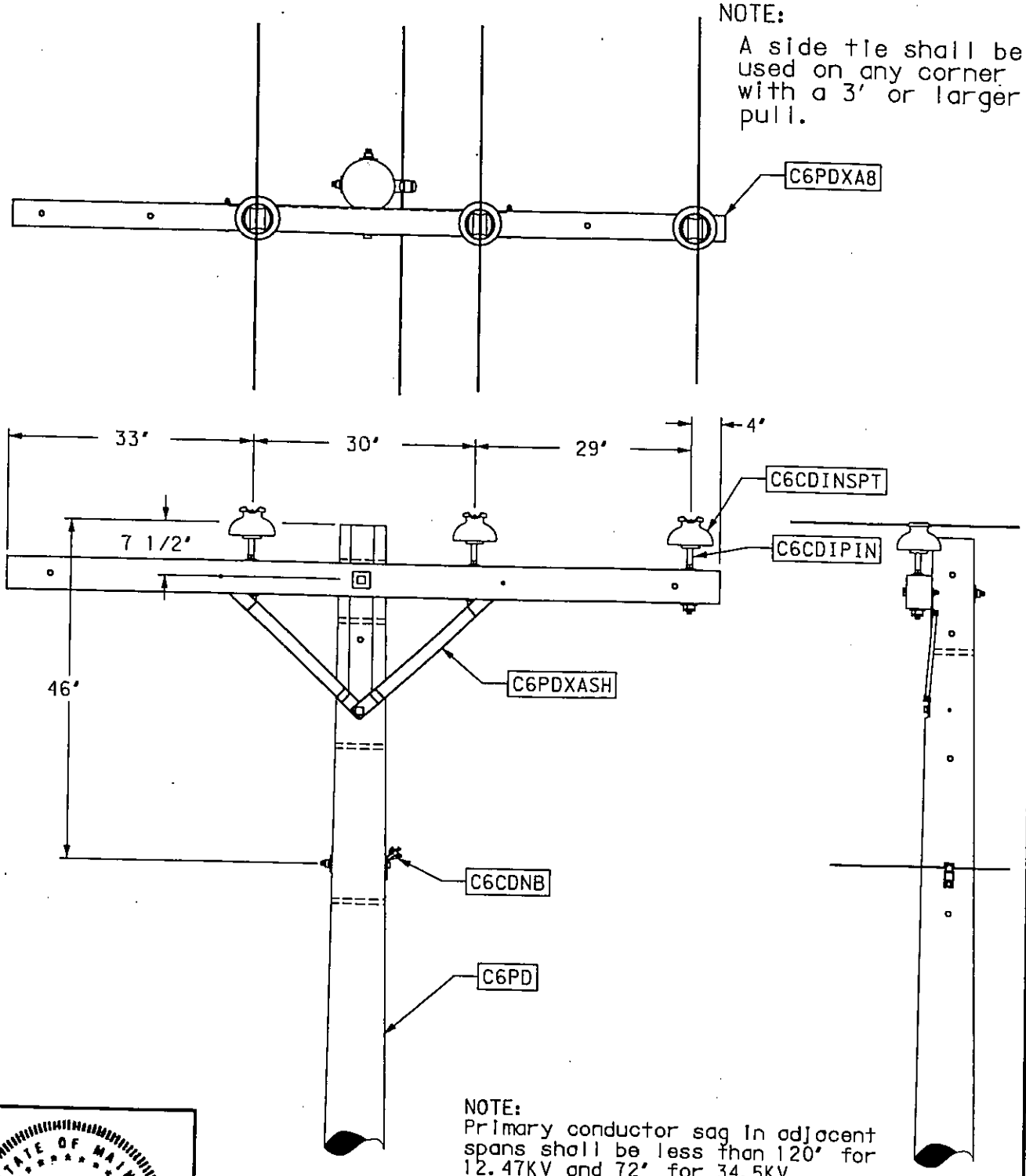
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	3		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXA8	1		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3SXO	3 PH SINGLE XARM OFFSET STRUCTURE	313-9B

Not to exceed 6 Ft. Corner at 2000# line tension
Not to exceed 5 Ft. Corner at 3000# line tension

NOTE:
A side tie shall be used on any corner with a 3' or larger pull.



NOTE:
Primary conductor sag in adjacent spans shall be less than 120' for 12.47KV and 72' for 34.5KV.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/05/01	12/19/05	

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/17/93

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXAAB	2		XARM, ALLEY, BRACE WOOD (BRACE ONLY)	
		1	BRACE ALLEY WD 8FT 3IN	6000272630
C6PDXAADH	1		XARM, ALLEY, DOUBLE, HARDWARE ONLY	
		3	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		8	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		6	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3AA	3PH ALLEY ARM STRUCTURE	313-10B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/05/01	03/14/06	

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	3/4/93

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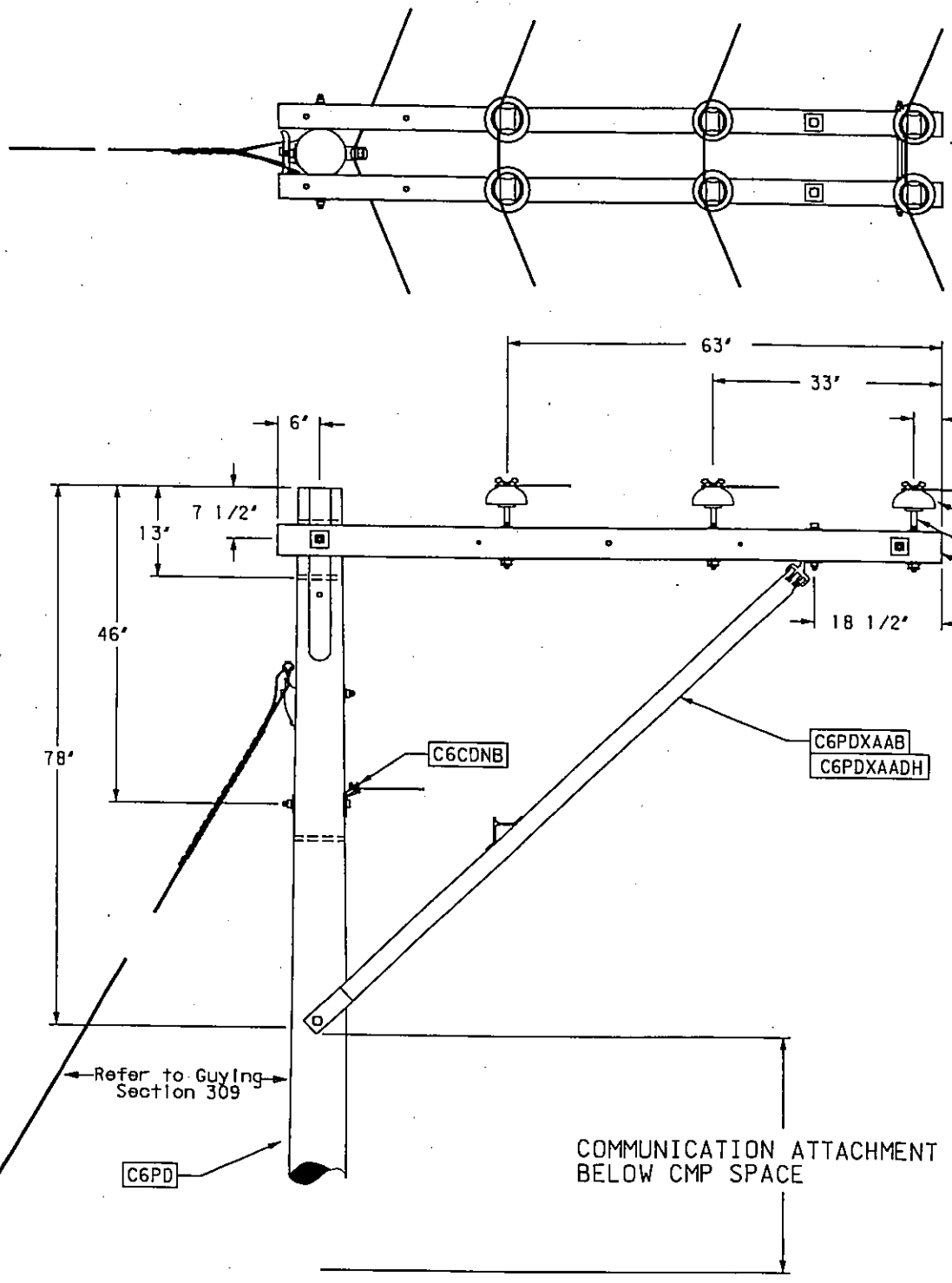
THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

Up to 15 Ft. Corner at 2000* line tension



NOTE:
Primary conductor sag in adjacent spans shall be less than 120' for 12.47KV and 72' for 34.5KV.

STATE OF MAINE
11/14/06
REGISTERED PROFESSIONAL ENGINEER

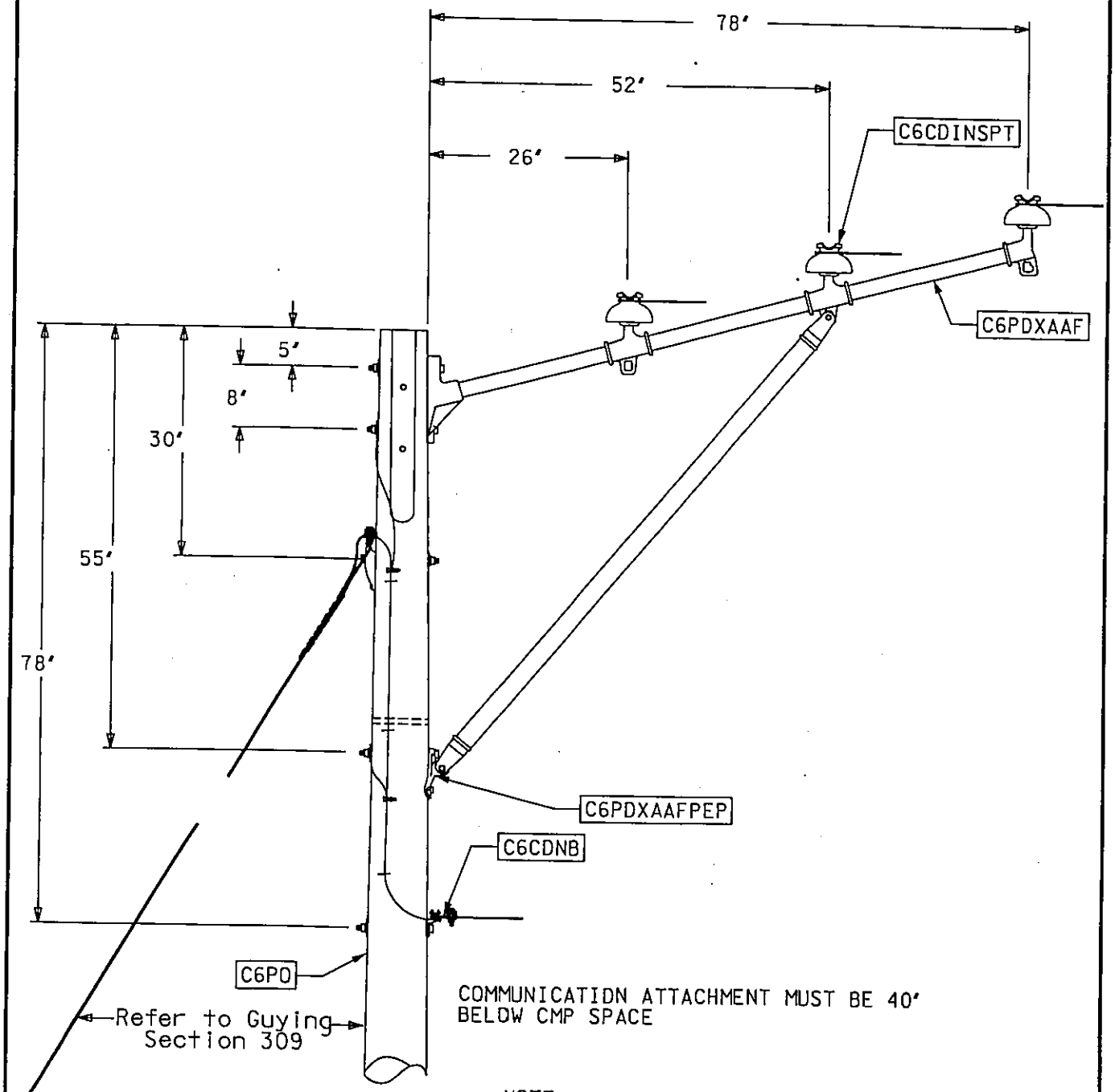
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXAAF	1		XARM, ALLEY, 3PH FIBERGLASS WITH BRACE	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	BRACKET, ALLEY ARM, 3 PH FIBERGLASS	6000272700
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PDXAAFPEP	1		FIBERGLASS ALLEY BRACE POLE EYE PLATE	
		1	PLATE GUY ATT FG INS	6000251800
		1	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
		2	B LAG GALV FET 1/2 X 4	6000272540
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER 3"X 4" CURVED FOR 3/4" BOLT	6000274850

MACRO	DESCRIPTION	PAGE
C6MC3AAF-15	3 PH FIBERGLASS ALLEY ARM STRUCTURE UP TO 15FT CORNER	313-11B

up to 15ft. corner 2000* line tension



COMMUNICATION ATTACHMENT MUST BE 40' BELOW CMP SPACE

NOTE:
Primary conductor sag in adjacent spans shall be less than 96' for 12.47KV and 48' for 34.5KV.

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	3/17/94	09/05/01	10/18/06

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	2/22/93

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THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
BRENT C. BROOKS #8209 REGISTERED PROFESSIONAL ENGINEER
11/13/2006

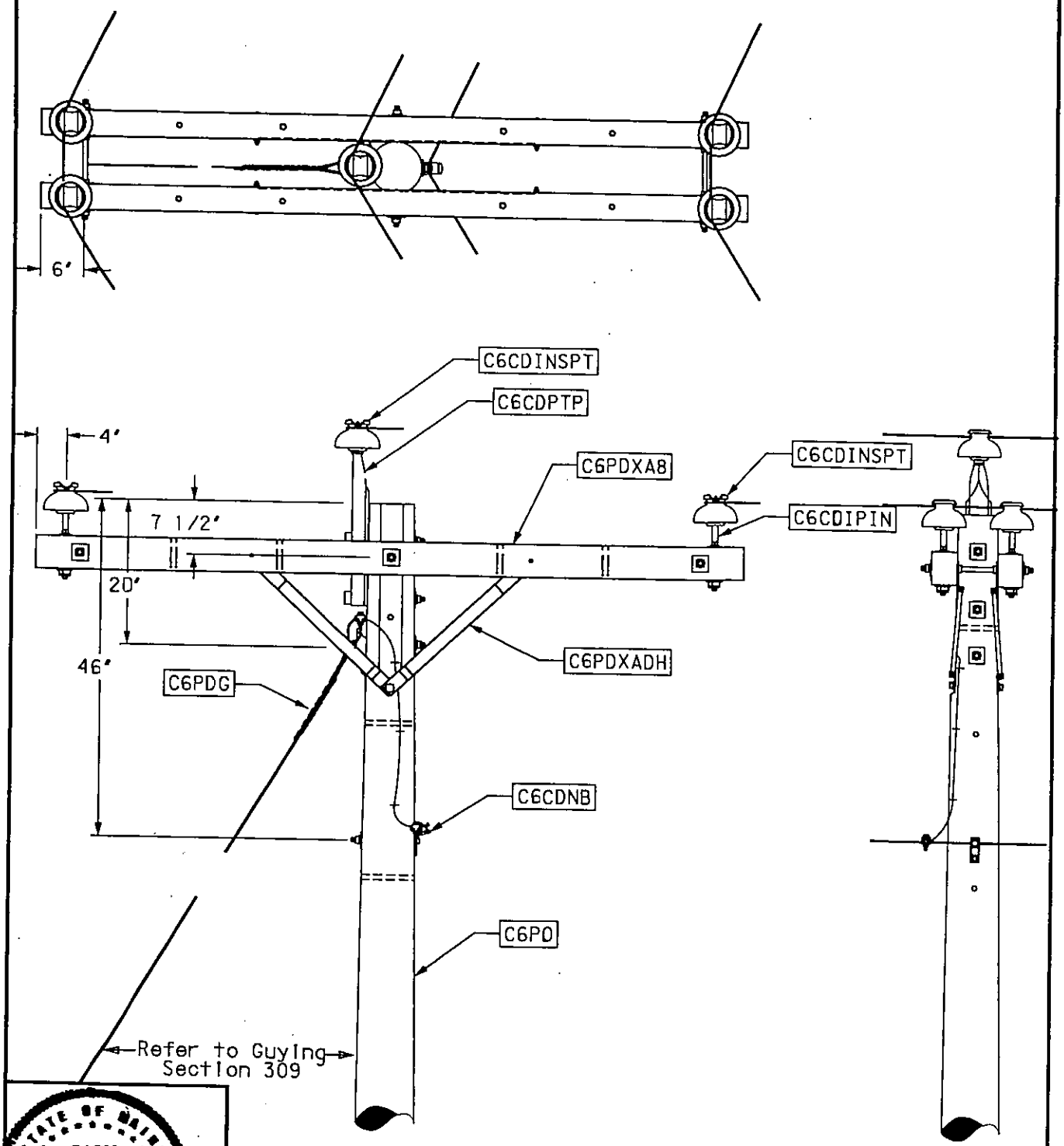
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	5		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	4		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DX6-25	3 PH DOUBLE XARM UP TO 25FT. CORNER	313-12B

6-25 FT. CORNER AT 2000* LINE TENSION
6-15 FT. CORNER AT 3000* LINE TENSION



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/20/05	

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/17/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

EnergyEast

STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

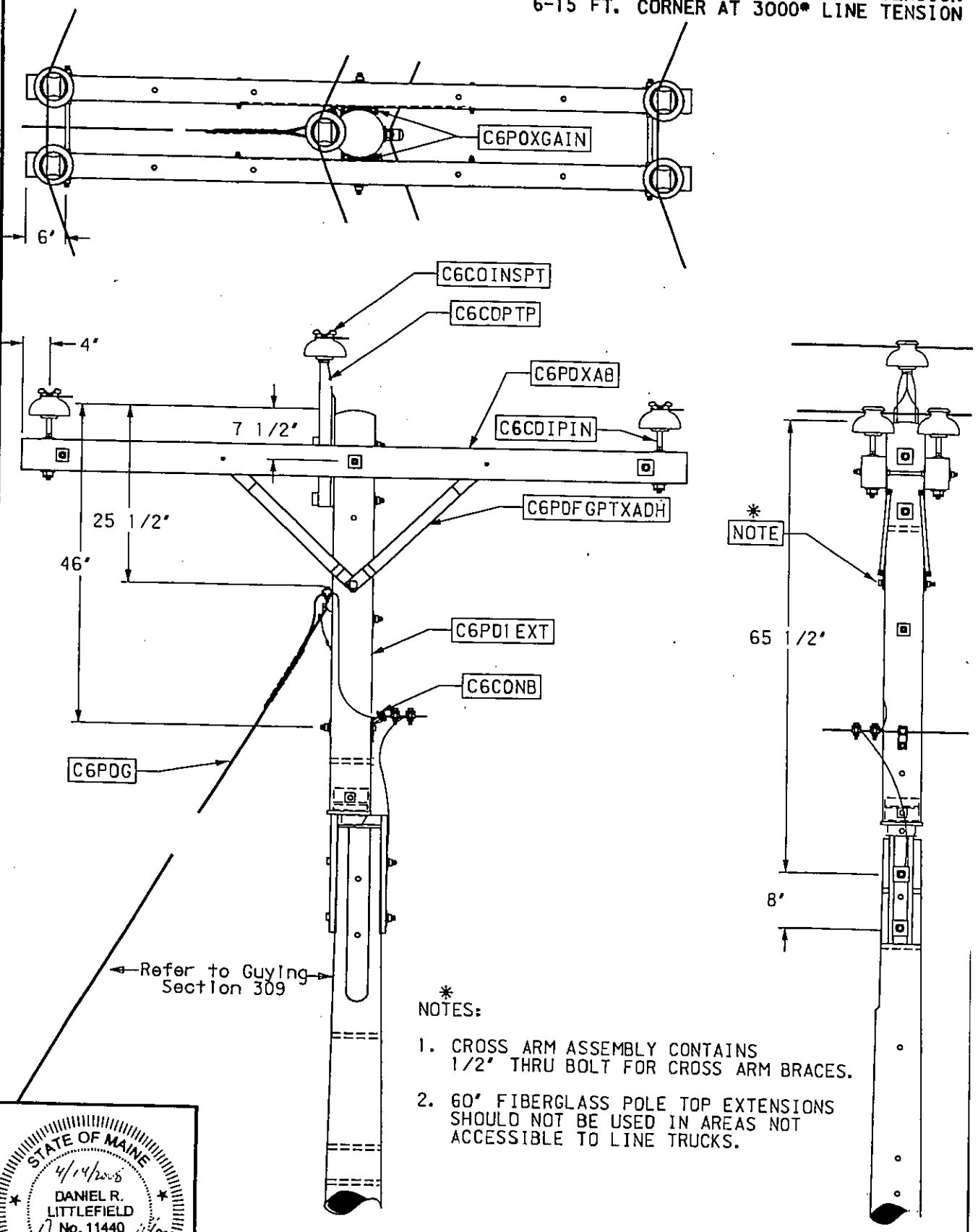
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	5		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	4		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PD1EXT	1		POLETOP FIBERGLASS EXTENSION, 60 IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP EXT 60IN FIBER	6000274218
		2	WSH 2 TURN SPR GALV 5/8	6000274600
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDFGPTXADH	1		FG POLE TOP EXT XARM DBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 1/2 IN. ALL LENGHTS	600027205X
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		4	BRACE XARM 28 IN	6000272670
		2	GAIN XARM 8 FT.	6000273185
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510

MACRO	DESCRIPTION	PAGE
C6MP3PTE6-25	3 PH POLE TOP EXTENSION F/G DOUBLE ARM	313-13B

6-25 FT. CORNER AT 2000# LINE TENSION
6-15 FT. CORNER AT 3000# LINE TENSION



NO.	REVISION	DATE	CK.
1	Added note 2 for 60' pole extension	04/14/08	MK

EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	5/28/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
4/14/2008
DANIEL R. LITTLEFIELD
No. 11440
LICENSED
PROFESSIONAL ENGINEER

NOTES:

1. CROSS ARM ASSEMBLY CONTAINS 1/2" THRU BOLT FOR CROSS ARM BRACES.
2. 60' FIBERGLASS POLE TOP EXTENSIONS SHOULD NOT BE USED IN AREAS NOT ACCESSIBLE TO LINE TRUCKS.

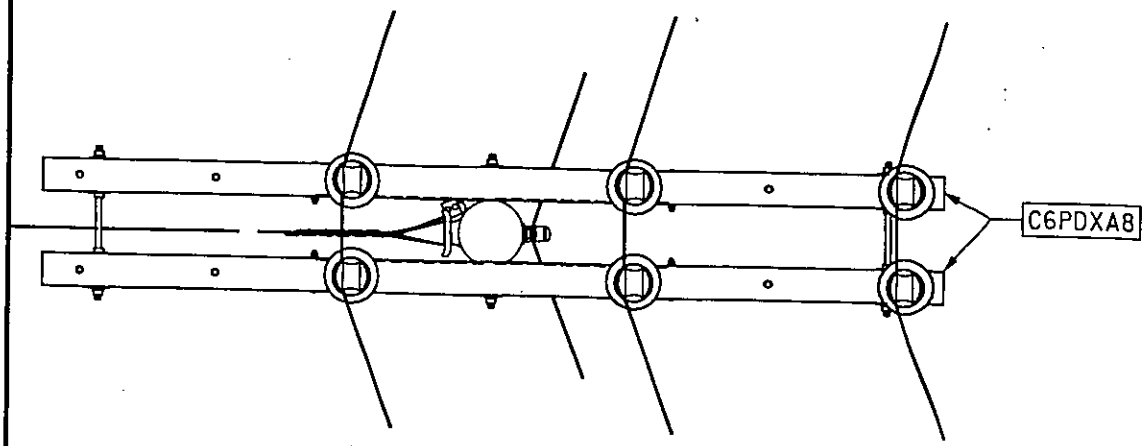
CENTRAL MAINE POWER CO.

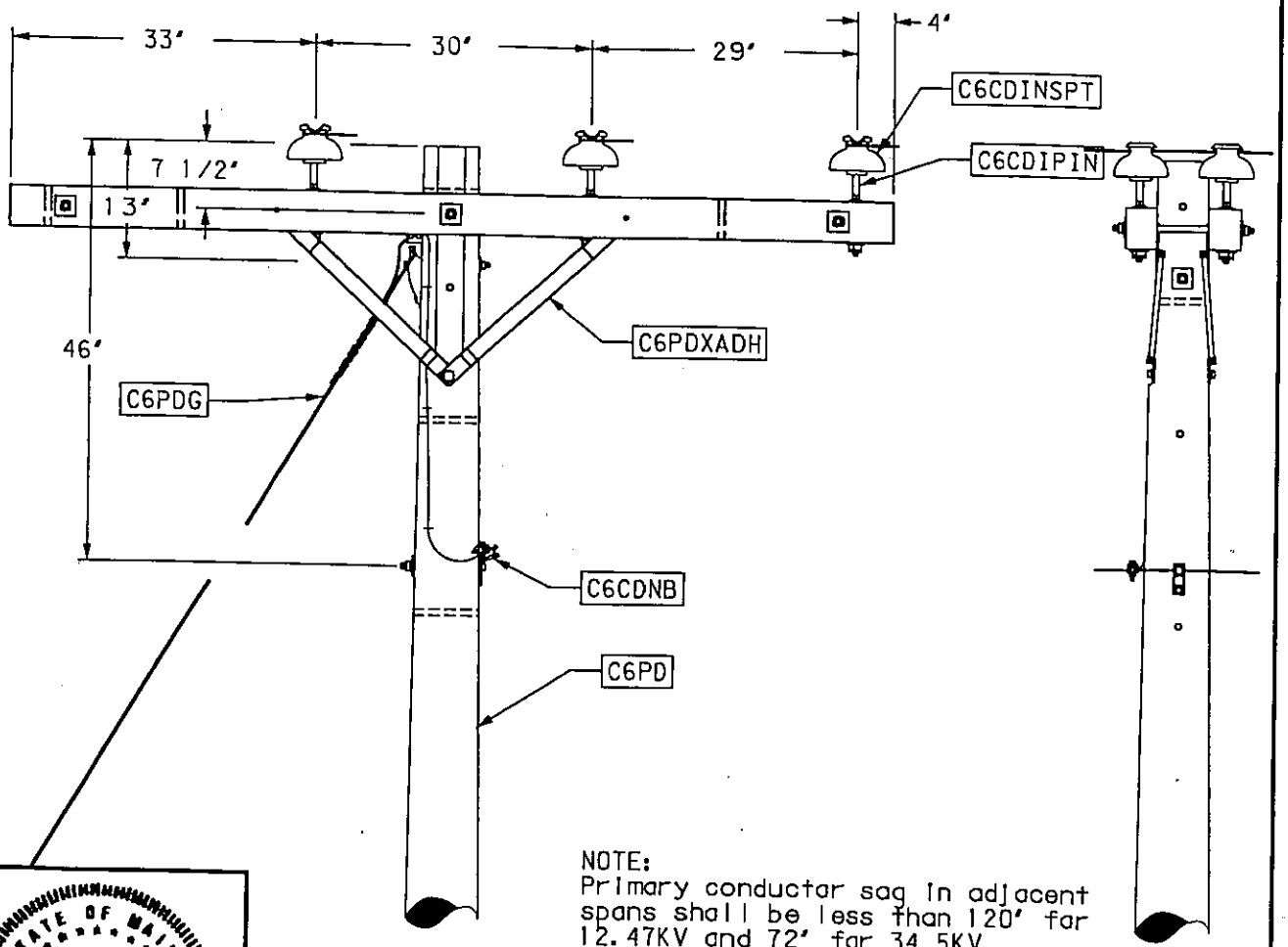
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DXO	3PH DOUBLE XARM OFFSET	313-14B

6 - 25 Ft. Corner at 2000* line tension
5 - 15 Ft. Corner at 3000* line tension





NOTE:
Primary conductor sag in adjacent spans shall be less than 120' for 12.47KV and 72' for 34.5KV.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
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DATE	2/22/93

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STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

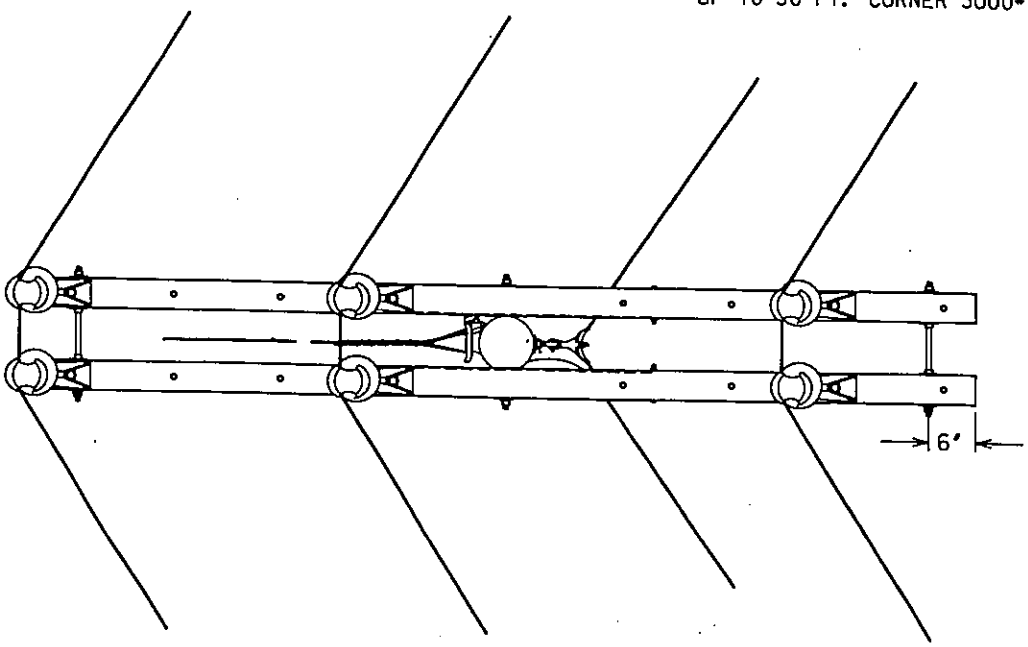
CENTRAL MAINE POWER CO.

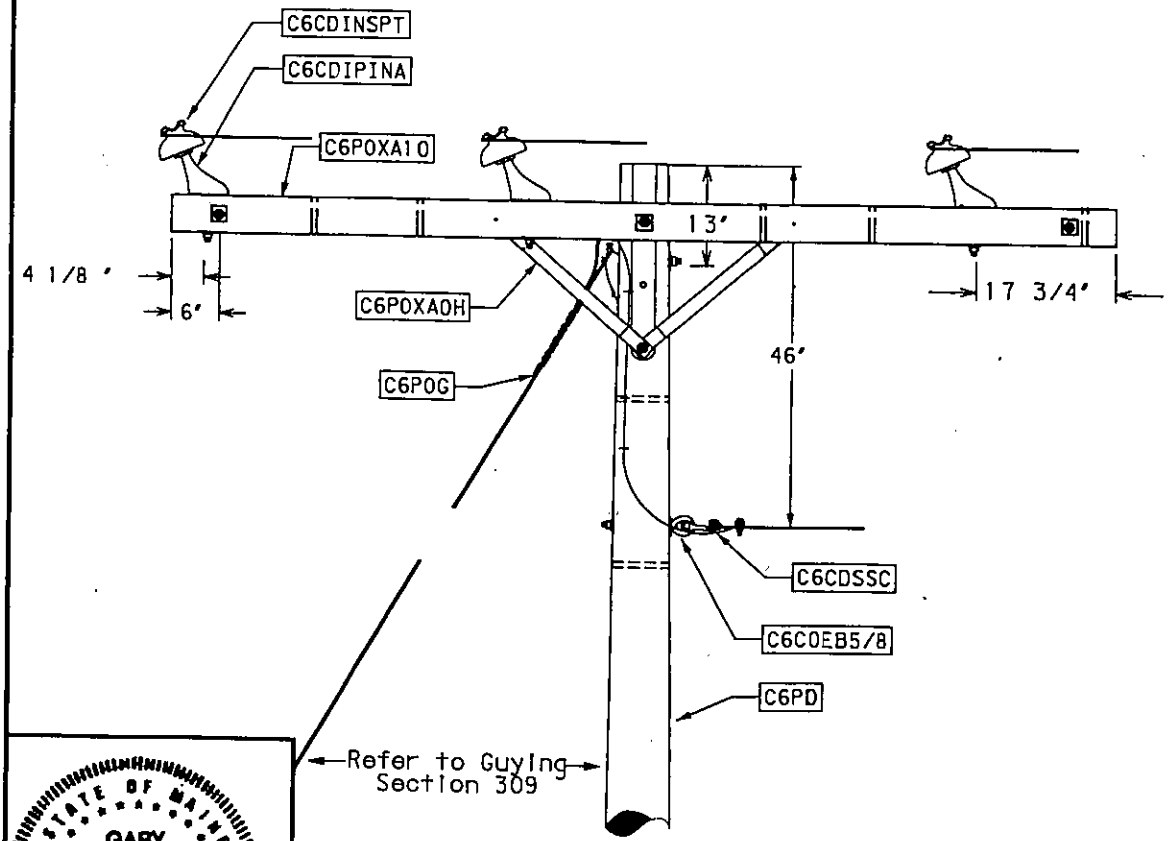
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPINA	6		INSULATOR PIN ANGLE BRACKET 1INCH	
		1	PIN ANGLE BRACKET 1 IN	6000273874
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BOLT 5/8" X 7" MACH GALV W/ NUT	703061
C6CDSSC	1		SEMI STRAIN CLAMP	
		1	SEMI STRAIN CLAMP ALUM OR GALV. STEEL	60001113XX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA10	2		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXAOH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DXAP	3 PH DOUBLE XARM ANGLE PIN	313-15B

UP TO 50 FT. CORNER 2000* LINE TENSION
UP TO 30 FT. CORNER 3000* LINE TENSION





	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	12/21/05	

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STATE OF MAINE GARY A RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	6		DEADEND CONO GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	6		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	6		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	8		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C8CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	6		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSSC	1		SEMI STRAIN CLAMP	
		1	SEMI STRAIN CLAMP ALUM OR GALV. STEEL	60001113XX
C6CDTW	30		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA10	2		XARM, 8PINB, 10 FT.	
		1	XARM 8 PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DDEA	3 PH DOUBLE DEADEND ANGLE	313-16B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
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DATE	08/23/01	12/29/05	

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DRAWN	
DATE	4/17/93

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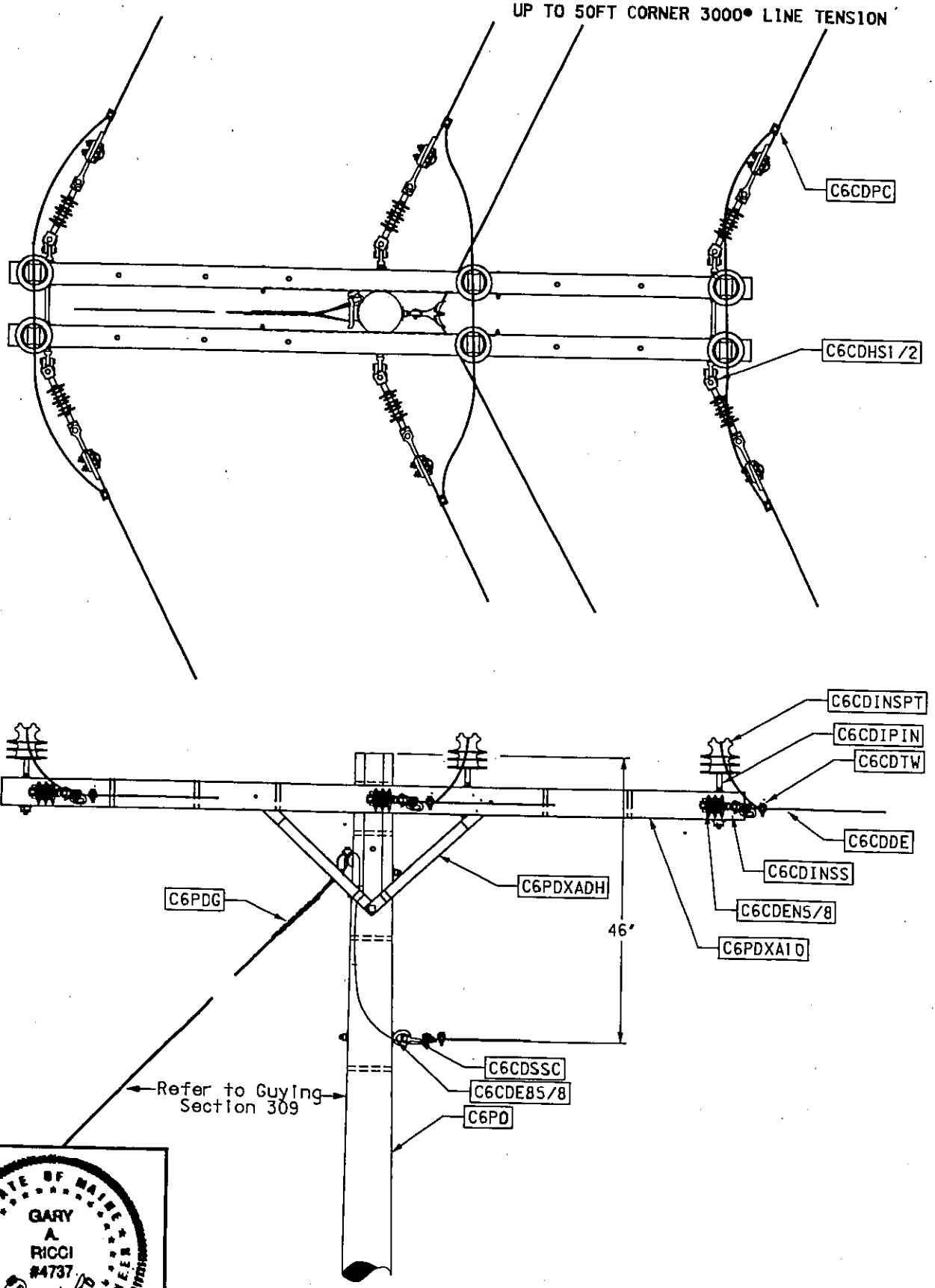


STATE OF MAINE
GARY A RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

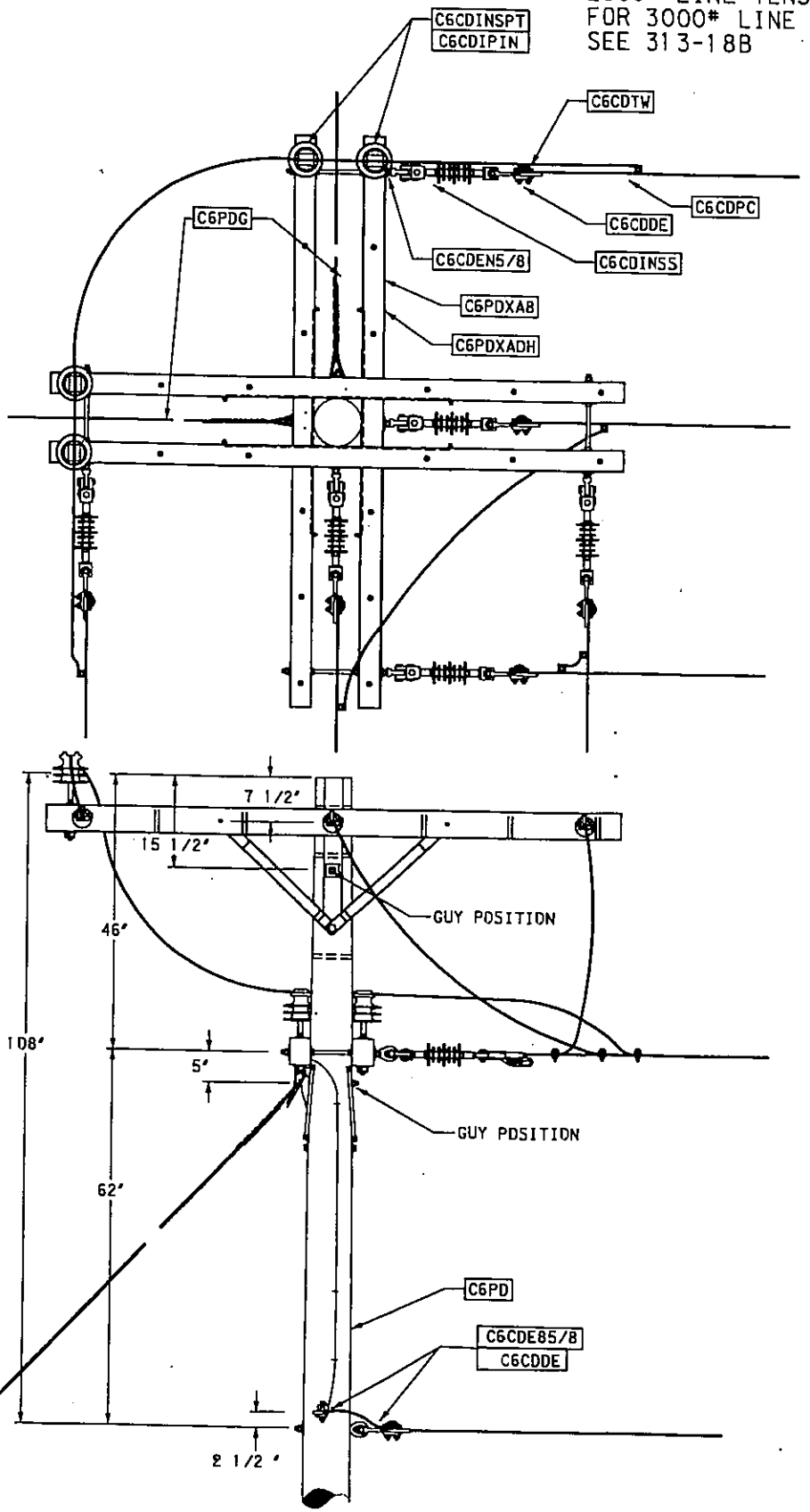
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDOE	8		DEADEND CONO GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	6		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	6		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C8CDINSPT	4		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	4		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	7		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTW	25		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	2		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	2		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	4		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	2		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DXBUCK	3 PH DOUBLE BUCKARMS OVER 50 FT CORNER	313-17B

2000* LINE TENSION
FOR 3000* LINE TENSION
SEE 313-18B



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DESIGNED	CS	CS	
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DATE	08/31/01	12/29/05	

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STATE OF MAINE
GARY A RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

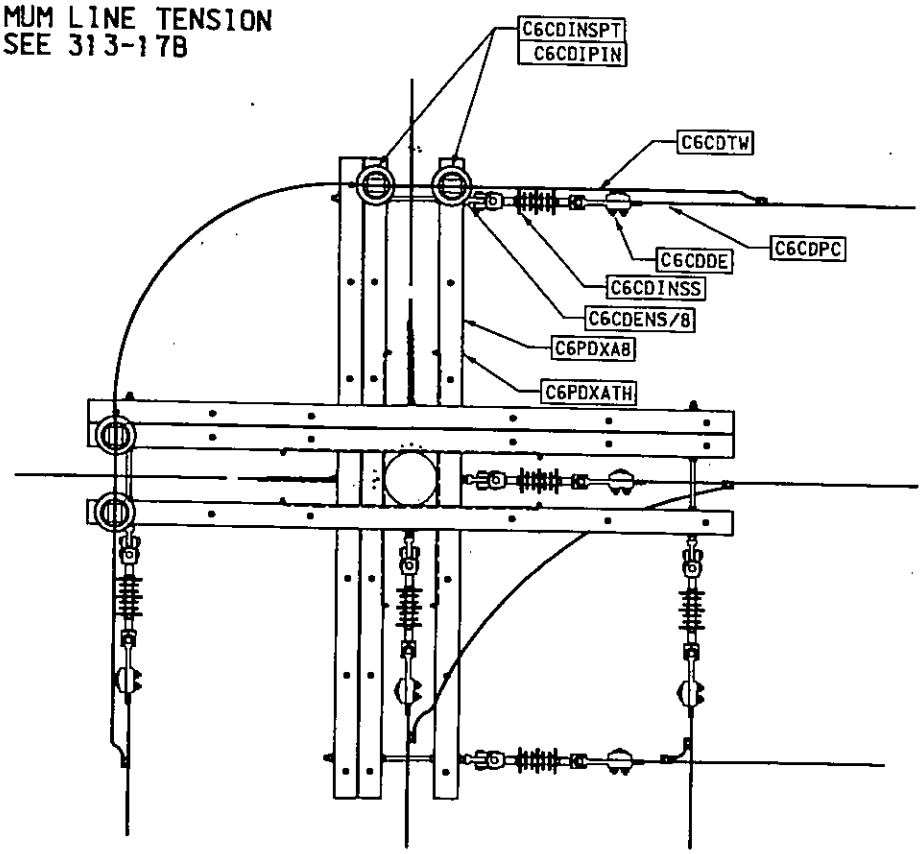
CENTRAL MAINE POWER CO.

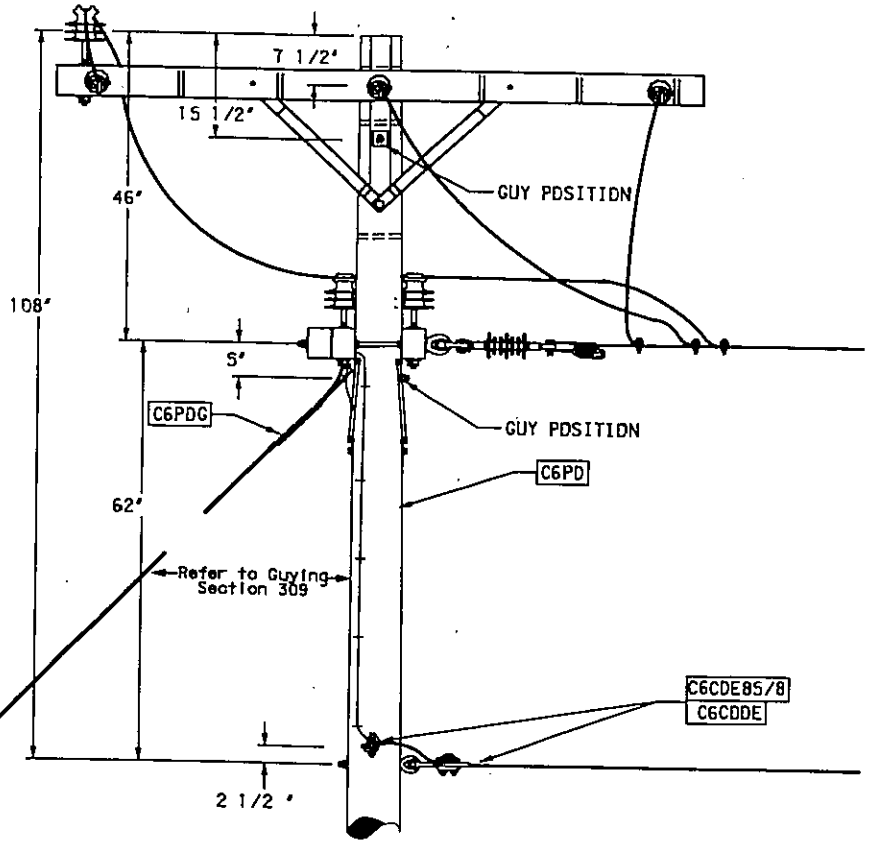
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	8		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	2		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	6		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	6		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	4		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	4		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	7		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTW	25		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	2		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	8000250XXX
C6PDG	2		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	6		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXATH	2		XARM, TRIPLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		13	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3TXBUCK	3PH TRIPLE ARM BUCKARM OVER 50FT CORNER	313-18B

3000# MAXIMUM LINE TENSION
FOR 2000# SEE 313-17B





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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	12/21/05	

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DESIGNED	GRG
DRAWN	
DATE	5/17/93

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

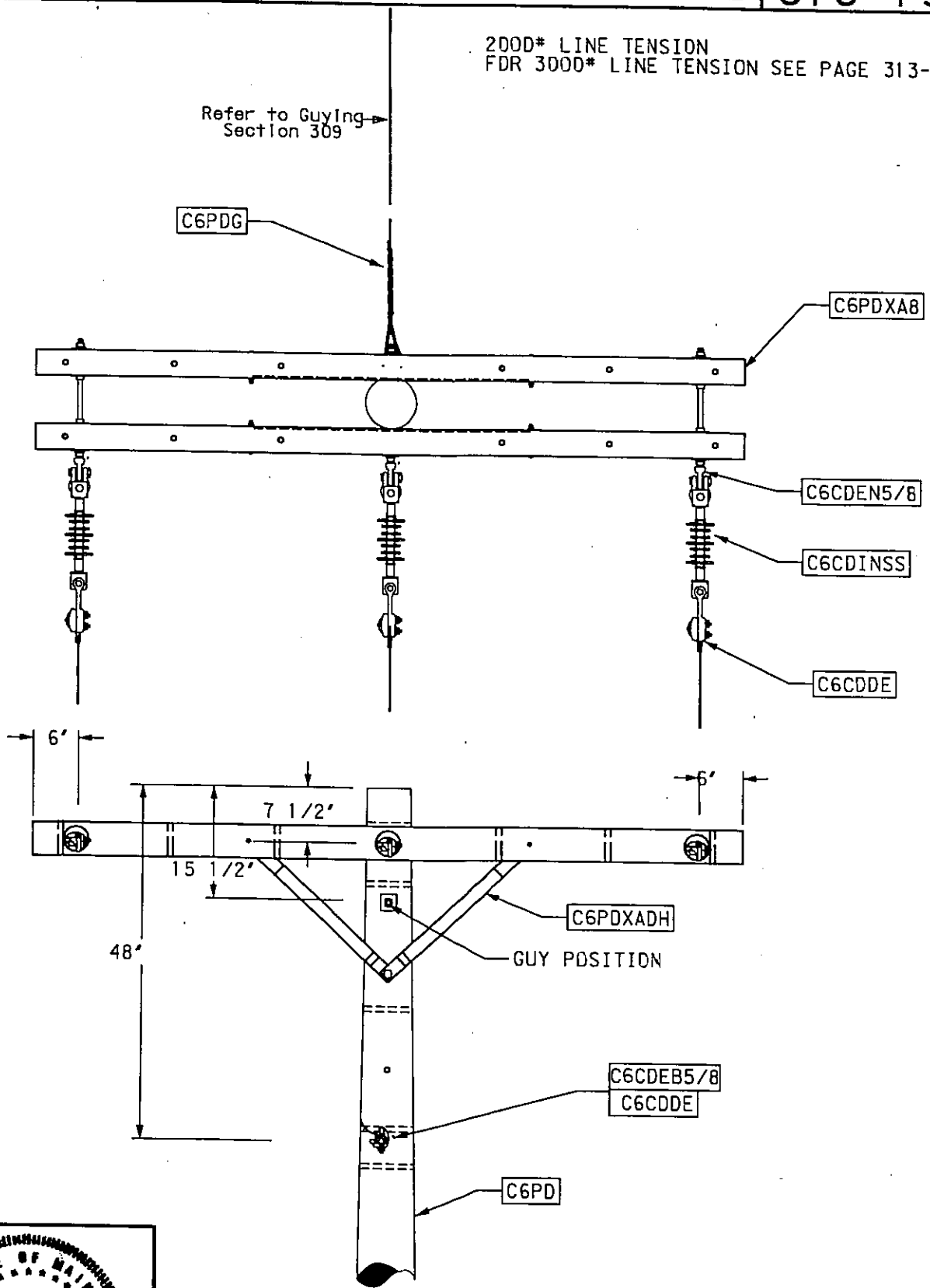
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	3		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DE	3 PH DEADEND STRUCTURE	313-19B

2000* LINE TENSION
FOR 3000* LINE TENSION SEE PAGE 313-20B



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DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	12/21/05	

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STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Matl		Description	Material ID
C6CODE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	3		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDXA8	3		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXATH	1		XARM, TRIPLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		13	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3TXDE	3 PH TRIPLE ARM DEADEND	313-20B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	12/21/05	

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	5/17/93

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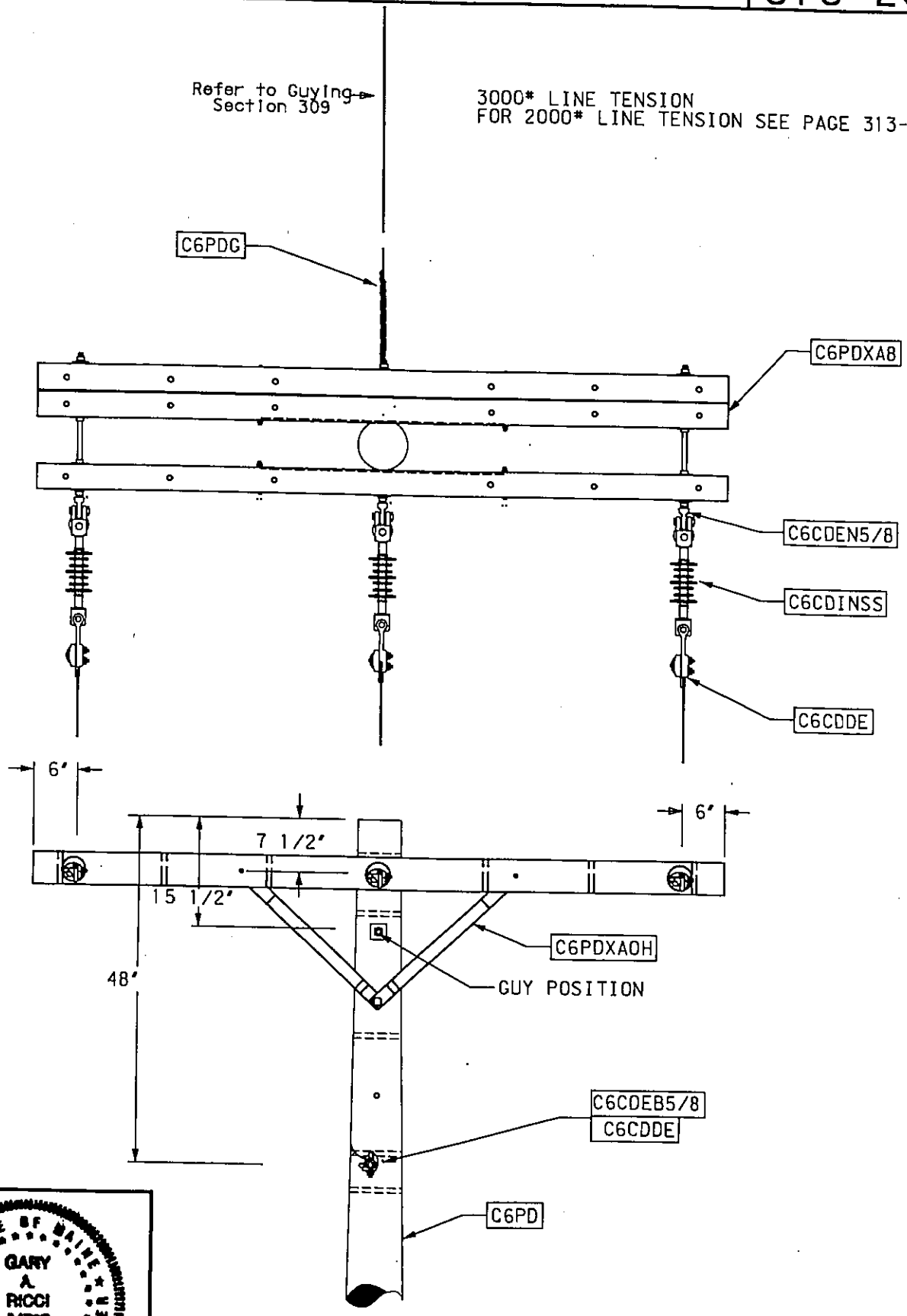

STATE OF MAINE
GARY A. RICCI #4737
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	Single Phase Capacitors	**315**

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/28/01	10/16/06	

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/17/95

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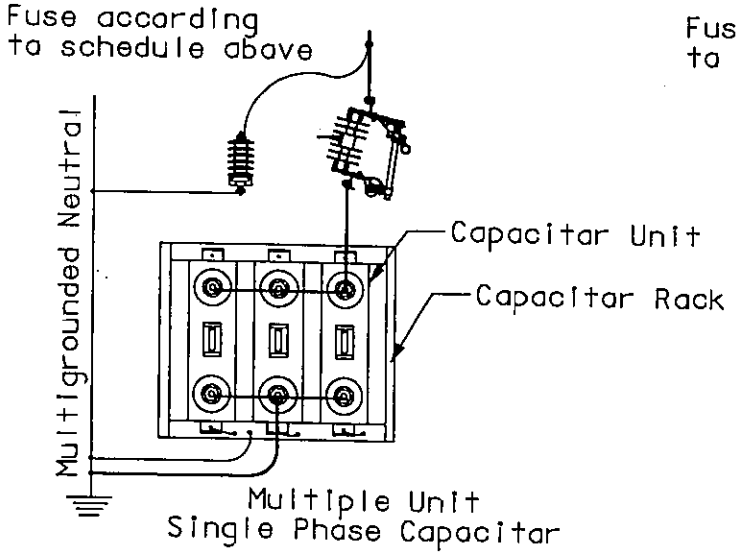
CAPACITOR FUSING SCHEDULE

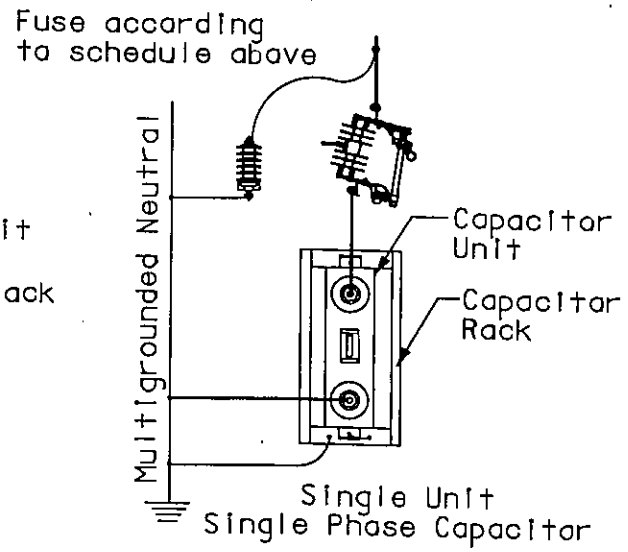
SINGLE PHASE

Capacitor Kvar	2400 V	7200 V	19,920 V
100	40T	15T	6T
150		25T	10T
200		40T	15T
300		65T	15T

No fuse larger than those recommended in the above table should be used without specific appraval from the Distribution Field Engineer.



Multiple Unit
Single Phase Capacitor



Single Unit
Single Phase Capacitor

IMPORTANT: Ground capacitor tanks by bonding to the primary neutral.

CAUTION: After opening supply line to capacitors consider them alive until they are properly discharged.

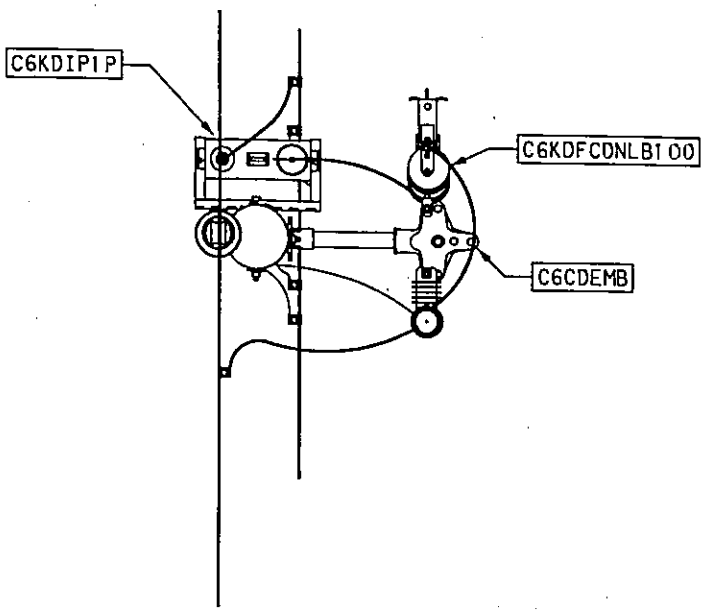
The KVAR value of a multiple unit is equal to the sum of all the parallel connected capacitors that make up the multiple unit.

Example: The multiple unit shown above was built with three 100 KVAR units, the multiple unit value would be 300 KVAR.

STATE OF MAINE
RAYMOND A. BUCHER
#7715
REGISTERED PROFESSIONAL ENGINEER
10/16/06

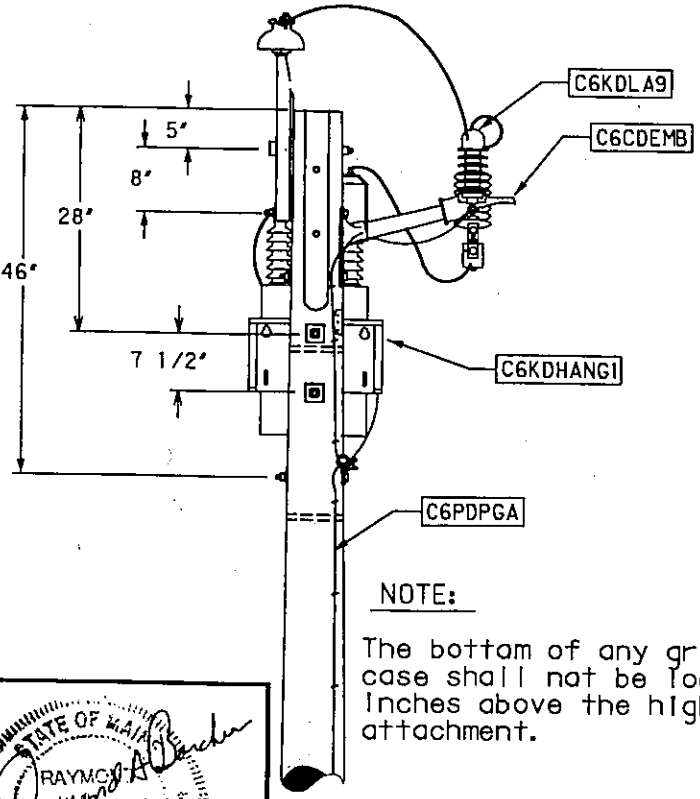
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6KD1	1		CAPACITOR GENERIC 1PH	
		1	GENERIC CAPACITOR	6000480XXX
C6KDFCONLB100	1		CAPACITOR FUSED CUTOUT NON L/B 100A 15KV	
		2	CONNECTORS	600011XXXX
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N-L/B 100A 15KV	6000491800
		1	SIGN SWITCH HOLDER 4 H	6000825693
C6KDHANG1	1		CAPACITOR HANGER 1 UNIT, STEEL	
		1	HGR CAP 1 UNIT	6000481521
C6KDIP1P	1		CAPACITOR, INST PKG 1PH	
		1	CONNECTORS	600011XXXX
		5	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	8000207380
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6KDLA9	1		CAPACITOR LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

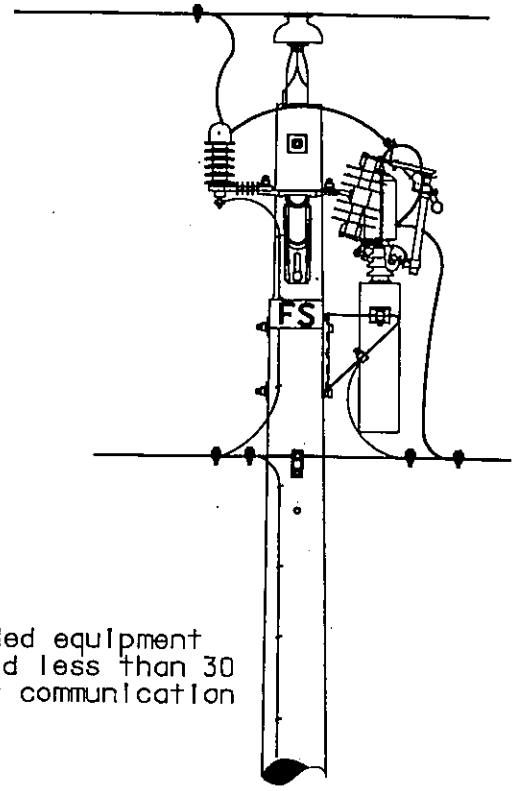
MACRO	DESCRIPTION	PAGE
C6MK1PT	1 PH CAPACITOR ON POLE TOP INST	315-1B



NOTE:

FOR CAPACITOR FUSE SEE PAGE 315.





NOTE:

The bottom of any grounded equipment case shall not be located less than 30 inches above the highest communication attachment.

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	1/03/95	08/31/01	06/26/06

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/28/93

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

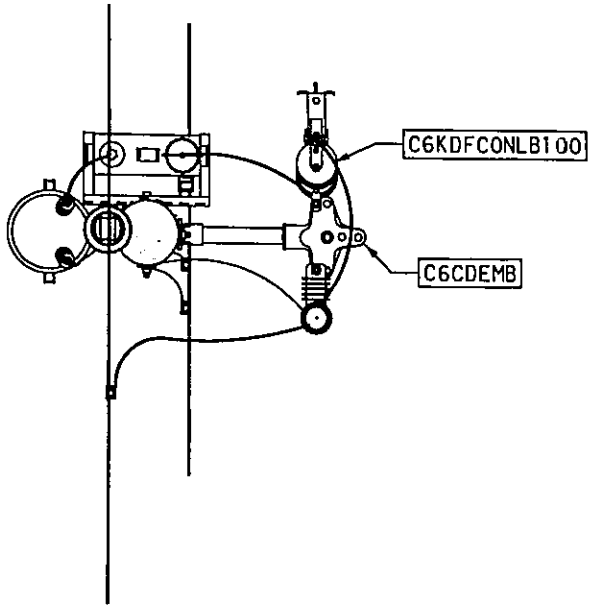
STATE OF MAINE RAYMOND A. DOUCHER #7154 REGISTERED PROFESSIONAL ENGINEER 06

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

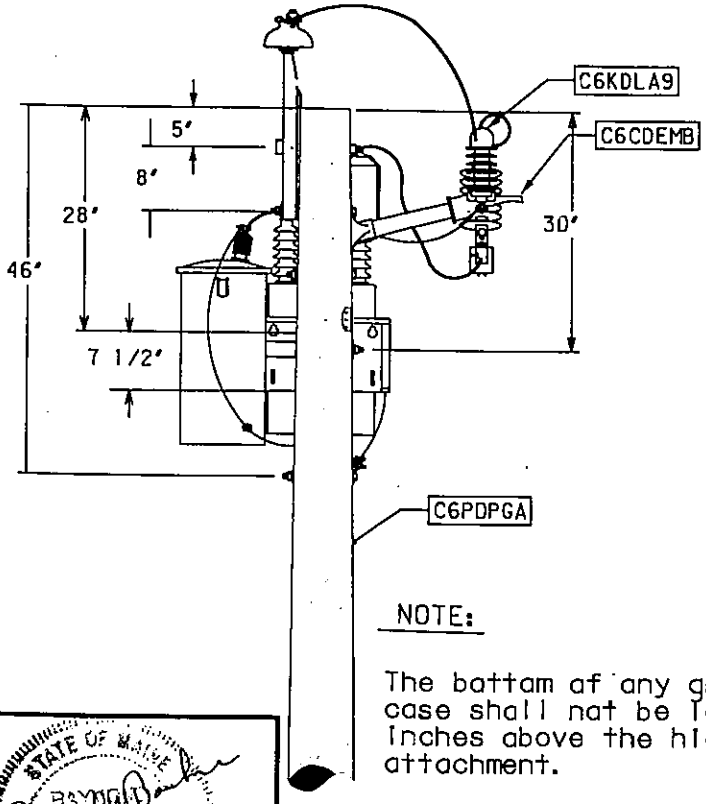
CU Number	Quantity - CU/Matl		Description	Material ID
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDPC	3		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6KD1	1		CAPACITOR GENERIC 1PH	
		1	GENERIC CAPACITOR	6000480XXX
C6KDCBU3012	1		CAPACITOR BLOCKING UNIT 30AMPS 12KV	
		1	CBU-610 BL/UNIT 30 AMPS	6000093591
		3	CONNECTORS	600011XXXX
		6	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WSHFLTGALVSQ2 1/4X3/16	6000274B10
		6	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6KDFCONLB100	1		CAPACITOR FUSED CUTOUT NON L/B 100A 15KV	
		2	CONNECTORS	600011XXXX
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N-L/B 100A 15KV	6000491800
		1	SIGN SWITCH HOLDER 4 H	6000825693
C6KDHANG1	1		CAPACITOR HANGER 1 UNIT, STEEL	
		1	HGR CAP 1 UNIT	6000481521
C6KOIP1P	1		CAPACITOR, INST PKG 1PH	
		1	CONNECTORS	600011XXXX
		5	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6KDLA9	1		CAPACITOR LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

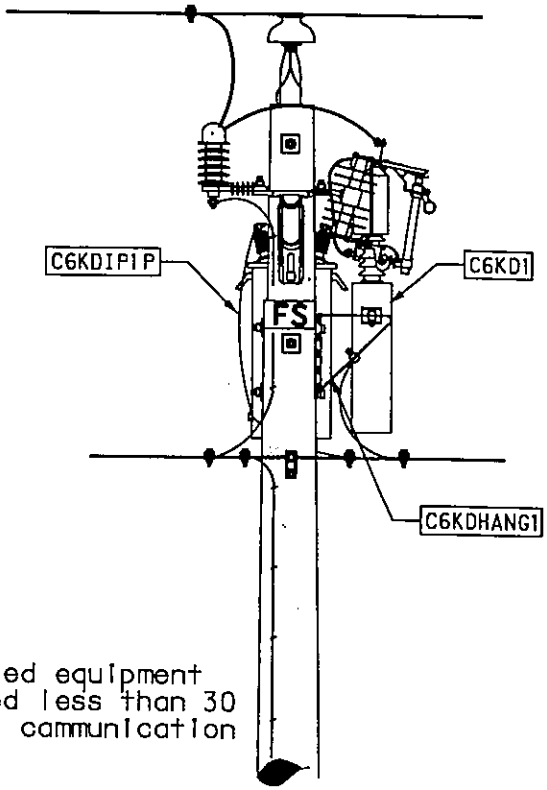
MACRO	DESCRIPTION	PAGE
C6MK1PTBU	1 PH CAPACITOR POLE TOP W/BLOCKING UNIT	315-2B



NOTE:

FOR CAPACITOR FUSE SEE PAGE 315.





NOTE:

The bottom of any grounded equipment case shall not be located less than 30 inches above the highest communication attachment.

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	06/26/06	

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	11/29/93

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE — REGISTERED PROFESSIONAL ENGINEER — 11/14/06

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/25/01	01/30/06	

Capacitor Fusing Schedule
Three Phase

Capacitor Bank KVAR	2400/4160V (WYE)	7200/12470V (WYE)	12470V (DELTA)	20000/34500V (WYE)
150	25T	—	—	—
180	25T	—	—	—
225	40T	—	—	—
270	40T	—	—	—
300	40T	15T	15T	6T
450	—	25T	25T	10T
600	—	40T	40T	15T
900	—	65T	65T	25T
1200	—	65T	65T	—
1800	—	—	—	40T

No fuse larger than those recommended in the above table should be used without specific recommendations from the Distribution Field Engineer.

1. Capacitor banks, for which fusing is not shown, are special cases and they should be referred to the Distribution Field Engineer.

2. CAUTION: After opening supply line to capacitors, consider them energized until they are properly discharged.

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	CRC
DATE	6/02/94

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

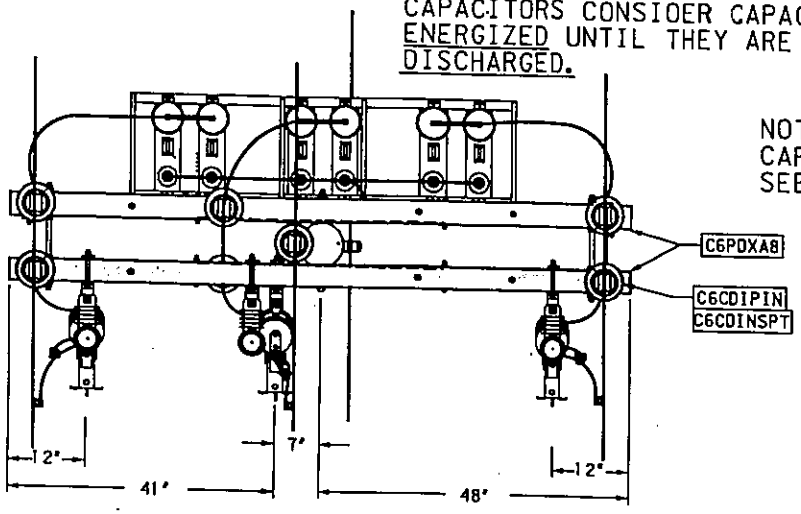
STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

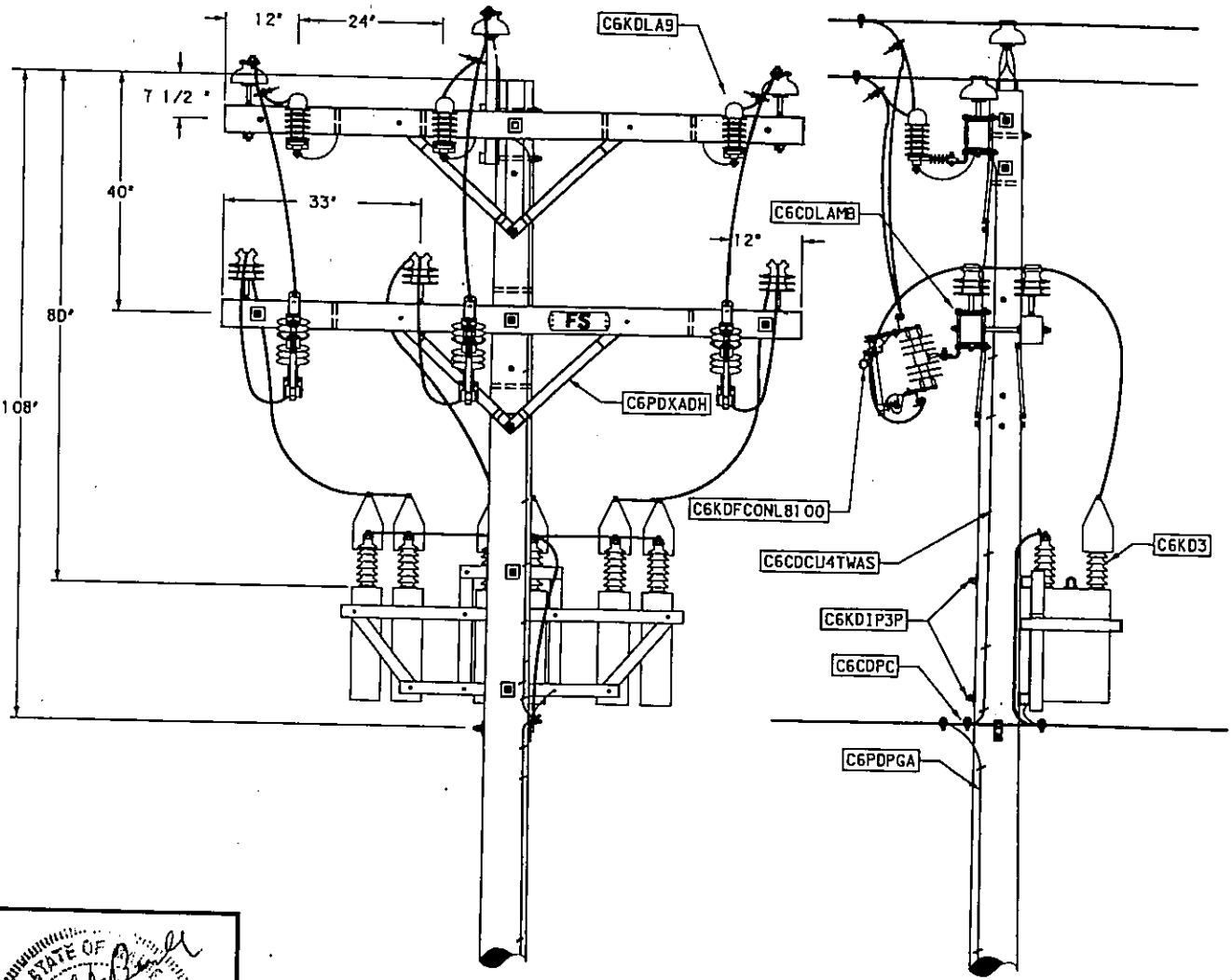
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDCU4TWAS	8		COPPER #4 STRANDED WIRE BARE SD	
		1	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6COINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6COLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDPC	1		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6KD3	1		CAPACITOR GENERIC 3PH	
		1	GENERIC CAPACITOR -	6000480XXX
C6KDFCONLB100	3		CAPACITOR FUSED CUTOUT NON L/B 100A 15KV	
		2	CONNECTORS	600011XXXX
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N-L/B 100A 15KV	6000491800
		1	SIGN SWITCH HOLDER 4 H	6000825693
C6KDIP3P	1		CAPACITOR, INST PKG, 3PH	
		2	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		6	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6KDLA9	3		CAPACITOR LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MK3DXCB12Y	3PH CAPACITOR BANK 12KV GROUNDED WYE	316-1B

CAUTION: AFTER OPENING CUTOUTS TO CAPACITORS CONSIOER CAPACITORS ENERGIZED UNTIL THEY ARE PROPERLY DISCHARGED.

NOTE:
CAPACITOR FUSING
SEE PAGE 316.





	REVISED	REVISED	REVISED
DESIGNED	JD	CS	CS
DRAWN	GRG	REC	REC
DATE	7/28/94	08/31/01	06/26/06

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	4/21/94

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

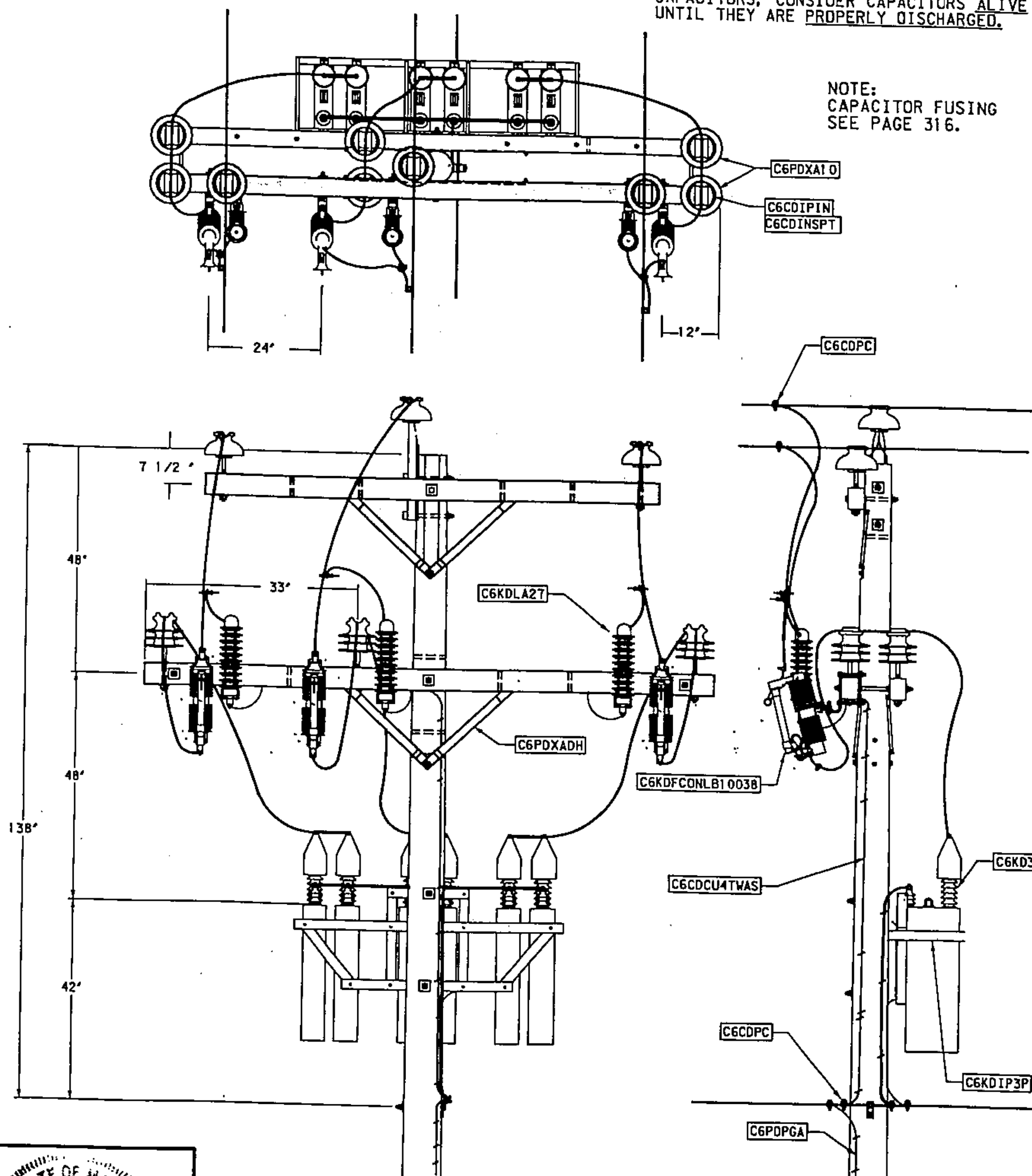
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6CDCU4TWAS	8		COPPER #4 STRANDED WIRE BARE SD	
		1	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6COIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDPC	1		CONNECTOR PRIMARY	
		1	CONNECTORS	600011XXXX
C6KD3	1		CAPACITOR GENERIC 3PH	
		1	GENERIC CAPACITOR	6000480XXX
C6KOFCONLB10038	3		CAPACITOR FUSED CUTOUT NON L/B 100A 38KV	
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N-L/B 100A 38KV	6000491770
		1	SIGN SWITCH HOLDER 4 H	6000825693
C6KDIP3P	1		CAPACITOR, INST PKG, 3PH	
		2	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		6	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6KDLA27	3		CAPACITOR LIGHTNING ARRESTOR 27KV	
		2	CONNECTORS	600011XXXX
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARRESTER, DISTRIBUTION	6000490120
		6	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6POPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6POXA10	2		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MK3DXCB34	3PH CAPACITOR BANK 34KV GROUNDED WYE	316-2B

CAUTION: AFTER OPENING CUTOUTS TO CAPACITORS, CONSIDER CAPACITORS ALIVE UNTIL THEY ARE PROPERLY DISCHARGED.

NOTE:
CAPACITOR FUSING SEE PAGE 316.



	REVISED	REVISED	REVISED
DESIGNED	JD	CS	CS
DRAWN	GRG	REC	REC
DATE	7/28/94	10/03/01	06/26/06

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	4/21/94

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE RAYMOND ... #7714 REGISTERED PROFESSIONAL ENGINEER
7/14/06

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6COCU4TWAS	8		COPPER #4 STRANDED WIRE BARE SD	
		1	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6CDINSPT	8		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	8		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6COPC	1		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6KD3	1		CAPACITOR GENERIC 3PH	
		1	GENERIC CAPACITOR	6000480XXX
C6KDFCONL810038	3		CAPACITOR FUSED CUTOUT NON L/B 100A 38KV	
		10	WIRE #2 CU 7 STRAND SO RHW USE OR RHH	6000207360
		1	C/O N-L/B 100A 38KV	6000491770
		1	SIGN SWITCH HOLDER 4 H	6000825693
C6KDIP3P	1		CAPACITOR, INST PKG, 3PH	
		2	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		6	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6KDLA27	3		CAPACITOR LIGHTNING ARRESTOR 27KV	
		2	CONNECTORS	600011XXXX
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARRESTER, DISTRIBUTION	6000490120
		6	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA10	2		XARM, 8PINS, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	8 CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MK3DXBU34	3PH CAPACITOR BANK W/BLOCKING UNIT 34KV	316-3B

	REVISED	REVISED	REVISED
DESIGNED	JD	CS	CS
DRAWN	GRG	REC	REC
DATE	7/28/94	10/03/01	06/26/06

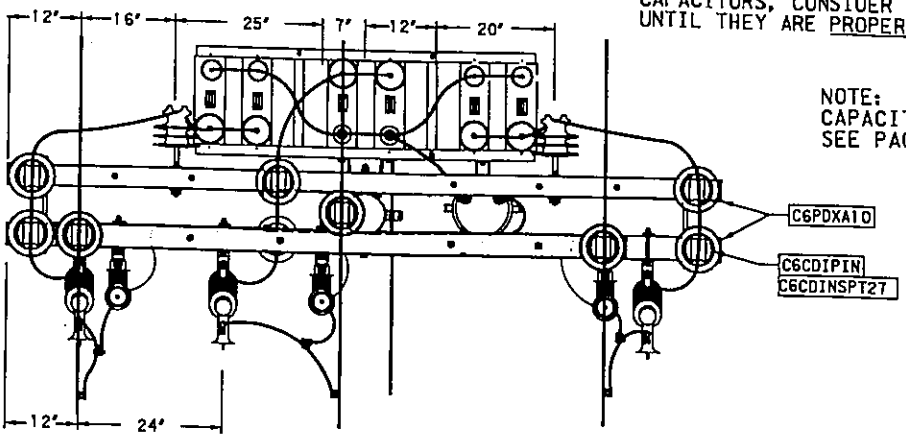
	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	4/20/94

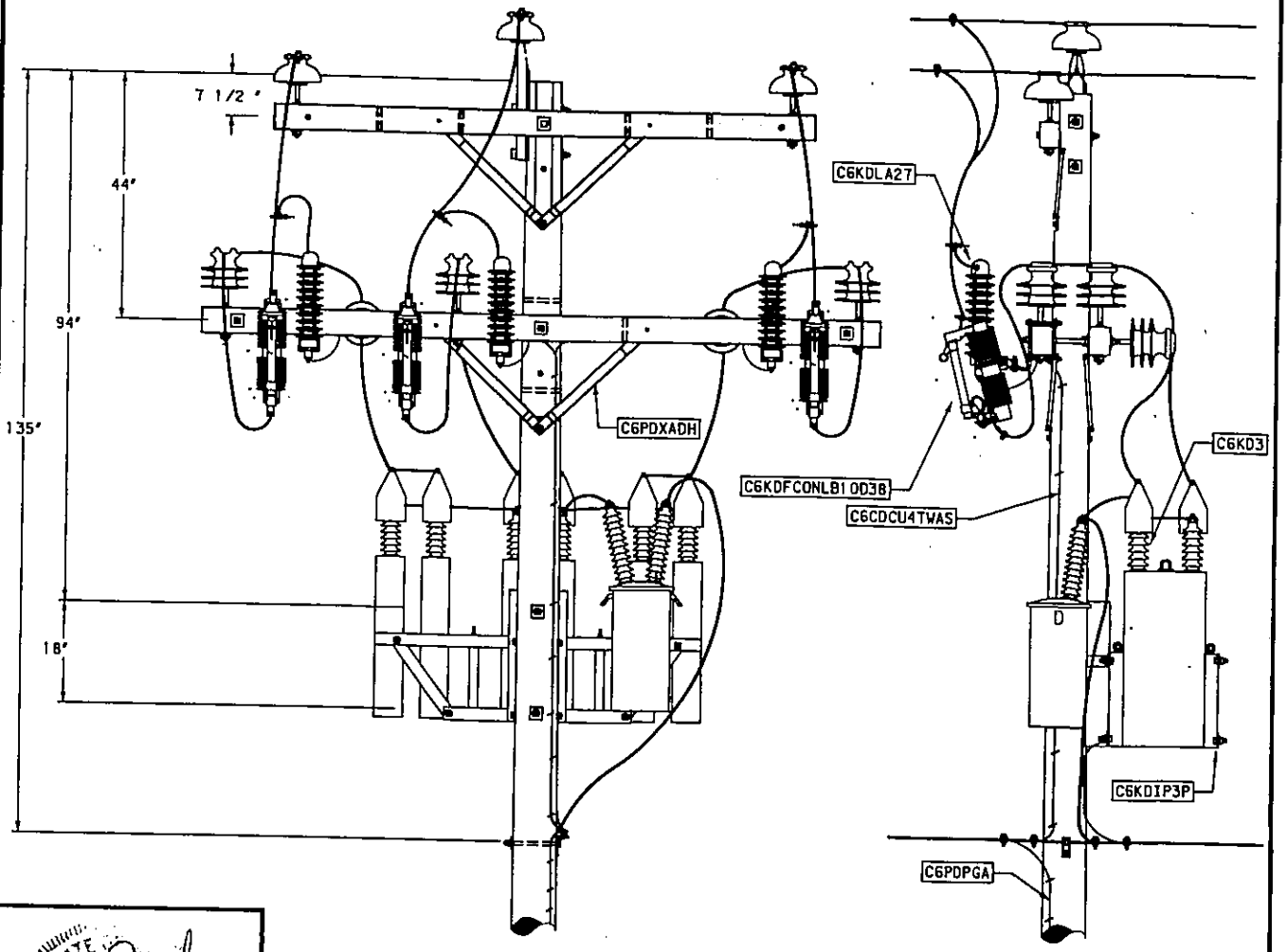
THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

EnergyEast

CAUTION: AFTER OPENING CUTOUTS TO CAPACITORS, CONSIDER CAPACITORS ALIVE UNTIL THEY ARE PROPERLY DISCHARGED.

NOTE:
CAPACITOR FUSING
SEE PAGE 316.





STATE OF MAINE REGISTERED PROFESSIONAL ENGINEER 11/14/06

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	REGULATOR OPERATING INSTRUCTIONS	319

NO.	REVISION	DATE	CK.
1	Changed wording of text	08/27/08	

TO PLACE REGULATOR IN SERVICE

1. Open control circuit.
2. Close solid blade disconnect to connect source bushing to line.
3. Close control circuit and run the regulator to neutral by manual control; test for neutral position, then reopen the control circuit.
4. Open solid blade disconnect connected to source bushing.
5. Connect load-bushing lead to line (hot line clamp).
6. Close solid blade disconnect on source bushing.
7. Open by-pass solid blade disconnect.
8. Close control circuit and place control on AUTO.

TO REMOVE REGULATOR FROM SERVICE

1. Set the regulator on neutral by manual control, test for neutral position, then open the control circuit.
2. Close by-poss solid blade disconnect.
3. Open solid blade disconnect connected to source bushing.
4. Remove lead connected to load bushing from line.

CAUTION

To avoid burnout of windings, the by-pass solid blade disconnect must never be closed with the regulator in service except when in the neutral position. If the regulator is accidentally by-passed off neutral the Stations Department should be contacted to test the regulator before placing it back in service.

The connection from SL bushing to ground should never be opened unless the regulator is disconnected from the line. When the connection to the SL bushing is open, the regulator acts as a current transformer with open-circuited secondary. Dangerous voltages are induced in the series and exciting windings if any load current flows in the series winding.

NOTE: Regulators shall not be back fed without approval from Distribution Field Engineer.

	ORIGINAL
DESIGNED	EVG
DRAWN	RCE
DATE	04/30/76

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/28/08
LICENSED PROFESSIONAL ENGINEER

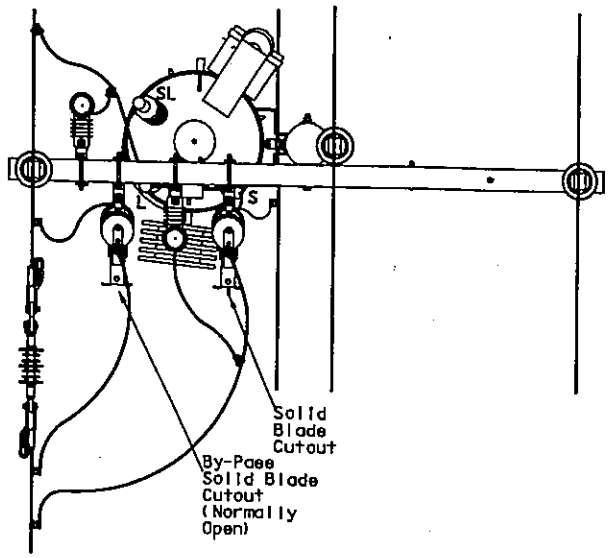
CENTRAL MAINE POWER CO.

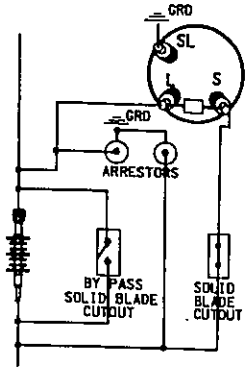
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDHLCF8	1		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	60002720BX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	60002720BX
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6ID	1		REGULATOR GENERIC	
		1	GENERIC VOLTAGE REGULATOR	600087XXXX
C6IDHIP	1		REGULATOR, INSTALLATION PACKAGE	
		5	CONNECTORS	600011XXXX
		4	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IQHLA9	2		REGULATOR LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDHLAMB	4		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6IDHPGA	1		REGULATOR POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDSBCONLB30015	2		SOLID BLADE CUTOUT N L/B 300A 15KV REG	
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXAB	1		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	8000740510
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	60002720BX
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

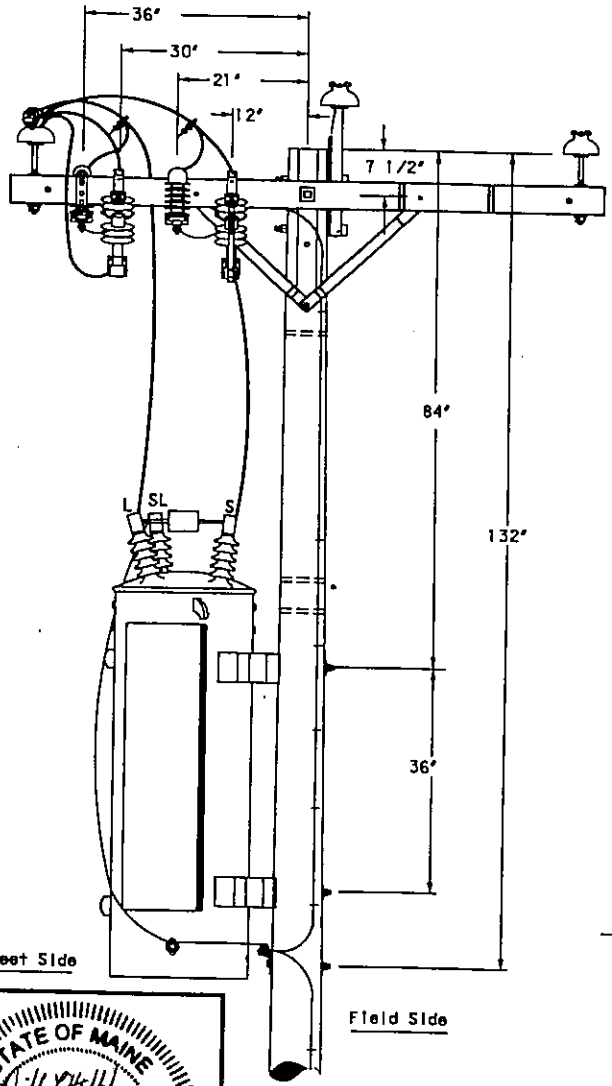
MACRO	DESCRIPTION	PAGE
C6M11DX12R	1 PH VOLTAGE REGULATOR 12KV ROAD PH (100A & 219A ONLY)	319-1B

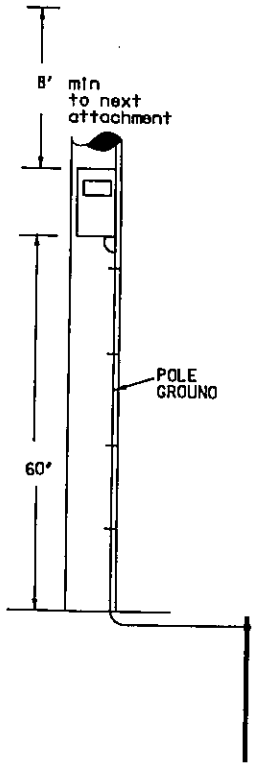
NO.	REVISION	DATE	CK.
1	MAKE TERM ID'S ADJUSTABLE, CHG CLEARANCE, CHG SV SYMBOL	08/27/08	

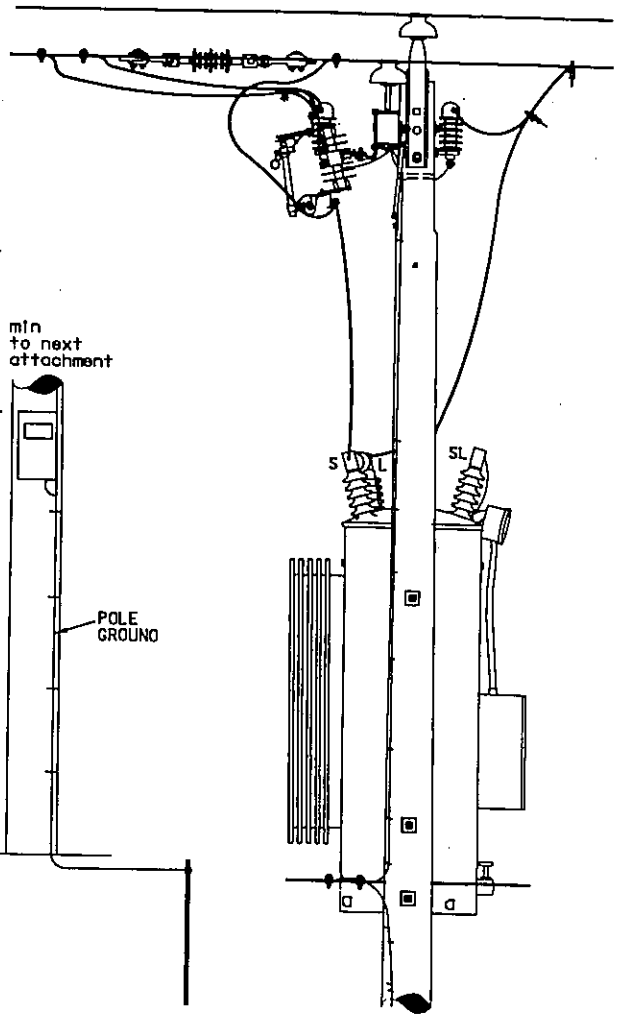




Operating Instructions see page 319







NOTE:
328 Amp voltage regulators must be platform mounted.

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	5/2/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/27/08
LICENSED PROFESSIONAL ENGINEER

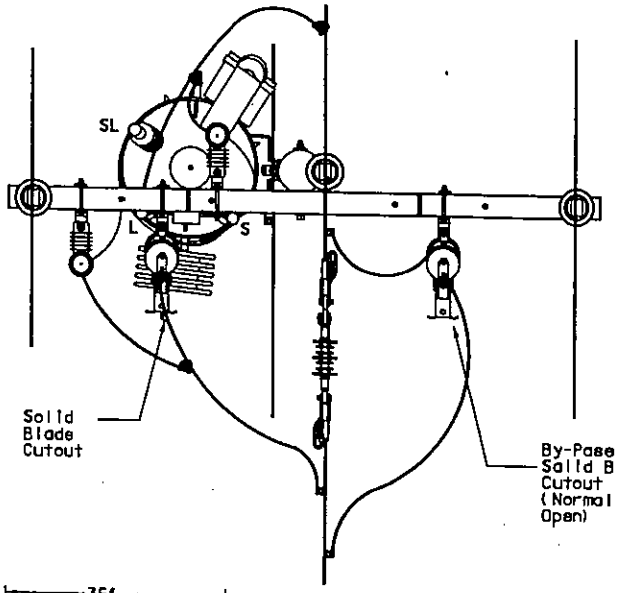
CENTRAL MAINE POWER CO.

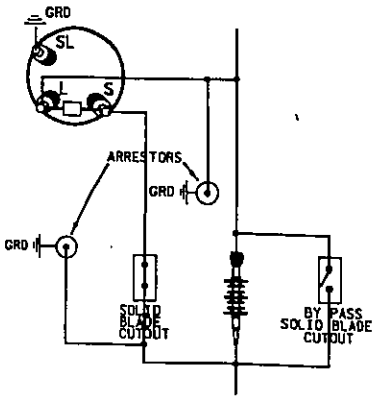
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDHLCF8	1		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDN8	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6ID	1		REGULATOR GENERIC	
		1	GENERIC VOLTAGE REGULATOR	600087XXXX
C6IDHIP	1		REGULATOR, INSTALLATION PACKAGE	
		5	CONNECTORS	600011XXXX
		4	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDHLA9	2		REGULATOR LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR OIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDHLAM8	4		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6IDNPGA	1		REGULATOR POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251880
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDSBCONLB30015	2		SOLID BLADE CUTOUT N L/B 300A 15KV REG	
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXA8	1		XARM, 6PIN8, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXASH	1		XARM, SINGLE, HAROWARE ONLY	
		2	8 CARR GALV 3/8 X 5	6000270310
		1	BOLT, TNRU 5/8 IN, ALL LENGTHS	600027208X
		1	8 LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASNER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

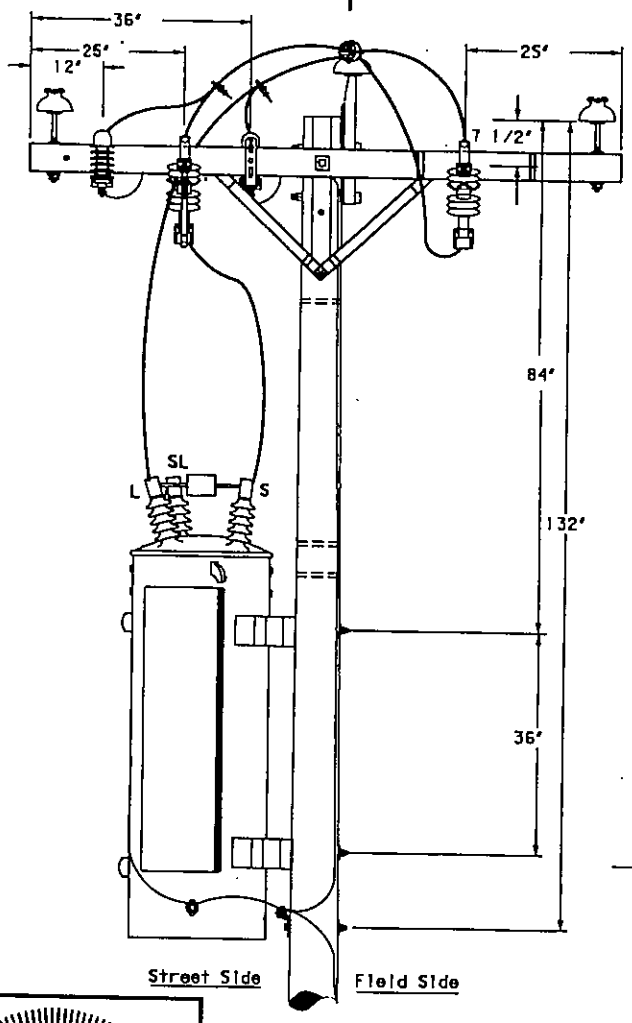
MACRO	DESCRIPTION	PAGE
C6M11DX12C	1 PH VOLTAGE REGULATOR 12kV CENTER PH (100A & 219A ONLY)	319-2B

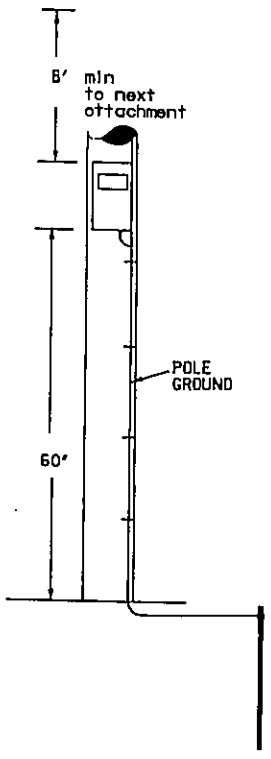
NO.	REVISION	DATE	CK.
1	Lower trans, ren shading, chg sw symbol	08/27/08	

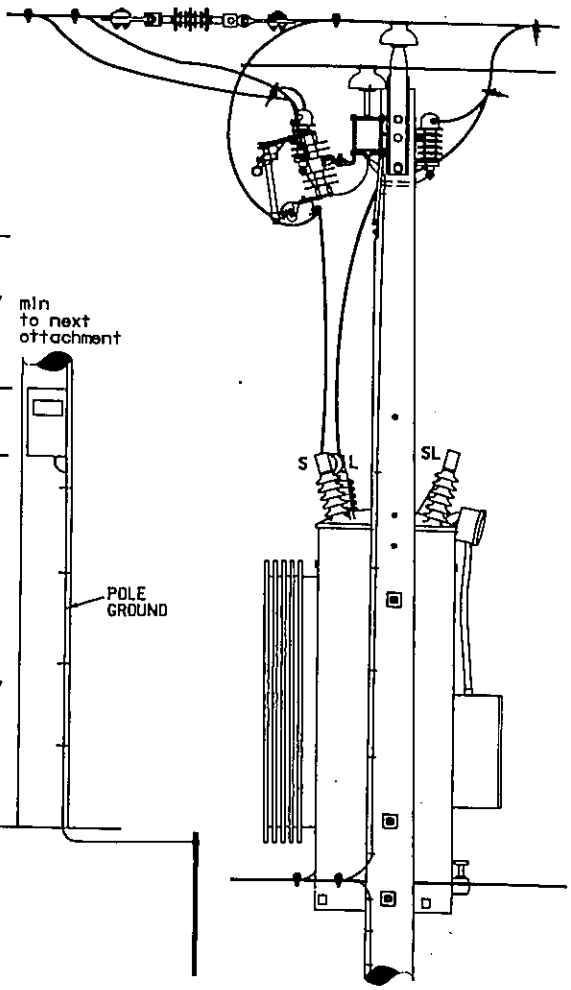




Operating Instructions see page 319







NOTE:
328 Amp voltage regulators must be platform mounted.

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	5/2/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/27/08
LICENSED PROFESSIONAL ENGINEER

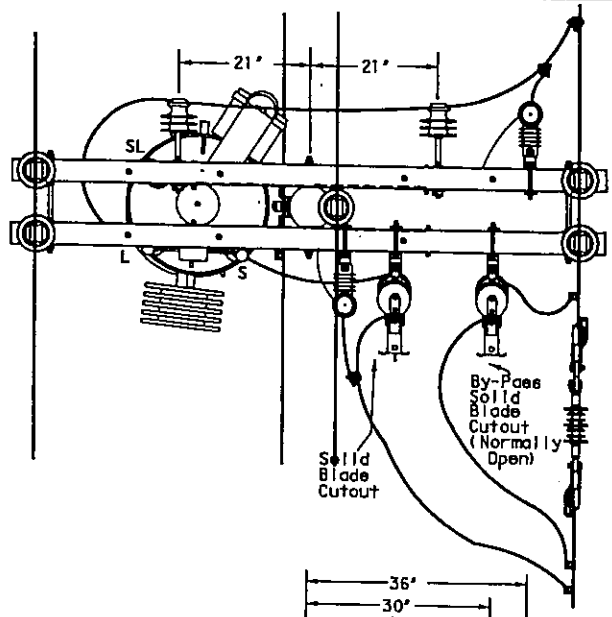
CENTRAL MAINE POWER CO.

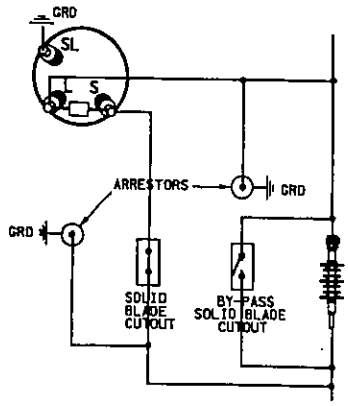
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDHLCF8	1		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	7		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6ID	1		REGULATOR GENERIC	
		1	GENERIC VOLTAGE REGULATOR	600087XXXX
C6IDHIP	1		REGULATOR, INSTALLATION PACKAGE	
		5	CONNECTORS	600011XXXX
		4	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDHLA9	2		REGULATOR LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDHLAM8	4		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6IDHPGA	1		REGULATOR POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6IDSBCONLB30015	2		SOLID BLADE CUTOUT N L/B 300A 15KV REG	
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

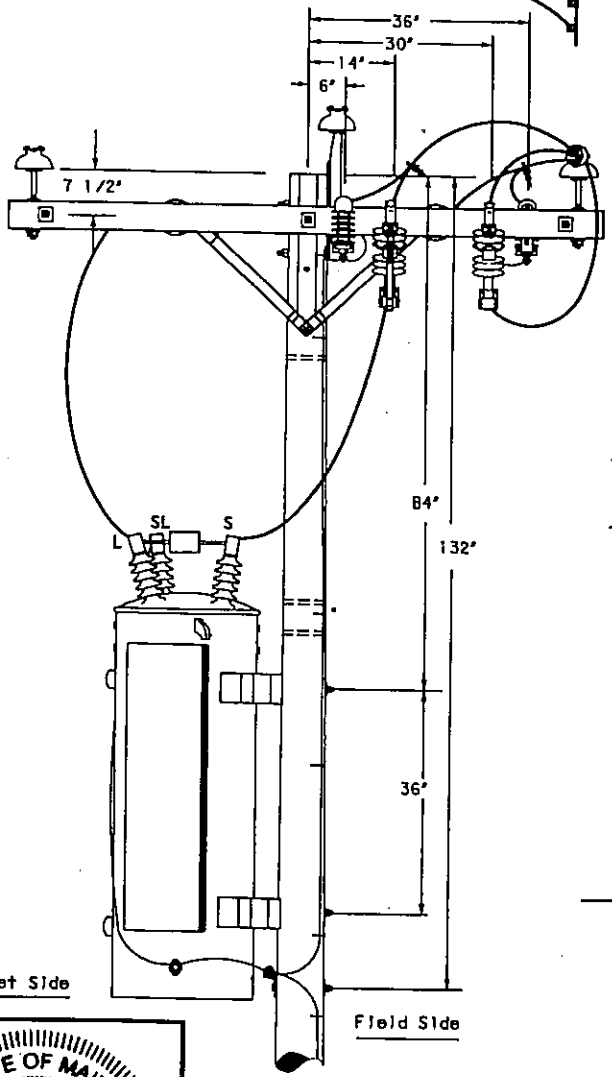
MACRO	DESCRIPTION	PAGE
C6M11DX12F	1 PH VOLTAGE REGULATOR 12KV FIELD PH (100A & 219A ONLY)	319-3B

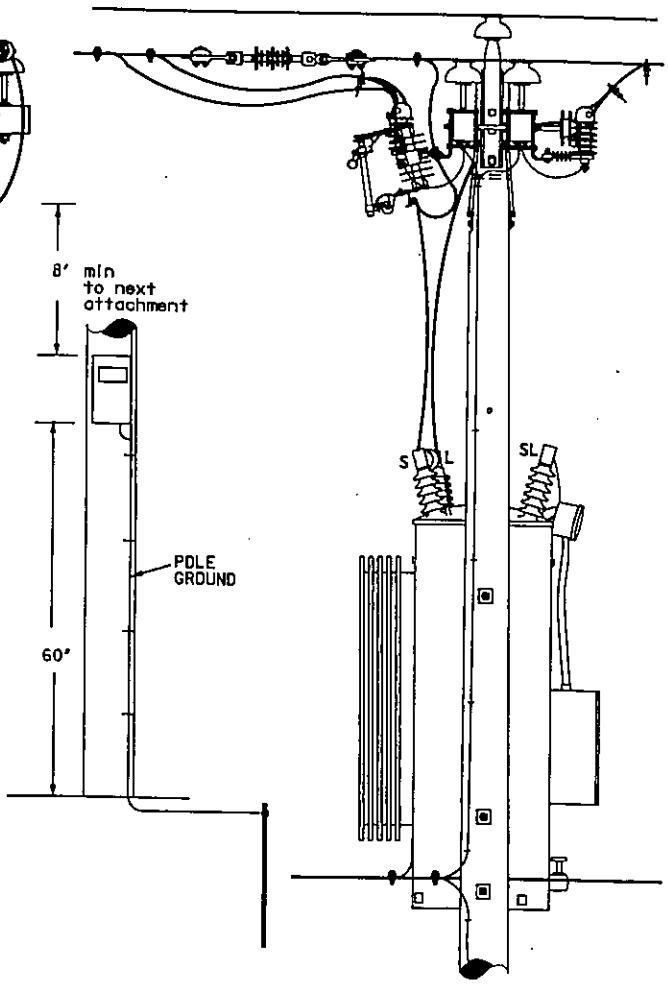
NO.	REVISION	DATE	CK.
1	Lower trans, rem shading, chg sw symbol	08/27/08	





Operating Instructions see page 319





NOTE:
328 Amp voltage regulators must be platform mounted.

	ORIGINAL
DESIGNED	GLG
DRAWN	HEP
DATE	5/2/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/27/08
LICENSED PROFESSIONAL ENGINEER

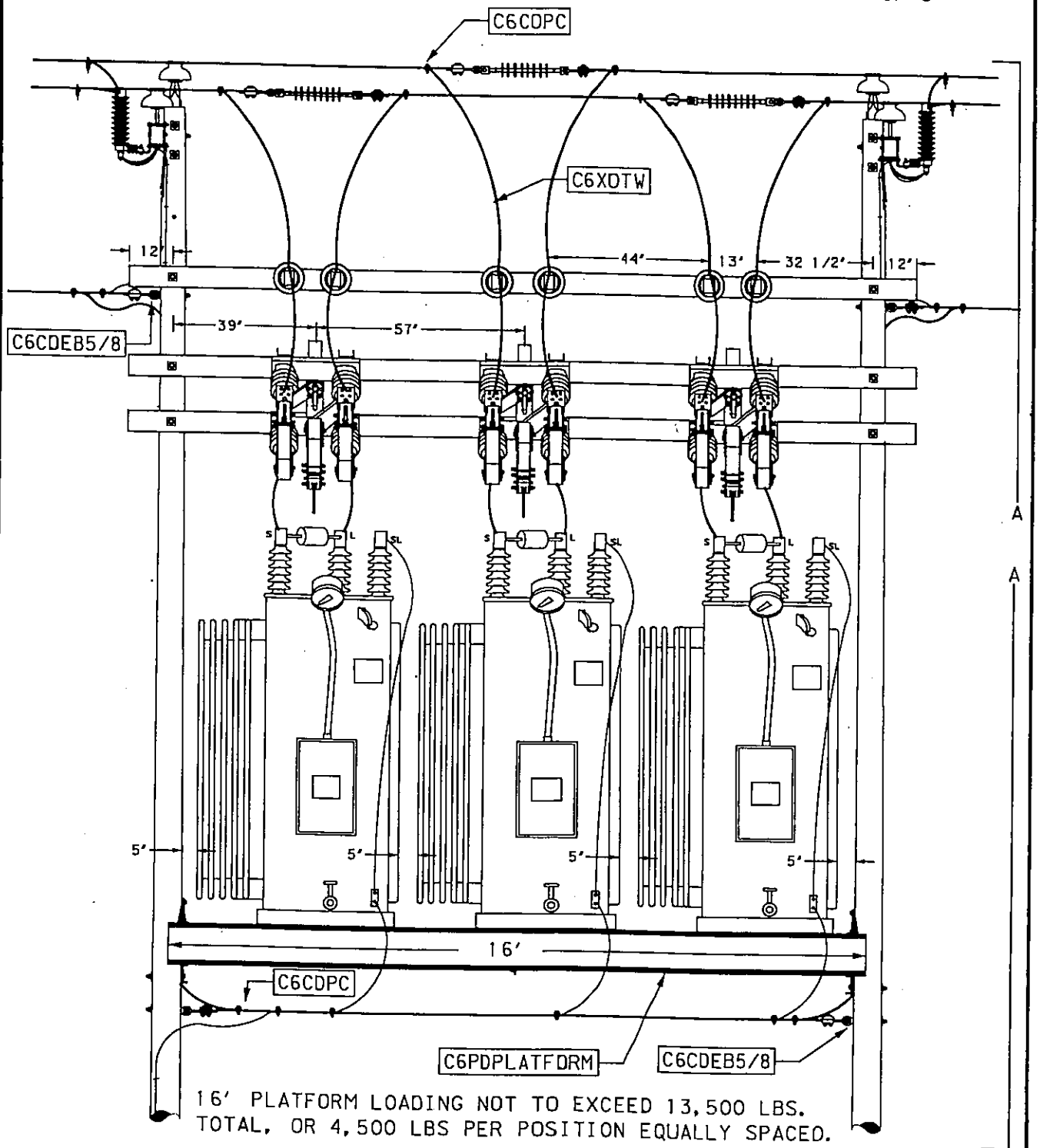
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CODE	10		DEADEND CONO GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6COEB5/8	4		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	6000270 45X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
C6CDHLCF8	3		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	12		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	10		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	12		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDPTP	2		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN ALL LENGTHS	6000272 08X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHEB,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6CDTC2E2-350	12		TERM CONN 2 EYEBOLTS 2-350KCM CU 2 BOLT	
		1	CONN TERM 350CU-BAR	6000117976
C6CDTW	50		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6ID	3		REGULATOR GENERIC	
		1	GENERIC VOLTAGE REGULATOR	600087XXXX
C6IDHIP	3		REGULATOR, INSTALLATION PACKAGE	
		5	CONNECTORS	600011XXXX
		4	WIRE #2 CU 7 STRAND SO RHW USE OR RHH	6000207360
		4	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 3/4 IN ALL SIZES	60002721XX
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		2	WILDLIFE PROTECTOR	60003128XX
		5	WIRE NO 4 CU GROUND BARE STRANDED S D	751182
C6IDHLA	6		LIGHTNING ARRESTOR GENERIC	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6IDHLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6IDHPGA	2		REGULATOR POLE GROUND ASSEMBLY	
		1	CONN GBD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO 4 CU GROUND BARE STRANDED S D	751182
C6IDHSAHB3B	3		SWITCH AIR HOOK BYPASS 3 BLADE (GENERIC)	
C6PD	2		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPLATFORM	1		PLATFORM, ALUMINUM, 16 FT	
		4	BOLT, THRU 3/4 IN ALL SIZES	60002721XX
		4	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		4	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
		1	PLATFORM TRN AL 16 FT	6000670261
C6PDPTIMBER	3		PLATFORM TIMBER, 18 FT	
		2	BOLT, THRU 3/4 IN ALL SIZES	60002721XX
		4	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
		1	PLATFORM TIMBER 18 FOOT	6000740930
C6PDXA10	2		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXASH	2		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN ALL LENGTHS	60002720BX
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MI3PMVR	3PH PLATFORM MOUNTED VOLTAGE REGULATOR	319-4B

NO.	REVISION	DATE	CK.
1	Chngd type of switch, added to note	08/27/08	



16' PLATFORM LOADING NOT TO EXCEED 13,500 LBS. TOTAL, OR 4,500 LBS PER POSITION EQUALLY SPACED.

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

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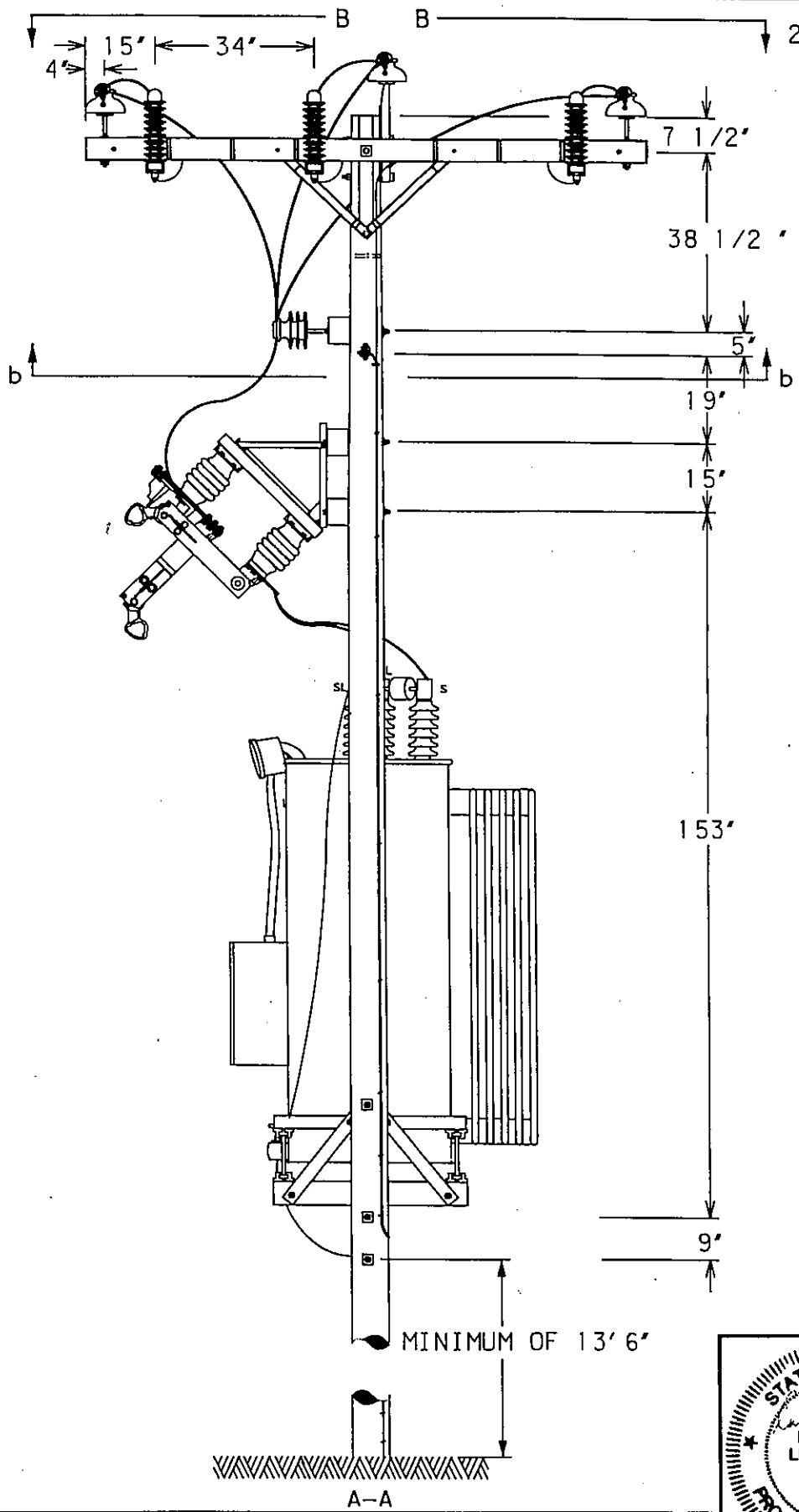
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/27/08
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
319-4C	3PH PLATFORM MOUNTED VOLTAGE REGULATOR	C6MI3PMVR



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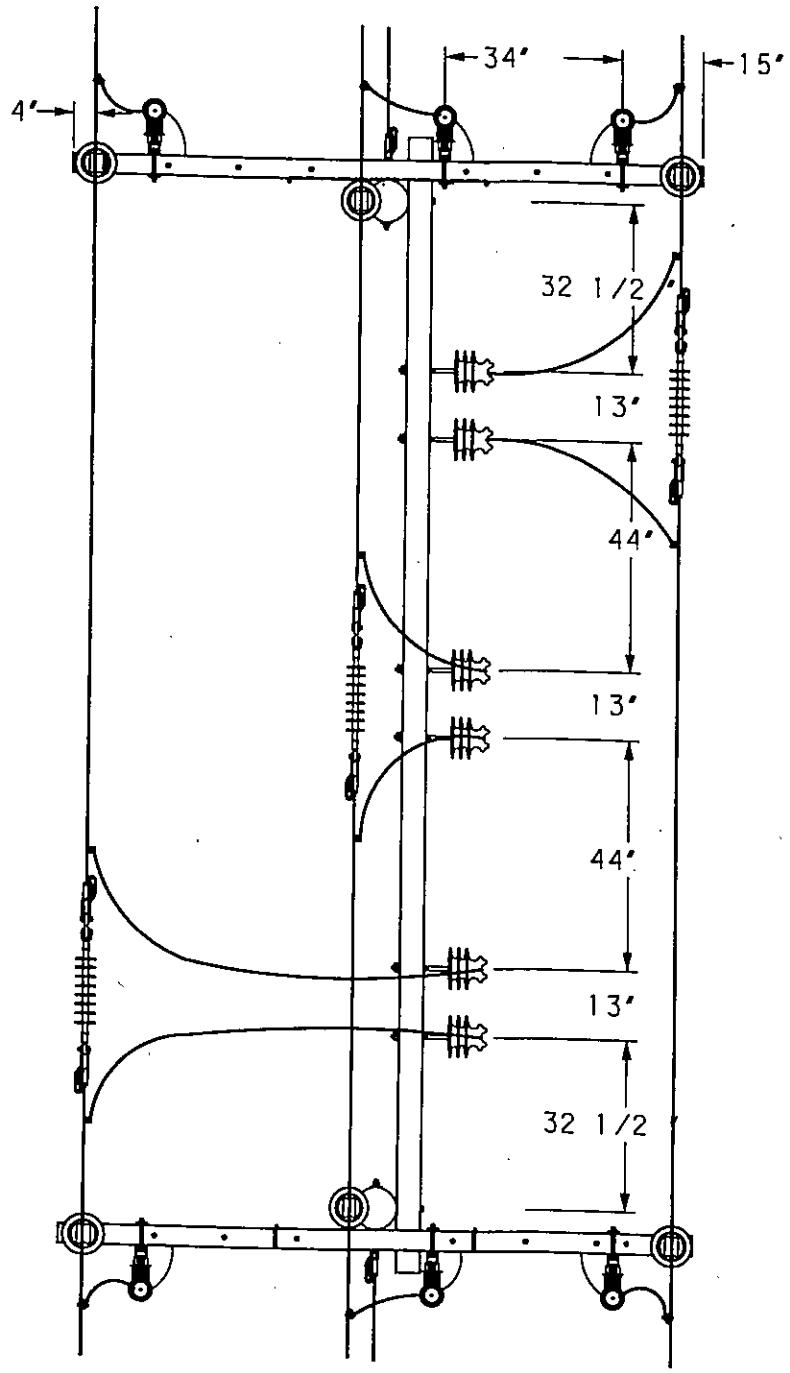
DRAWN	
DATE	05/02/90
	HEP

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
3/27/03
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
C6MI3PMVR	3 PH PLATFORM MOUNTED VOLTAGE REGULATOR	319-4D



Bb-Bb

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/00	01/09/06	

	ORIGINAL
DESIGNED	GRG
DRAWN	HEP
DATE	05/02/90

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STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

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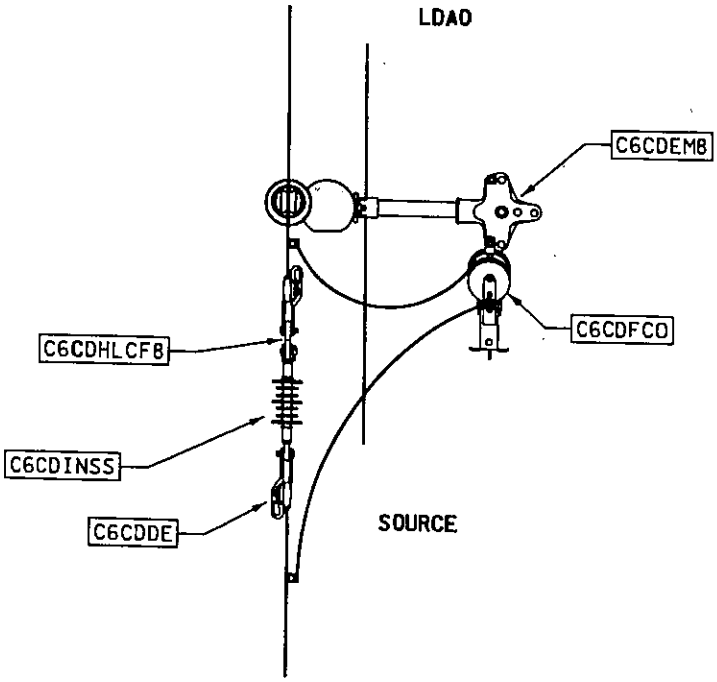
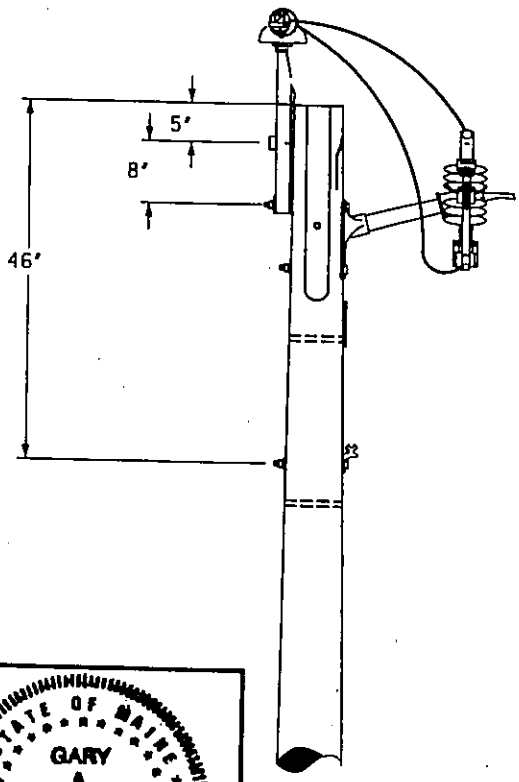
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND CONO GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHLCF8	1		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX

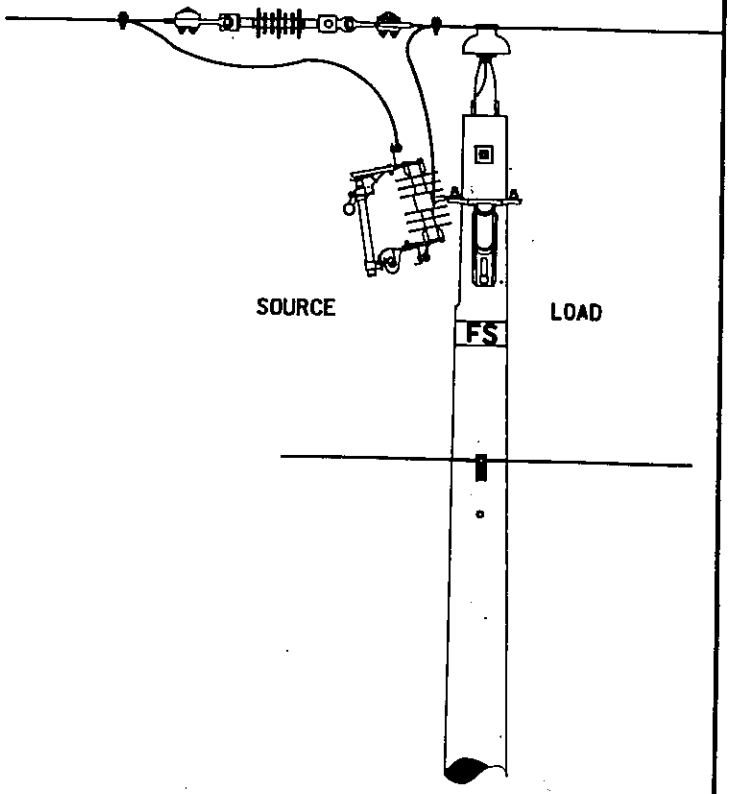
MACRO	DESCRIPTION	PAGE
C6MC1 SDIL	1 PH SECTIONALIZING DISCONNECT WITH INLINE DEADEND	321-1B



NOTE:

PRIMARY CONDUCTOR MUST BE #4 OR LARGER.





	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	01/09/06	

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	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	6/18/93

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STATE OF MAINE
GARY A. RICCI #4737
PROFESSIONAL ENGINEER

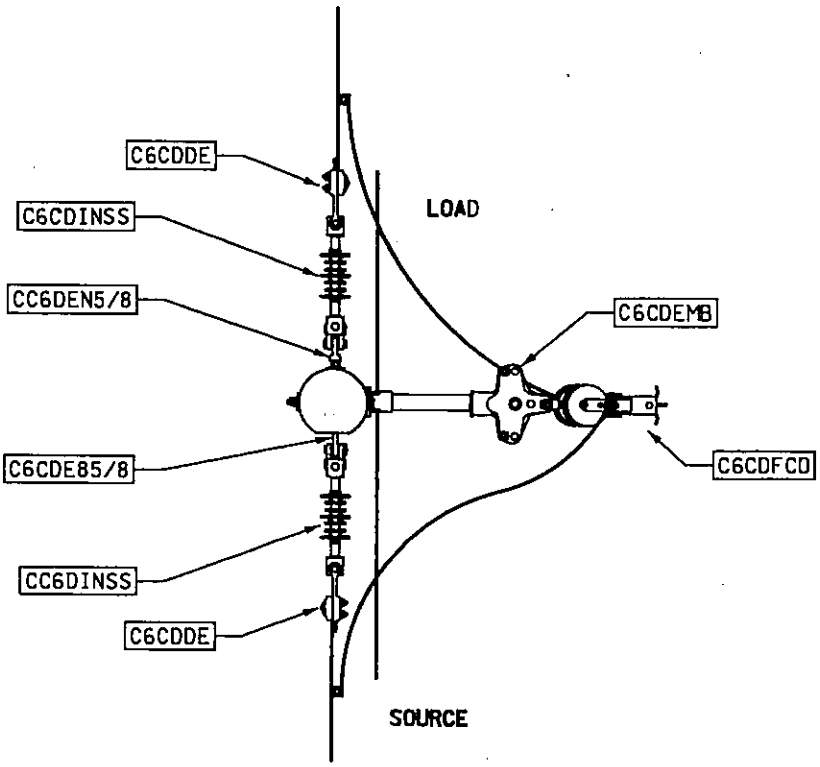
CENTRAL MAINE POWER CO.

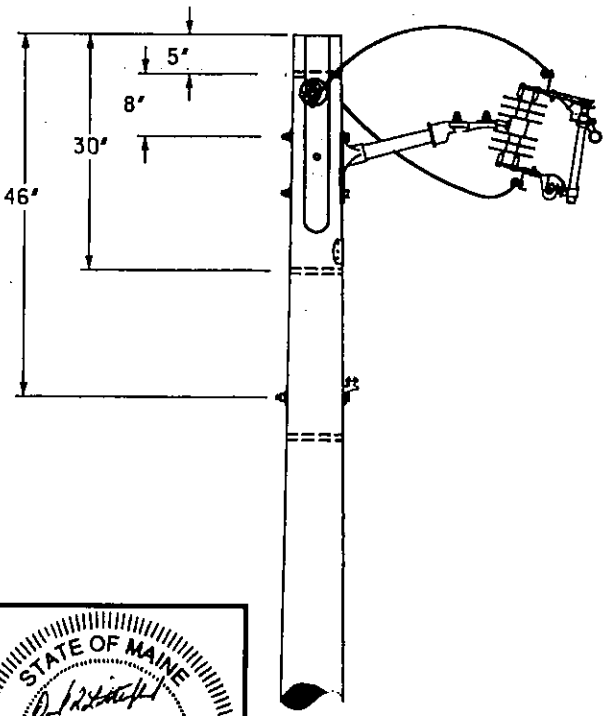
DISTRIBUTION CONSTRUCTION STANDARDS

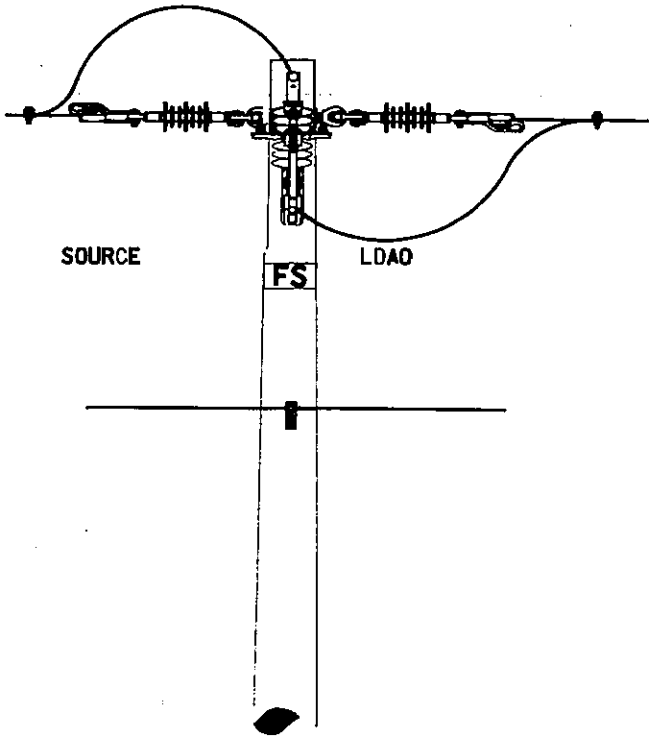
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND CONO GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	2		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX

MACRO	DESCRIPTION	PAGE
C6MC1 SDDDE	1 PH SECTIONALIZING DISC. DBL DEADENDS	321-2B

NO.	REVISION	DATE	CK.
1	Restored shading and neutral connection	07/10/09	







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	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	6/22/93

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
7/10/09
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	6		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001108XX
C6CDFCO	3		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHLCF6	3		LINK CONNECTING FIGURE 6	
		1	LINK CONNECTING FIG 6	6000273410
C6CDINSPT	5		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	4		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/6	6000274600
C6CDLAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDN6	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/6 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002746XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/6INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002746XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXA6	2		XARM, 6PIN6, 6FT	
		1	XARM 6PIN 6	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	6 CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 26 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002746XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC31LS/D12	3 PHASE SECTIONALIZING DISC USING INLINE DEADENDS 12kV	323-1B

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	4/12/93	08/31/01	12/28/05

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	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	4/12/93

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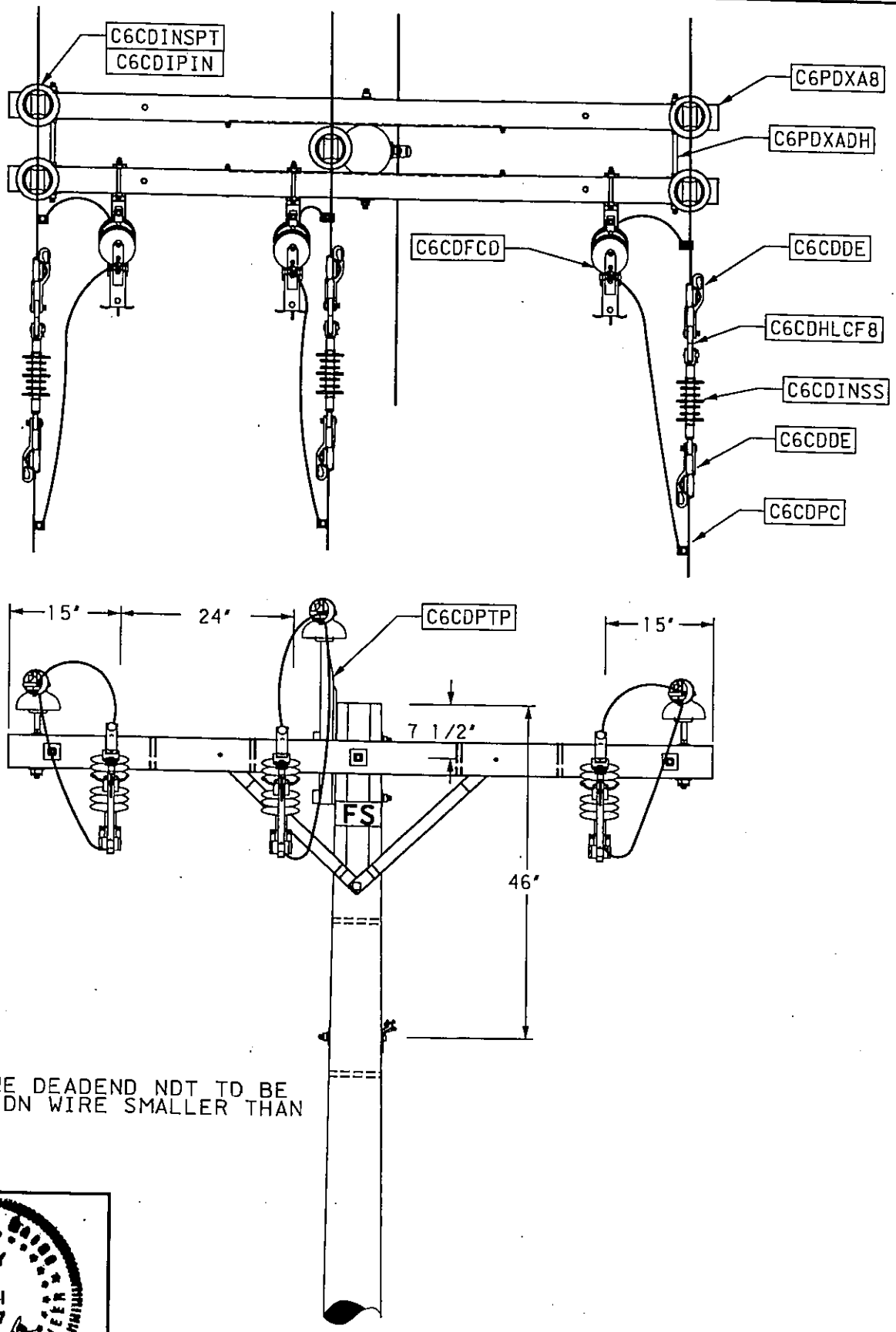


NOTE:

INLINE DEADEND NOT TO BE USED ON WIRE SMALLER THAN #4

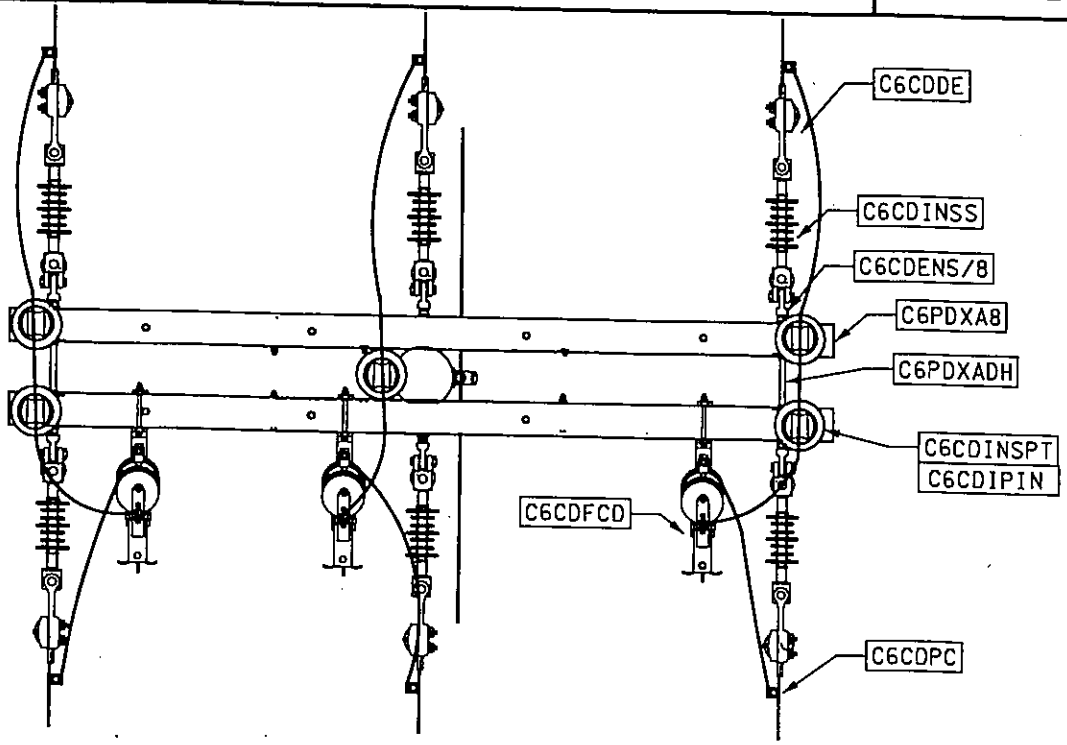
STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

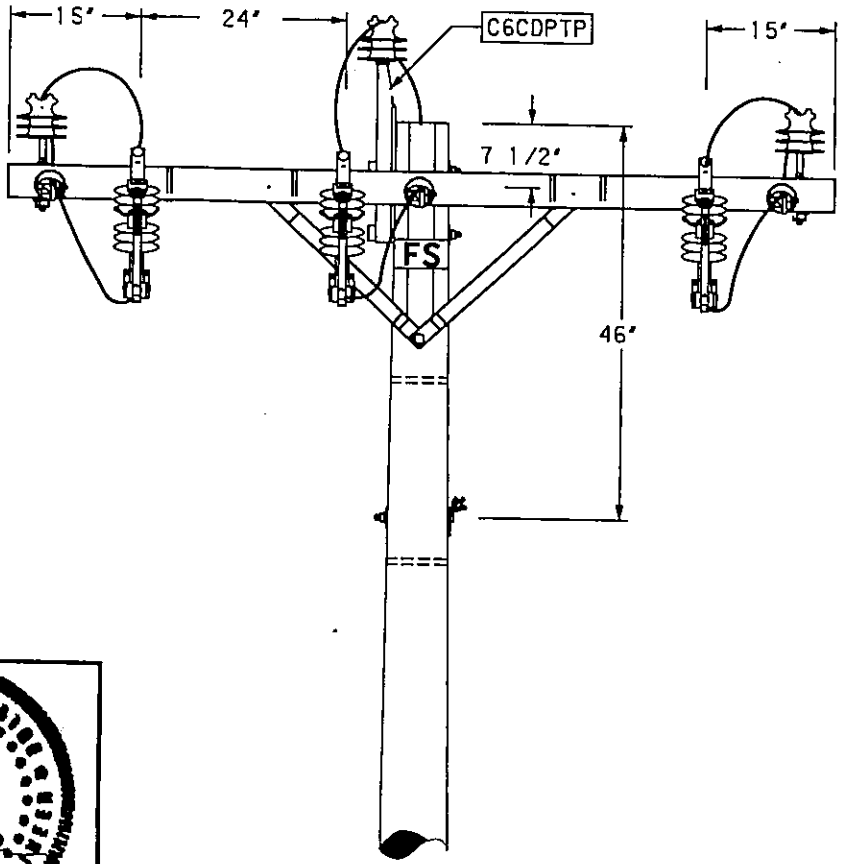
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Qaantity - CU/Matl*		*Description*	*Material ID*
C6CODE	6		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEN5/8	6		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	3		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	6		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	5		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	4		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDLAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C8PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DDS/D12	SECTIONALIZING DISC USING DOUBLE DEADENDS 12KV	323-2B





	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	6/20/94	08/31/01	01/09/06

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	7/27/93

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GARY A. RICCI #4757 PROFESSIONAL ENGINEER STATE OF MAINE

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Matl		Description	Material ID
C6COOE	6		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6COHLCF8	3		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	6		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6CDSAB15600HH	1		SW A/B 15KV 600A HORIZ HOOKSTICK MECH	
		2	CONNECTORS	600011XXXX
		6	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	BOLT, THRU 3/4 IN, ALL SIZES	600027217X
		3	STAPLE F/ 1/2IN MOLDING	6000274410
		6	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		8	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	SW A/B 15KV 600A HORZ MECH HOOKSTICK	6000640318
		4	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6CDTC2E2-350	6		TERM CONN 2 EYEBOLTS 2-350KCM CU 2 BOLT	
		1	CONN TERM 350CU-BAR	6000117976
C6COTW	36		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 2B IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

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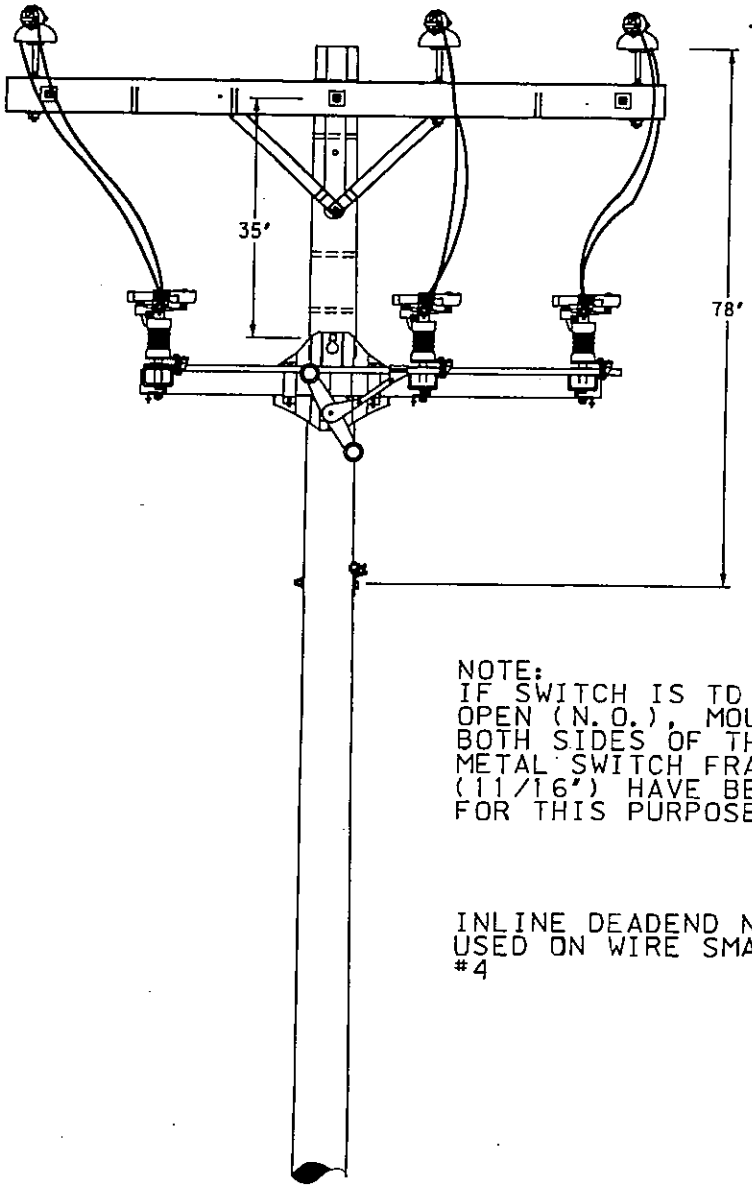
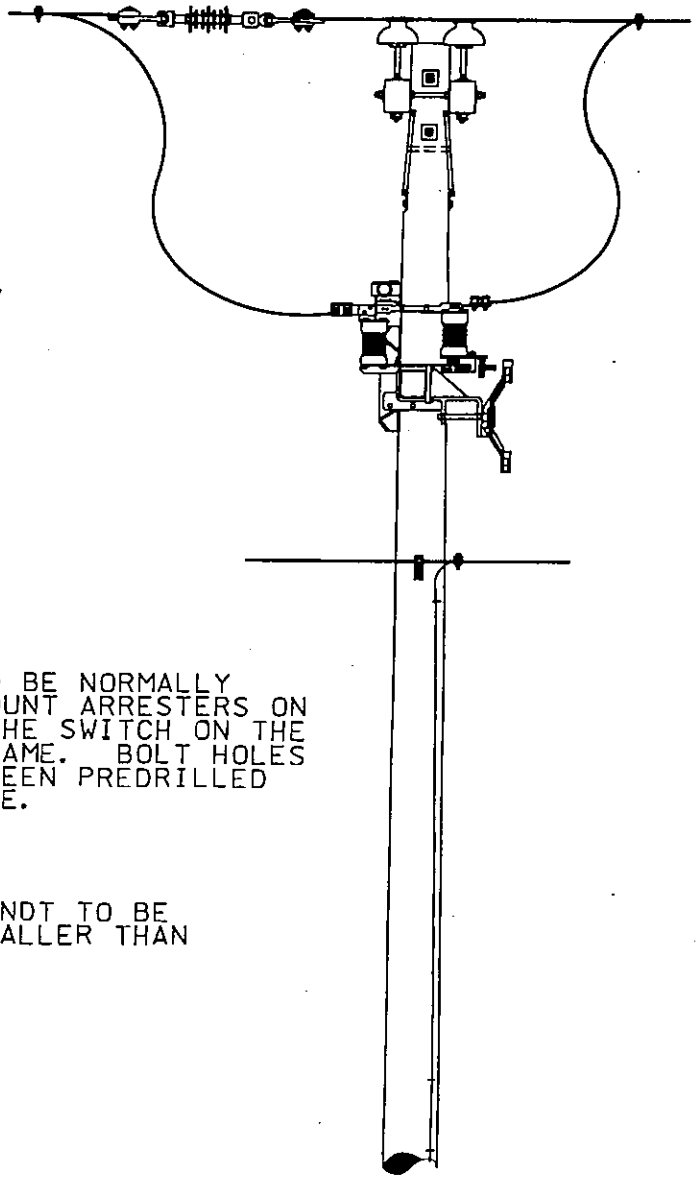
	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
OATE	05/02/90

EnergyEast

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
OATE	08/31/01	01/09/06	

GARY A. PROCI #17127 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE





NOTE:
IF SWITCH IS TO BE NORMALLY OPEN (N.O.), MOUNT ARRESTERS ON BOTH SIDES OF THE SWITCH ON THE METAL SWITCH FRAME. BOLT HOLES (11/16') HAVE BEEN PREDRILLED FOR THIS PURPOSE.

INLINE DEADEND NOT TO BE USED ON WIRE SMALLER THAN #4

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

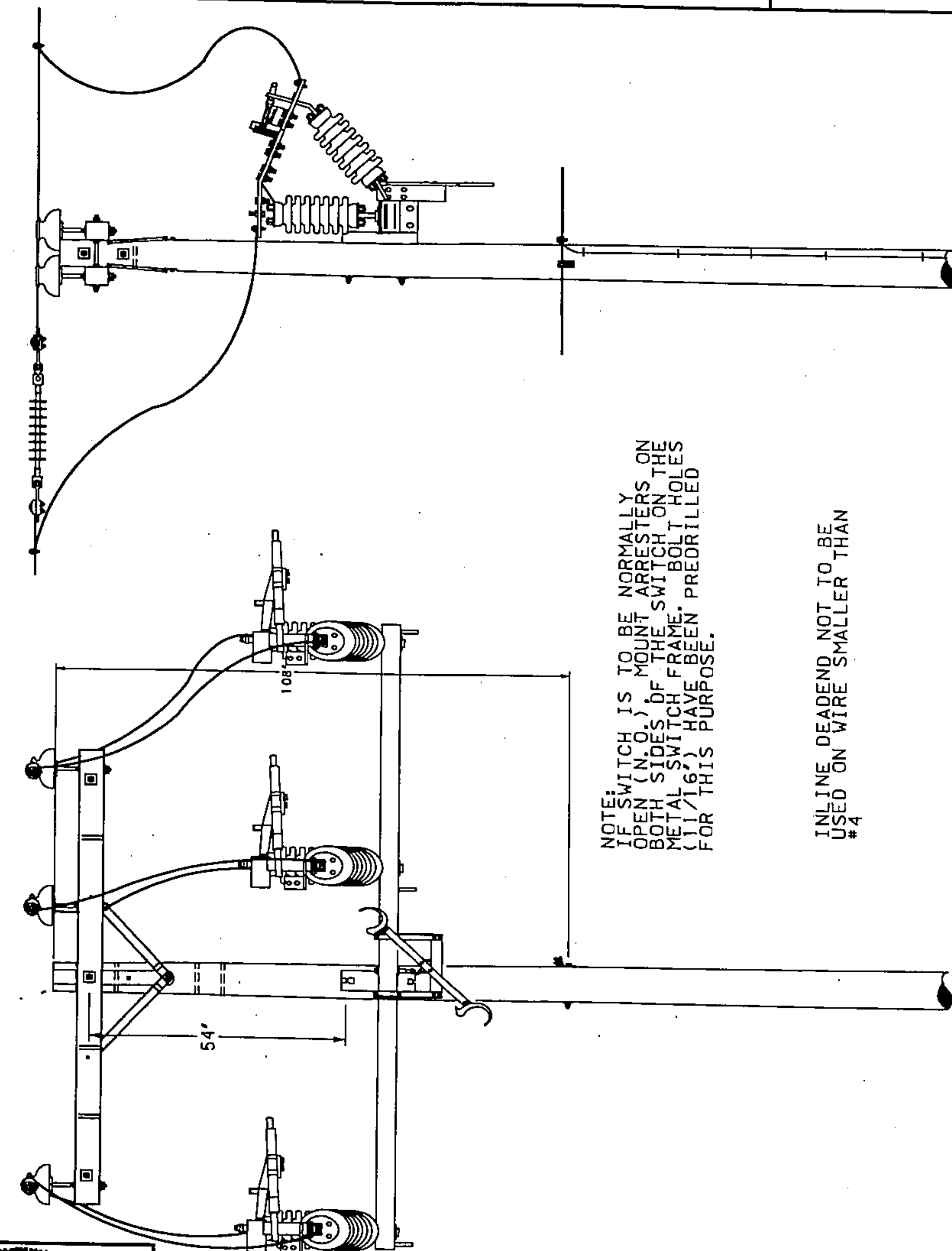
MACRO C6MC3DX1AB12

DESCRIPTION 3 PH AIRBREAK SWITCH INLINE 12KV

PAGE 324-1B

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	6		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDHLCF8	3		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT27	6		INSULATOR PIN TYPE 27 KV LOBBY	
		5	TIE WIRE AL LOBBY	6000205XXX
		1	INS PIN TYPE 27KV	6000310419
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	6		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSAB34600HK	1		SWITCH,34KV,600A,HORIZ INTRPT HOOKSTICK	
		2	CONNECTORS	600011XXXX
		6	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		3	STAPLE F/ 1/2IN MOLDING	6000274410
		6	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		8	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	SW A/B 35KV HOOK/HORIZ	6000640660
		4	WIRE NO. 4 CU GROUND BARE STRANDED S D	7511B2
C6CDTC2E2-350	6		TERM CONN 2 EYEBOLTS 2-350KCM CU 2 BOLT	
		1	CONN TERM 350CU-BAR	6000117976
C6CDTW	36		TAPWIRE GENERIC (SELECT FRDM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	7511B2
C6PDXAB	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN B	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 2B IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3DX1AB34	3 PH AIRBREAK SWITCH INLINE 34KV	324-2B



NOTE:
IF SWITCH IS TO BE NORMALLY OPEN (N.O.), MOUNT ARRESTERS ON BOTH SIDES OF THE SWITCH ON THE METAL SWITCH FRAME. BOLT HOLES (11/16") HAVE BEEN PREDRILLED FOR THIS PURPOSE.

INLINE DEADEND NOT TO BE USED ON WIRE SMALLER THAN #4

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	01/09/06	

EnergyEast

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

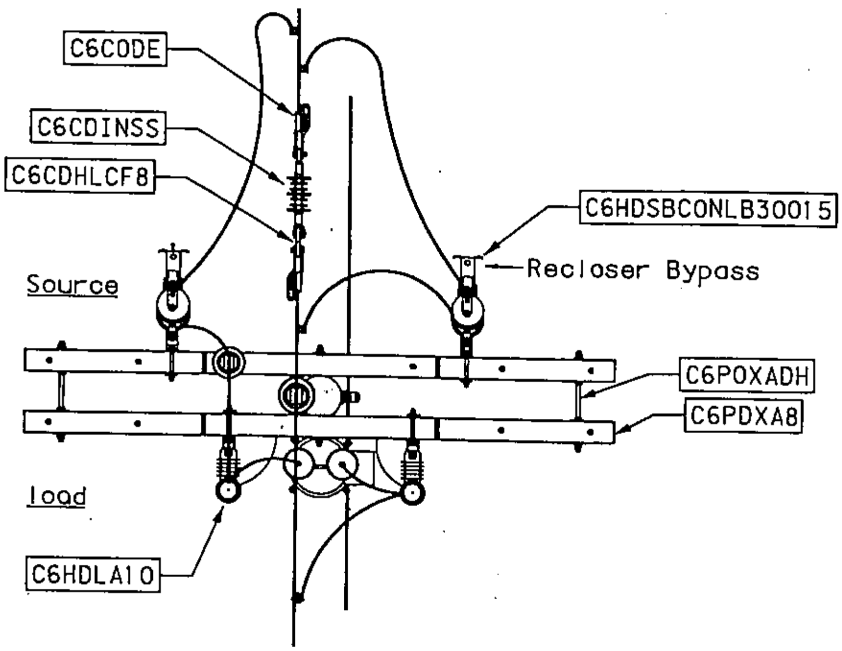
STATE OF MAINE
GARY A. RICCI
#4737
PROFESSIONAL ENGINEER

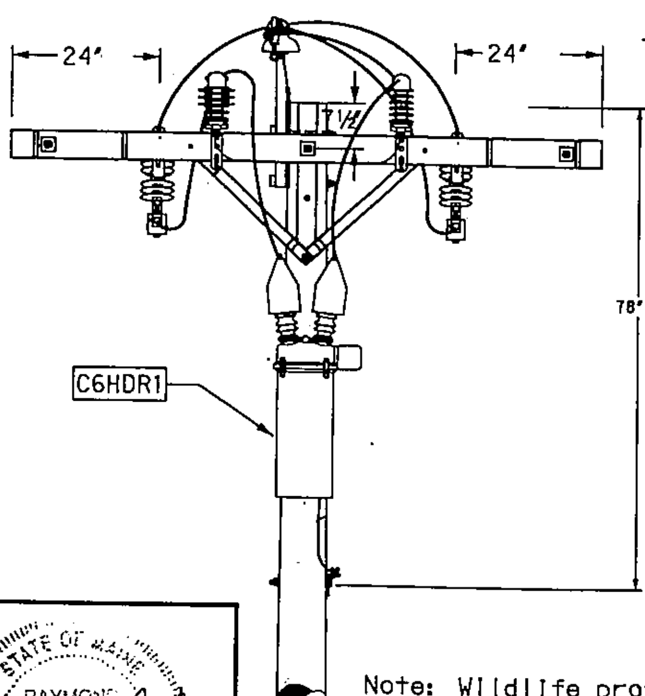
CENTRAL MAINE POWER CO.

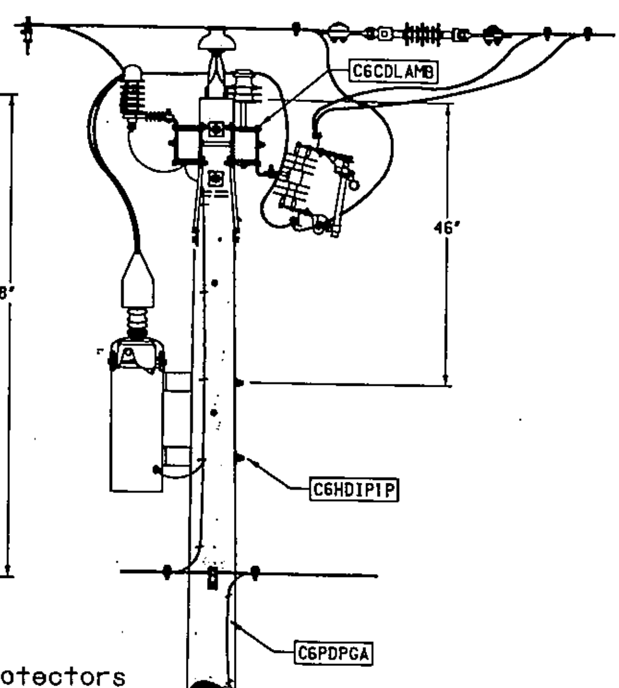
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Mat'l*		*Description*	*Material ID*
C6CDOE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDHLCF8	1		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6COIPIN	1		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6COLAMB	4		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6HOIP1P	1		RECLOSER INST PKG, 1PH	
		1	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WILDLIFE PROTECTOR	60003128XX
		1	OH COND SIGNS & SWITCH NUMBERS	60008256XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751162
C6HOLA10	2		LIGHTNING ARRESTOR 10KV FOR RECLOSER	
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751162
C6HOR1	1		RECLOSER GENERIC 1PH (SELECT FROM CUCT)	
		1	GENERIC RECLOSER (SELECT FROM CUCT)	600052050X
C6HOSBCONLB30015	2		SOLID BLADE CUTOUT N L/B 300A 15KV RECLS	
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N/LB BODY ONLY 15KV	6000491805
		1	C/O DOOR SOLID BLADE 15KV 300A NON LOAD	751566
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751162
C6PDXA6	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MH1PT4UP1L	1 PH RECL INST #4 COND & UP IN LINE	325-1B







Note: Wildlife protectors will be installed on all recloser bushings

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN	CS	CS	
DATE	REC 10/05/01	REC 11/18/06	

EnergyEast

	ORIGINAL	REDRAWN
DESIGNED		
DRAWN		GRG
DATE		9/26/95

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

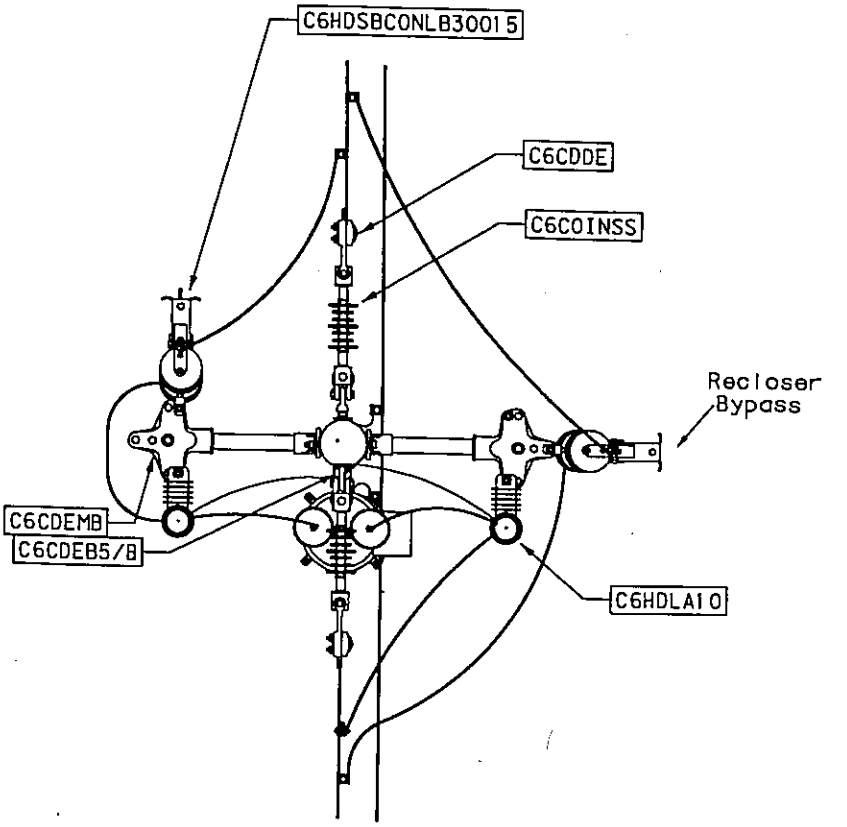
STATE OF MAINE — PROFESSIONAL ENGINEER — 11/16/06

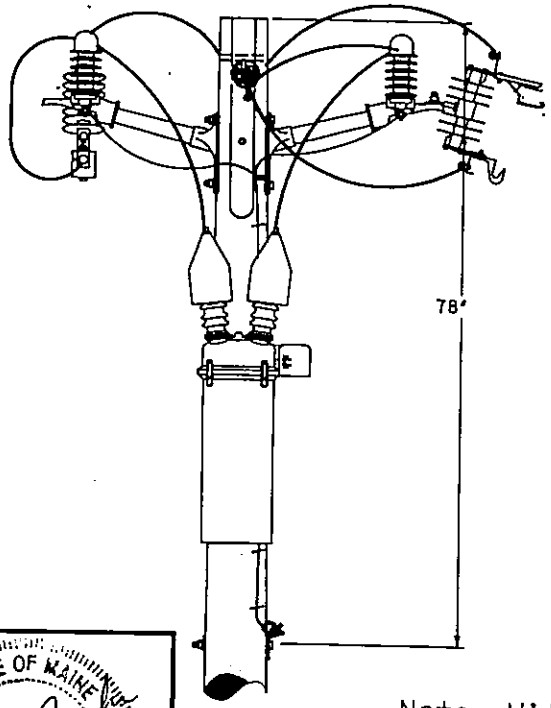
CENTRAL MAINE POWER CO.

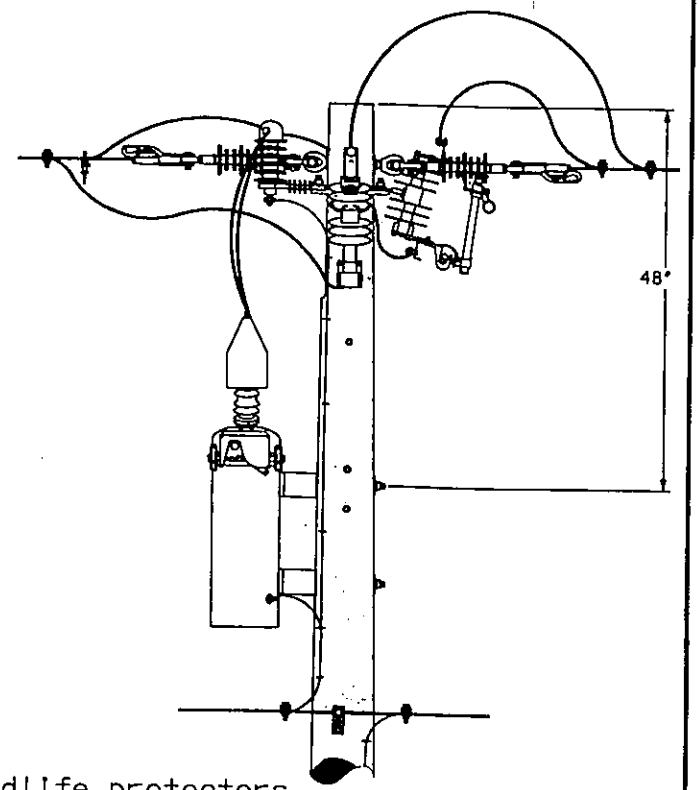
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6COEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6COEMB	2		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6HDIP1P	1		RECLOSER INST PKG, 1PH	
		1	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WILDLIFE PROTECTOR	60003128XX
		1	OH COND SIGNS & SWITCH NUMBERS	60008256XX
		5	WIRE NO. 4 CU GRDUND BARE STRANDED S D	751182
C6HDLA10	2		LIGHTNING ARRESTOR 10KV FOR RECLOSER	
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6HDR1	1		RECLOSER GENERIC 1PH (SELECT FROM CUCT)	
		1	GENERIC RECLOSER (SELECT FROM CUCT)	600052050X
C6HDSBCONLB30015	2		SOLID BLADE CUTOUT N L/B 300A 15KV RECLS	
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N/LB BODY ONLY 15KV	6000491805
		1	C/O DOOR SOLID BLADE 15KV 300A NON LOAD	751566
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MH1DDE	1 PH RECL INST DOUBLE D/E	325-2B







Note: Wildlife protectors will be installed on all recloser bushings

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	11/07/01	07/10/06	

EnergyEast

	ORIGINAL
DESIGNED	HEPJ
DRAWN	
DATE	5/2/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE RAYMOND A. BOUCHER REGISTERED PROFESSIONAL ENGINEER 1-4-06

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*	*Description*	*Material ID*
C6CDDE	4	DEADEND COND GENERIC (SELECT FRDM CUCT)	
	1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDHLCF8	2	LINK CONNECTING FIGURE 8	
	1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	4	INSULATOR PIN TYPE GENERIC (SELECT FROM	
	1	INSULATORS	6000310XXX
C6CDINSS	2	INS DEADEND GENERIC (SELECT FROM CUCT)	
	1	INSULATORS	6000310XXX
C6CDIPIN	4	INSULATOR PINS VARIOUS SIZES LOBBY	
	1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
	1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CONB	1	NEUTRAL BRACKET STEEL	
	4	TIE WIRE AL LOBBY	6000205XXX
	1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
	1	WSH 2 TURN SPR GALV 5/8	6000274600
	1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
	1	BKT NEUTRAL CLAMP STEEL	6000620230
C6COTW	15	TAPWIRE GENERIC (SELECT FROM CUCT)	
	1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6HDIP2P	1	RECLOSER INST PKG 2 1PHASE	
	4	CONNECTORS	600011XXXX
	30	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
	4	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
	4	WSH 2 TURN SPR GALV 5/8	6000274600
	4	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
	4	WILDLIFE PROTECTOR	60003126XX
	2	OH COND SIGNS & SWITCH NUMBERS	60008256XX
	10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6HDLA10	4	LIGHTNING ARRESTOR 10KV FOR RECLOSER	
	3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
	4	STAPLES GALV F/4 GRD WR	6000274402
	1	ARR DIST 10KV	6000490060
	3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6HDR1	2	RECLOSER GENERIC 1PH (SELECT FROM CUCT)	
	1	GENERIC RECLOSER (SELECT FROM CUCT)	600052050X
C6HDSBCONLB30015	4	SOLID BLADE CUTOUT N L/B 300A 15KV RECLS	
	10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
	1	C/O N/LB BODY ONLY 15KV	6000491805
	1	C/O DOOR SOLID BLADE 15KV 300A NON LOAD	751566
C6PDPGA	1	POLE GROUND ASSEMBLY	
	1	CONN GRO ROD 3/4 IN	6000112662
	1	CONNECTORS	600011XXXX
	6	MOULDING PLAS 1/2 IN GR	6000251680
	1	ROD GROUND GALV 3/4X8FT	6000251860
	9	STAPLES GALV F/4 GRD WR	6000274402
	6	STAPLE F/ 1/2IN MOLDING	6000274410
	40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA8	3	XARM, 6PINB, 8FT	
	1	XARM 6PIN 8	6000740510
C6PDXADH	1	XARM, DOUBLE, HARDWARE ONLY	
	4	B CARR GALV 3/8 X 5	6000270310
	3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
	2	B LAG GALV FET 1/2 X 4	6000272540
	4	BRACE XARM 28 IN	6000272670
	10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
	9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PDXASH	1	XARM, SINGLE, HARDWARE ONLY	
	2	B CARR GALV 3/8 X 5	6000270310
	1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
	1	B LAG GALV FET 1/2 X 4	6000272540
	2	BRACE XARM 28 IN	6000272670
	2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
	3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

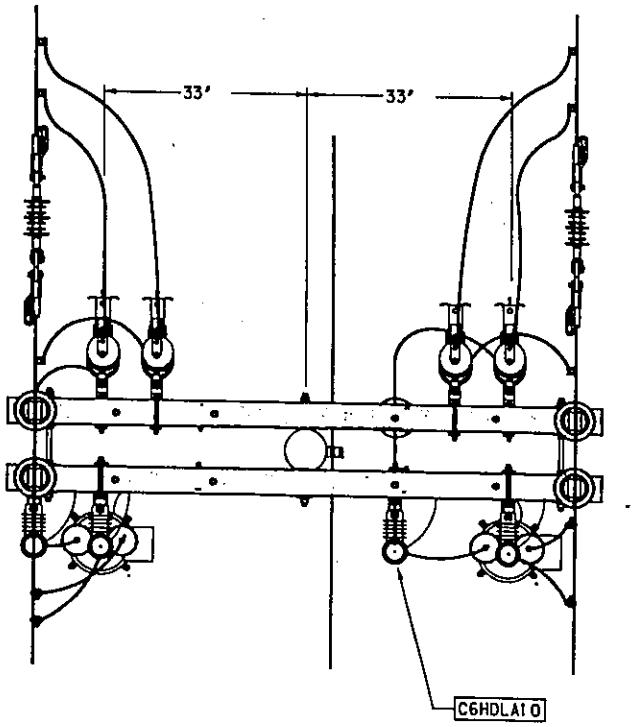
MACRO	DESCRIPTION	PAGE
C6MH21DX1	2 SINGLE PH RECL INST IN LINE DBL XARM	325-3B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	11/18/06	

	ORIGINAL
DESIGNED	GLG
DRAWN	HEPJ
DATE	5/2/90

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY



SOURCE

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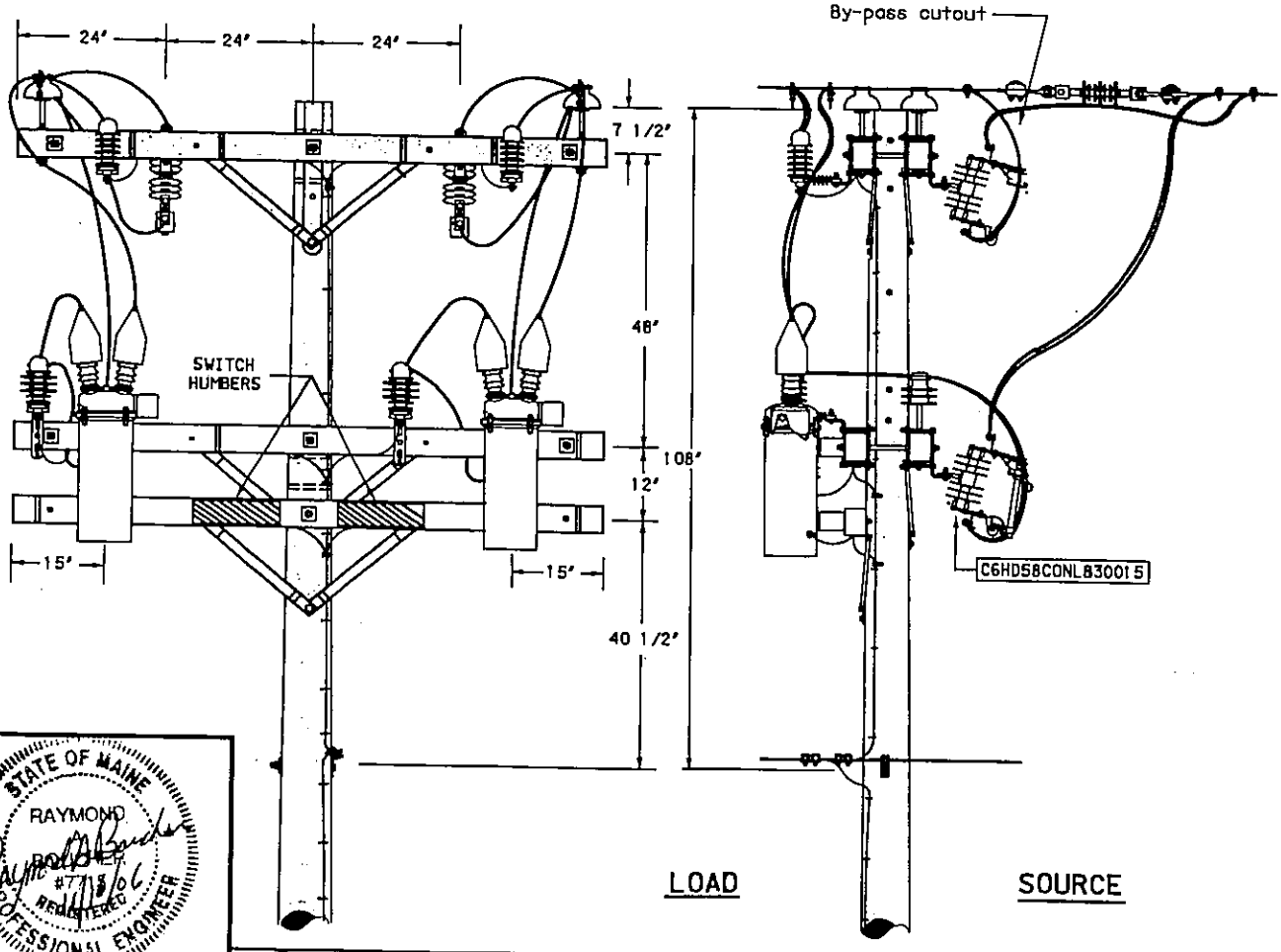
NOTE:

Inline dead ends shall not be used on wire smaller than #4.



STATE OF MAINE
RAYMOND
#7715
REGISTERED
PROFESSIONAL ENGINEER
11/18/06

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDSBIL	3		INLINE DISCONNECT GENERIC (SELECT FROM C	
		1	SOLID BLADE CUTOUT OR DISCONNECT,GENERIC	600049062X
C8CDTW	30		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6HDIP3P	1		RECLOSER INST PKG, 3PH	
		5	CONNECTORS	600011XXXX
		2	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		6	WILDLIFE PROTECTOR	60003126XX
		1	OH COND SIGNS & SWITCH NUMBERS	60008256XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6HDLA10	6		LIGHTNING ARRESTOR 10KV FOR RECLOSER	
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6HDR3	1		RECLOSER GENERIC (SELECT FROM CUCT)	
		1	GENERIC RECLOSER (SELECT FROM CUCT)	600052050X
C6HDRH	1		RECLOSER HANGER BRACKET GENERIC	
		1	RECLOSER HANGER BRACKET,GENERIC	600052061X
C6HDSBCONLB30015	3		SOLID BLADE CUTOUT N L/B 300A 15KV RECLS	
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N/LB BODY ONLY 15KV	6000491805
		1	C/O DOOR SOLID BLADE 15KV 300A NON LOAD	751566
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251660
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

EnergyEast

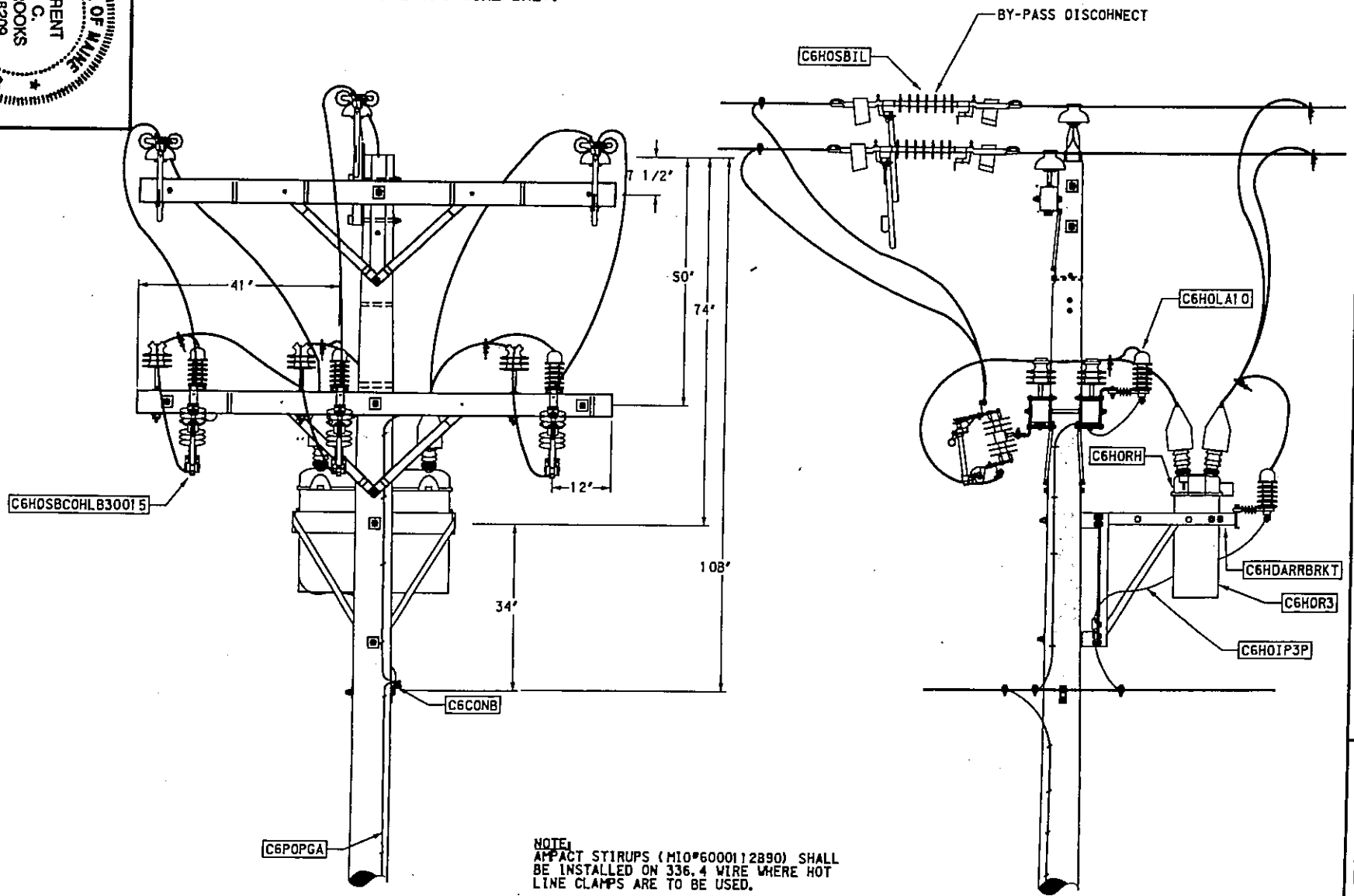
	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/03/01	12/06/06	

STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
12/7/2006

INLINE DISCONNECT CAN BE USED ON 336.4 AND 1/0 WIRE ONLY.

SOURCE

LOAD



NOTE:
AMPACT STIRUPS (M10*6000112B90) SHALL BE INSTALLED ON 336.4 WIRE WHERE HOT LINE CLAMPS ARE TO BE USED.

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO C6MH31D12

DESCRIPTION 3 PH RECL 12KV INLINE DISC 1/0 AND 336

PAGE 325-4B

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDDE	6		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6COHLCF6	3		LINK CONNECTING FIGURE 8	
		1	LINK CONNECTING FIG 8	6000273410
C6CDINSPT	9		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6COLAMB	9		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	3		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6CDTW	40		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6HDARRBRKT	1		RECLOSER ARRESTER MOUNTING BRACKET	
		1	BKT ARR 3UNIT F/RECLOSR	6000491400
C6HDIP3P	1		RECLOSER INST PKG, 3PH	
		5	CONNECTORS	600011XXXX
		2	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		6	WILDLIFE PROTECTOR	60003178XX
		1	OH COND SIGNS & SWITCH NUMBERS	60008256XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6HOLA10	6		LIGHTNING ARRESTOR 10KV FOR RECLOSER	
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6HDR3	1		RECLOSER GENERIC (SELECT FROM CUCT)	
		1	GENERIC RECLOSER (SELECT FROM CUCT)	600052050X
C6HDRH	1		RECLOSER HANGER BRACKET GENERIC	
		1	RECLOSER HANGER BRACKET,GENERIC	600052001X
C6HDSBCONLB30015	6		SOLID BLADE CUTOUT N L/B 300A 15KV RECLS	
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N/LB BODY ONLY 15KV	6000491605
		1	C/O DOOR SOLID BLADE 15KV 300A NON LOAD	751566
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPCA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		6	MOULDING PLAS 1/2 IN GR	6000251660
		1	ROD GROUND GALV 3/4X8FT	6000251660
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING.	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXAB	3		XARM, 6PINB. 8FT	
		1	XARM 8PIN 8	6000740510
C6PDXACH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/19/93

EnergyEast

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	3/7/95	09/10/01	07/11/06

STATE OF MAINE — RAYMOND G. LAMBERT — #7715 — REGISTERED PROFESSIONAL ENGINEER

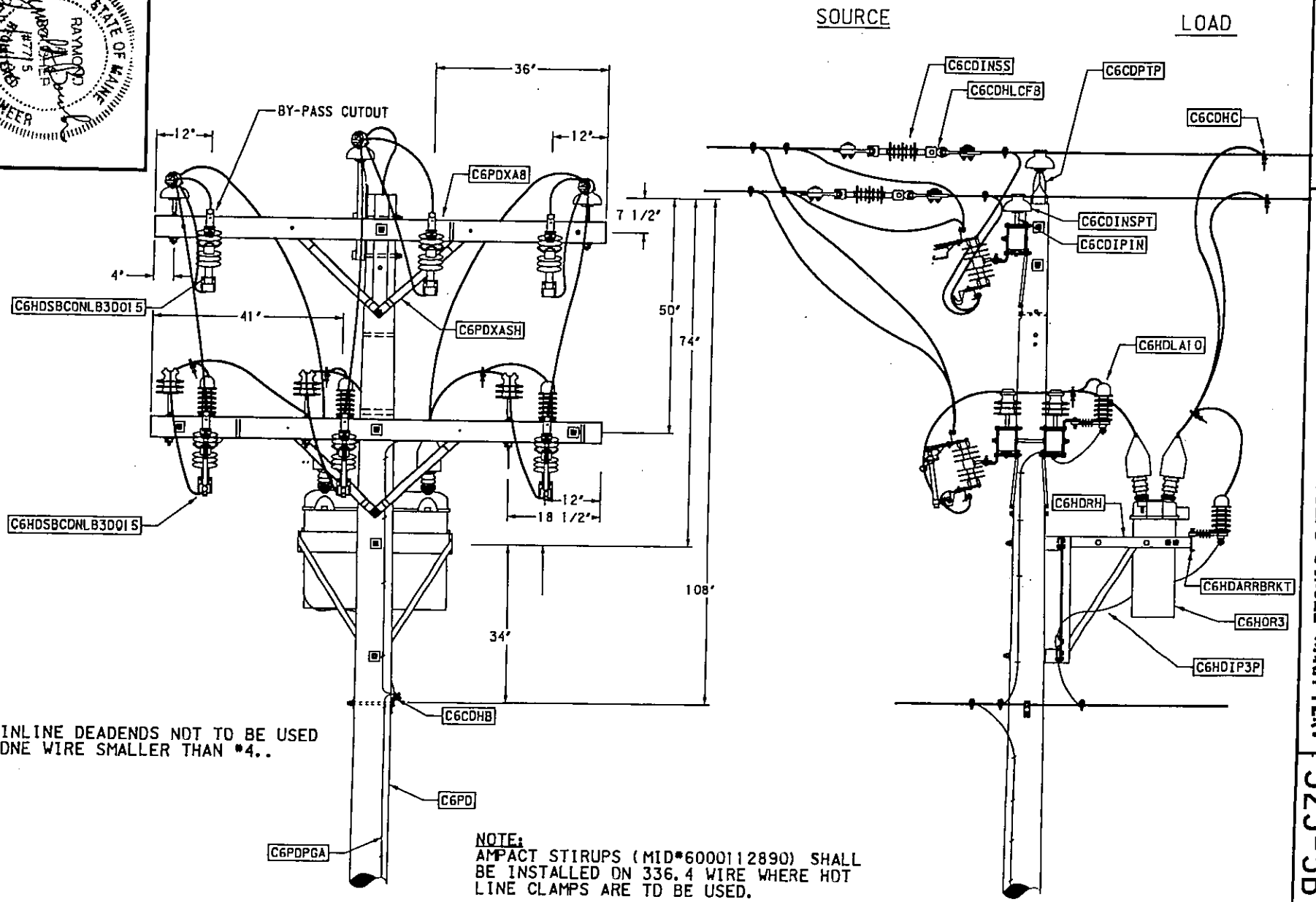
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO C6M3ILDESX12

DESCRIPTION 3 PH RECL INST INLINE DEADEND SINGLE XARM 12KV

PAGE 325-5B



INLINE DEADENDS NOT TO BE USED ONE WIRE SMALLER THAN #4..

NOTE:
AMPACT STIRUPS (MID#6000112890) SHALL BE INSTALLED ON 336.4 WIRE WHERE HOT LINE CLAMPS ARE TO BE USED.

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDDE	6		DEADEND,COND_GENERIC,(SELECT FROM CUCT)	
		1	DEADEND,PRI,(SELECT FROM CUCT)	60001106XX
C6CDEN5/8	6		EYE NUT ROUND 5/8 INCH	
		1	NUT,EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	6		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	12		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	12		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDLAMB	9		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	6		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTW	40		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6HDARBBRKT	1		RECLOSER ARRESTER MOUNTING BRACKET	
		1	BKT ARR 3UNIT F/RECLOSR	6000491400
C6HDIP3P	1		RECLOSER INST PKG, 3PH	
		5	CONNECTORS	600011XXXX
		2	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		6	WILDLIFE PROTECTOR	60003126XX
		1	OH COND SIGNS & SWITCH NUMBERS	60006256XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S.D.	751182
C6HDLA10	6		LIGHTNING ARRESTOR 10KV FOR RECLOSER	
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND BARE STRANDED S.D	751182
C6HDR3	1		RECLOSER GENERIC (SELECT FROM CUCT)	
		1	GENERIC RECLOSER (SELECT FROM CUCT)	600052050X
C6HDRH	1		RECLOSER HANGER BRACKET GENERIC	
		1	RECLOSER HANGER BRACKET,GENERIC	600052061X
C6HDSBCONLB30015	6		SOLID BLADE CUTOUT N L/B 300A 15KV RECLS	
		10	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	C/O N/LB BODY ONLY 15KV	6000491805
		1	C/O DOOR SOLID BLADE 15KV 300A NON LOAD	751566
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S.D.	751182
C6PDXA8	4		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	2		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

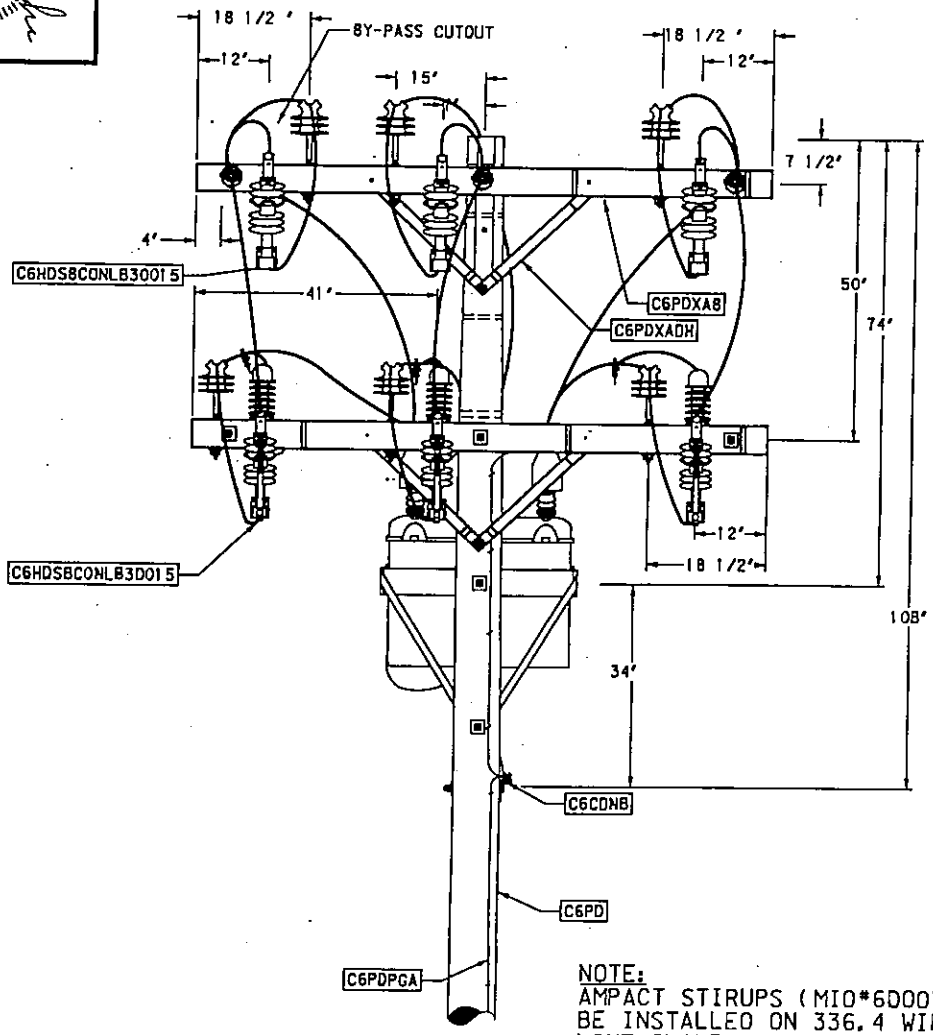
THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/18/93

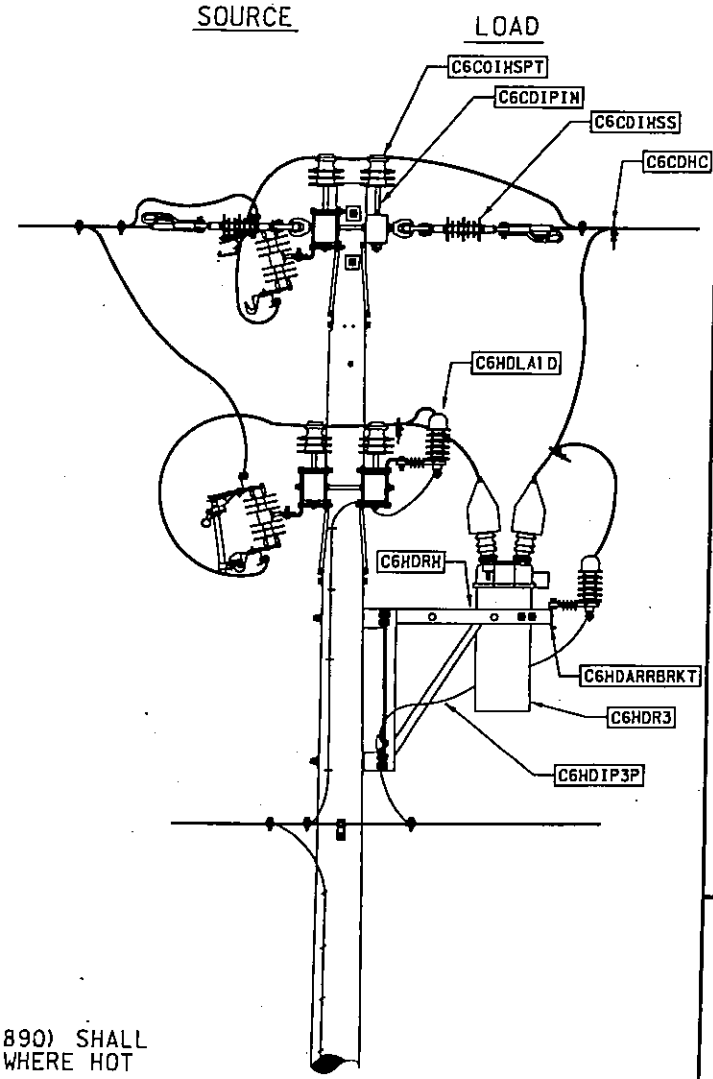
EnergyEast

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	1/6/95	08/31/01	07/10/06

STATE OF MAINE — REGISTERED PROFESSIONAL ENGINEER — #7715



NOTE:
AMPACT STIRUPS (MIO*6D00112890) SHALL BE INSTALLED ON 336.4 WIRE WHERE HOT LINE CLAMPS ARE TO BE USED.



CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO C6MH3DDE12

DESCRIPTION 3 PH RECL INST 12kv DBL DEADENDS

PAGE 325-6B

CU Number	Quantity - CU/Matl		Description	Material ID
C6CODE	6		DEADEND,CONO_GENE8IC,(SELECT,EROM,CUCT)	
		1	DEAOENO,PRI,(SELECT,EROM,CUCT)	60001106XX
C6COEN5/8	6		EYE NUT,ROUND,5/8 INCH	
		1	NUT,EYE,ROUND,5/8,TAP	6000273430
		1	WSH,2,TURN,SPR,GALV,5/8	6000274600
C6CDHS1/2	6		SHACKLE,1/2IN,W,5/8IN,PIN	
		1	SHACKLE,1/2,IN,W/5/8PIN	6000274320
C6CDINSS	6		INS,DEAOENO,GENERIC,(SELECT,EROM,CUCT)	
		1	INSULATORS	6000310XXX
C6CDLAM8	3		XARM,MOUNTING,8RACKET	
		1	BKT,EOUIP,MTG,CROSSARM	6000620100
C6CDNB	1		NEUTRAL,8RACKET,STEEL	
		4	TIE,WIRE,AL,LO88Y	6000205XXX
		1	BOLT,,THRU,5/8,IN,,ALL,LENGTHS	600027208X
		1	WSH,2,TURN,SPR,GALV,5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED,ALL,SIZES	60002748XX
		1	BKT,NEUTRAL,CLAMP,STEEL	6000620230
C6CDPC	9		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTC2E2-350	12		TERM,CONN,2,EYEBOLTS,2-350KCM,CU,2,BOLT	
		1	CONN,TERM,350CU-BAR	6000117876
C6CDTW	30		TAPWIRE,GENERIC,(SELECT,EROM,CUCT)	
		1	TAP,WIRE,(SELECT,EROM,CUCT)	600020XXXX
C6HDARR8RKT	1		RECLOSER,A8RESTER,MOUNTING,8RACKET	
		1	BKT,ARR,3UNIT,F/RECLOSR	6000491400
C6HDIP3P	1		RECLOSER,INST,PKG,,3PH	
		5	CONNECTORS	600011XXXX
		2	TAP,WIRE,(SELECT,FROM,CUCT)	600020XXXX
		2	BOLT,,THRU,5/8,IN,,ALL,LENGTHS	600027208X
		2	WSH,2,TURN,SPR,GALV,5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED,ALL,SIZES	60002748XX
		6	WILDLIFE,PROTECTOR	60003128XX
		1	OH,COND,SIGNS,&,SWITCH,NUM8ERS	60008256XX
		5	WIRE,NO.,4,CU,GROUND,BARE,STRANDED,S,D	751182
C6HDLA10	6		LIGHTNING,ARRESTOR,10KV,FOR,RECLOSER	
		3	WIRE,#2,CU,7,STRAND,,SD,,RHW,,USE,OR,RHH	6000207360
		4	STAPLES,GALV,F/4,GRD,WR	6000274402
		1	ARR,DIST,10KV	6000490060
		3	WIRE,NO.,4,CU,GROUND,BARE,STRANDED,S,D	751182
C6HDR3	1		RECLOSER,GENERIC,(SELECT,FROM,CUCT)	
		1	GENERIC,RECLOSER,(SELECT,FROM,CUCT)	600052050X
C6HDRCC	1		RECLOSER,CONTROL,CA8INET,,GENERIC	
		1	RECL,CTRL,CA8INET,,GENERIC	600052067X
C6HDRCC14C	1		RECLOSER,CONTROL,CA8LE,14,CONDUCTOR	
		1	RECLOSER,PART,CA8LE,50'	6000525100
C6HDRCCDISC	1		RECLOSER,CONTROL,CA8INET,DISCONNECT	
		1	DISCONNECT,RECLOSER,CONTROL,CABINET	6000525115
C6HDRH	1		RECLDSER,HANGER,BRACKET,GENERIC	
		1	RECLOSER,HANGER,BRACKET,GENERIC	600052061X
C6HDS8D27600U	6		SWITCH,DISC,27KV,600A,UNDERARM,FOR,RECL	
		10	WIRE,600V,XHHW,4/0,COPPER,STRANDED	6000207429
		1	SW,DISC,27KV,UNDER,ARM	6000642885
C6PD	1		POLE,GENERIC,(SELECT,FROM,CUCT)	
		1	POLES,(SLECT,FROM,CUCT)	600074XXXX
C6PDPGA	1		POLE,GROUNO,A,SSEM8LY	
		1	CONN,GRO,ROD,3/4,IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING,PLAS,1/2,IN,GR	6000251880
		1	ROD,GROUND,GALV,3/4X8ET	6000251860
		9	STAPLES,GALV,F/4,GRO,WR	6000274402
		6	STAPLE,F/,1/2IN,MOLOING	6000274410
		40	WIRE,NO.,4,CU,GROUNO,8ARE,STRANDEO,S,D	751182
C6PDXA10	2		XARM,,8PIN8,,10,FT	
		1	XARM,8,PIN,B	6000740540
C6PDXA8	2		XARM,,6PIN8,,8ET	
		1	XARM,6PIN,8	6000740510
C6PDXADH	4		XARM,,DOU8LE,,HARDWARE,ONLY	
		4	8,CARR,GALV,3/8,X,5	6000270310
		3	BOLT,,SPACE,,5/8,IN,,ALL,SIZES	600027217X
		2	B,LAG,GALV,FET,1/2,X,4	6000272540
		4	BRACE,XARM,28,IN	6000272670
		10	WASHER,SQUARE,GALVANIZED,ALL,SIZES	60002748XX
		9	WASHER,,GALV,,TWO,TURN,SPRING,ALL,SIZES	6000274XXX

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/3/93

EnergyEast

NO.	REVISION	DATE	CK.
1	Reversed sw & replaced 8ft xarm with 10ft xarm	07/12/07	RB
2	Changed control box insert, add conduit note	02/06/08	

BRENT C. BROOKS No. 8209 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

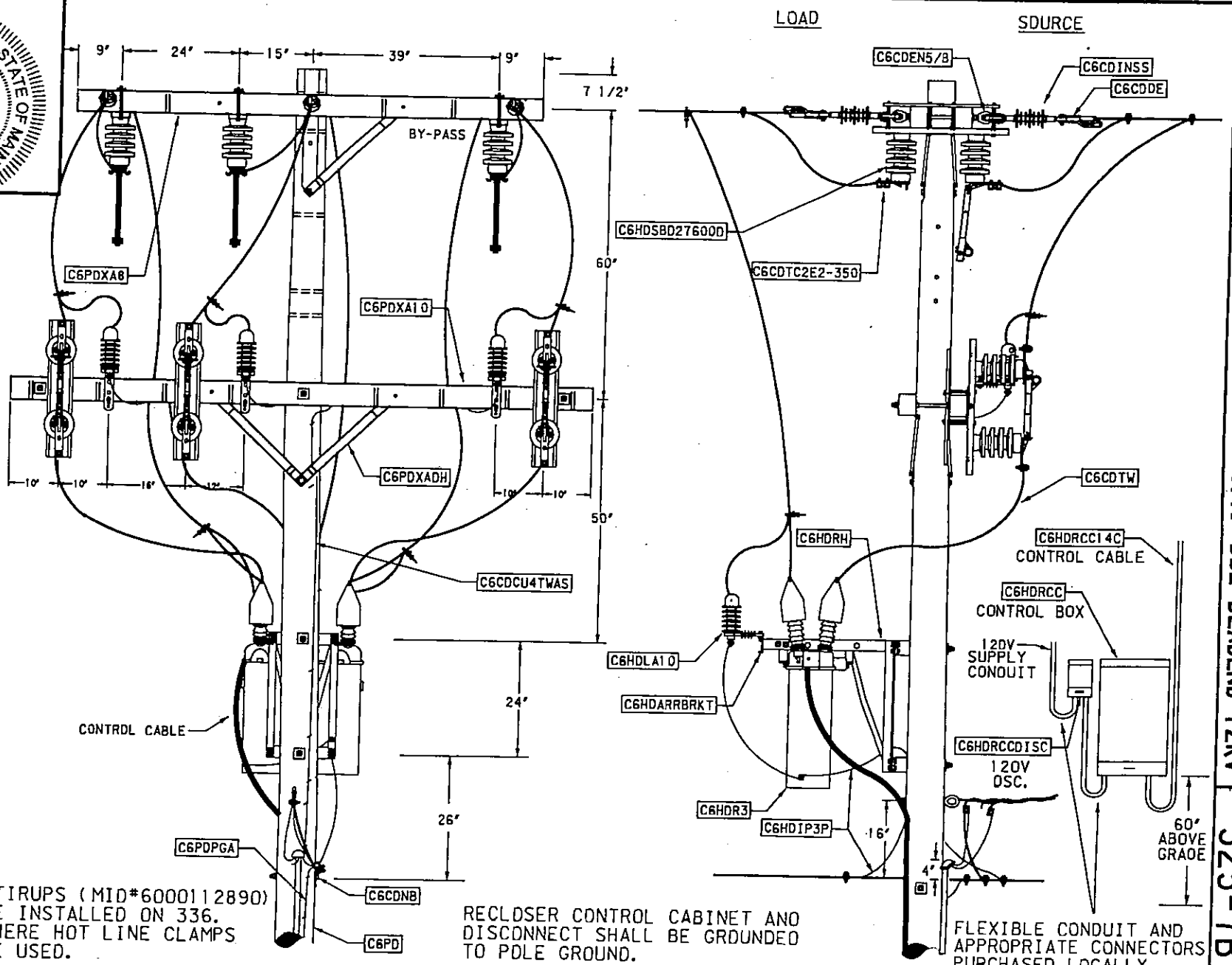
MACRO C6M3DDE20012

DESCRIPTION 3 PH RECL OVER 200AMP DBL DEADEND 12KV

PAGE 325-7B

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS



NOTE:
AMPACT STIRUPS (MID#6000112890) SHALLL BE INSTALLED ON 336.
4 WIRE WHERE HOT LINE CLAMPS ARE TO BE USED.

RECLOSER CONTROL CABINET AND DISCONNECT SHALL BE GROUNDED TO POLE GROUND.

FLEXIBLE CONDUIT AND APPROPRIATE CONNECTORS PURCHASED LOCALLY

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDDE	6		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEN5/8	6		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	6		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6COINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	600031 0XXX
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	9		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTC2E2-350	6		TERM CONN 2 EYEBOLTS 2-350KCM CU 2 BOLT	
		1	CONN TERM 350CU-BAR	6000117976
C6CDTW	30		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6HDARRBRKT	1		RECLOSER ARRESTER MOUNTING BRACKET	
		1	BKT ARR 3UNIT F/RECLOSR	6000491400
C6HDIP3P	1		RECLOSER INST PKG, 3PH	
		5	CONNECTORS	600011XXXX
		2	TAP WIRE (SELECT FROM CUCT)	600020XXXX
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		6	WILDLIFE PROTECTOR	6000312BXX
		1	OH COND SIGNS & SWITCH NUMBERS	60008256XX
		5	WIRE NO. 4 CU GROUND BARE STRANDED S.D	7511B2
C6HDLA27	6		LIGHTNING ARRESTOR 27KV FOR RECLOSER	
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	ARRESTER, DISTRIBUTION	6000490120
		3	WIRE NO. 4 CU GROUND BARE STRANDED S.D	7511B2
C6HDR3	1		RECLOSER GENERIC (SELECT FROM CUCT)	
		1	GENERIC RECLOSER (SELECT FROM CUCT)	600052050X
C6HDRCC	1		RECLOSER CONTROL CABINET, GENERIC	
		1	RECL CTRL CABINET, GENEBIC	600052067X
C6HDRCC14C	1		BECLOSER CONTROL CABLE 14 CONDUCTOR	
		1	RECLOSER PART CABLE 50'	6000525100
C6HDRCCDISC	1		RECLDSER CONTROL CABINET DISCDNNECT	
		1	DISCONNECT RECLOSER CONTROL CABINET	6000525115
C6HDRH	1		RECLOSER HANGER BRACKET GENERIC	
		1	RECLOSER HANGER BRACKET GENERIC	600052061X
C6HDSBCONLB30038	3		SOLID BLADE CUTOUT N L/B 300A 38KV RECLS	
		10	WIRE 600V XHHW 4/0 COPPER STRANDED	6000207429
		1	Cut Out Non Load Break 300 AMP Full 38KV	6000491773
C6HDSBD27600U	3		SWITCH DISC 27KV 600A UNDERARM FOR RECL	
		10	WIRE 600V XHHW 4/0 COPPER STRANDED	6000207429
		1	SW DISC 27KV UNDER ARM	6000542885
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S.D	751182
C6PDXA10	2		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXAB	2		XARM, 6PINB, 8ET	
		1	XARM 6PIN 8	6000740510
C6PDXADH	4		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

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	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/3/93

EnergyEast

NO.	REVISION	DATE	CK.
1	Reversed sw & replaced 8ft xarm with 10ft xarm	07/12/07	RB
2	Changed control box insert, add conduit note	02/06/08	

BRENT C. BROOKS No. 8209 LICENSED PROFESSIONAL ENGINEER STATE OF MAINE

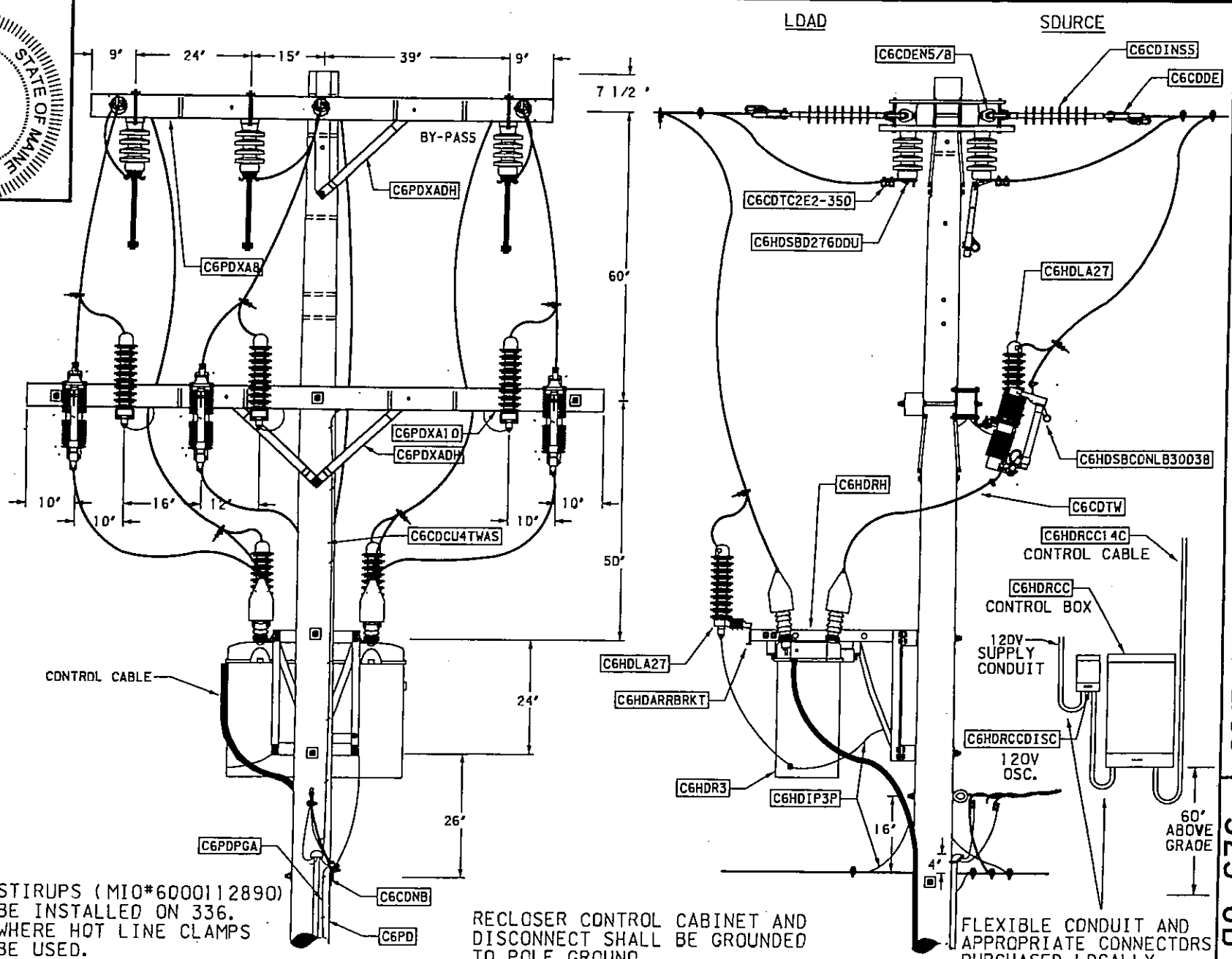
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO C6M3DE34

DESCRIPTION 3 PH RECL INST 34KV DBL DEADENDS

PAGE 325-8B



NOTE:
AMPACT STIRUPS (MIO*6000112890) SHALLL BE INSTALLED ON 336. 4 WIRE WHERE HOT LINE CLAMPS ARE TO BE USED.

RECLOSER CONTROL CABINET AND DISCONNECT SHALL BE GROUNDED TO POLE GROUND.

FLEXIBLE CONDUIT AND APPROPRIATE CONNECTORS PURCHASED LOCALLY

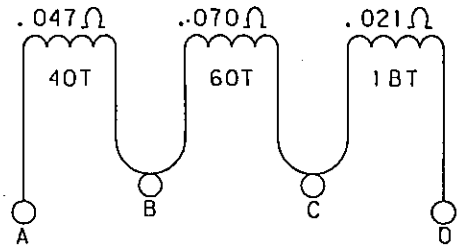
PAGE	DESCRIPTION	MACRO
326-2	RECLOSER METERING CONNECTION DIAGRAM	

CONNECTION OIAGRAM FOR BUSHING CT'S

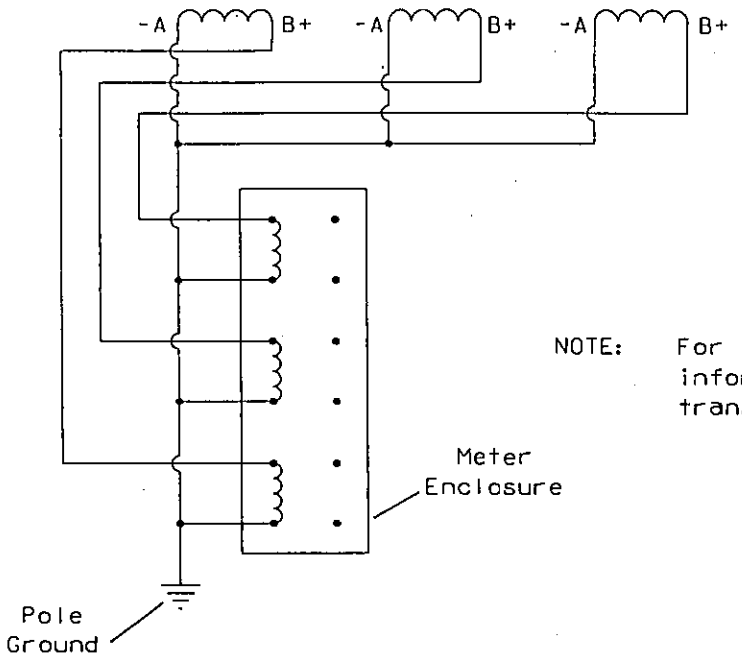
Multi-Ratio 600:5

Current Ratio	Connection Terminals
100:5	C-D
200:5	A-B
300:5	B-C
400:5	B-D
500:5	A-C
600:5	A-D

DC RESISTANCE



CT'S Y - Y CONNECTION



A & B Terminals are for Example only:
Use CT Terminals A & B 200:5
200÷5=40
40 Is the multiplier to be usea to read the correct amperage on a 5 AMP scale

NOTE: For installation see catalog service information sheet on bushing current transformers.

	DESIGNED	REDRAWN	CS
DATE	DRAWN	JRP	REC
08/12/98			08/31/01

	DESIGNED	SGO
DATE	DRAWN	RCE
02/19/87		

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STATE OF MAINE
KENT B. POOLE
#7988
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	SPACER CABLE	330

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			

GENERAL

Spacer cable construction may be single or three phase and consists of covered primary wires separated by intermediate spacers constructed of insulating material and supported by a high strength bare messenger. The required insulation is provided through a combination of the separation of the conductors and covering of the conductors.

APPLICATION

Spacer cable construction shall be used only with prior approval from Distribution Engineering and where one of the following conditions exist:

1-Heavy tree conditions with excessive trimming limitations.
2-Proper clearance cannot be maintained using other than spacer cable construction.
3-Multiple circuits on a pole line are required.
4-Right of way space is limited.
5-Otherwise justified to improve reliability

CLEARANCE

Because the covering on the primary wire alone is not adequate insulation for the applied voltage and the primary conductors are not shielded the primary wire must be considered as bare conductor for all clearance purposes. Trim shall be sufficient that direct contact with vegetation is avoided

SEPARATION

The reduced separation between the primary wires and the supporting messenger is allowed only provided the insulation system comprised of the intermediate spacers and conductor covering is completely intact. When the covering is removed from the primary wire separation between the exposed primary and other facilities including the supporting messenger must be increased to that required for bare wire construction or supplemental insulation must be installed.

CONDUCTORS

Standard primary conductors are:

6000207958	15 kv 1/0 awg. AAAC standard round
6000207981	15 kv 336 kcmil AL compact round
6000207990	35 kv 1/0 awg. AAAC standard round
6000207995	35 kv 336 kcmil AL compact round
6000207996	35 kv 477 kcmil AL compact round

See Central Maine Power Company Specification 20-002 for further detail.

Standard messenger, 6000205382, is 052 Alumaweld, 7strand (5 alumoweld and 2 aluminum) 0.486" diameter.

EnergyEast

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	01/30/06

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE GARY A. RICCI #4737 PROFESSIONAL ENGINEER

PAGE	DESCRIPTION	MACRO
330-1	SPACER CABLE	

SPLICING CONDUCTORS

Messenger: The messenger shall be spliced with a full tension automatic splice MID* 6000586780.

Primary Conductors: Primary conductor shall be spliced with a Full or Partial Tension compression sleeve.

CONDUCTOR	SPLICE MID*
1/0 AAAC	6000582280
336 AL	6000582640
477 AL	6000582670

DO NOT USE AUTOMATIC SPLICES IN THE PRIMARY CONDUCTORS.

Primary conductor splices shall normally be re-covered using a cold shrink splice cover or insulating tape. If a splice is left bare, the messenger above the splice shall be covered for a minimum of 30 inches in each direction from the splice and a surge arrester shall be installed at the pole nearest the splice.

Splices shall be staggered a minimum of 30 inches.

Splices shall not be installed closer than 30' to pin insulators or spacers.

INSULATORS and TIES

Dead end Insulators: Standard one-piece polymer strain insulators should be used to dead end primary conductors.

Pin Insulators: Covered primary conductors shall normally be supported on one-piece tie top polyethylene pin insulators. Covered primary conductor shall be tied to polyethylene pin insulators with covered tie wire.

With approval from the Distribution Engineer polyethylene vise top insulators maybe used for longitudinal stability

If covered conductor must be attached to porcelain insulators the covering MUST be removed, where it contacts the insulator and the tie wire, and the tie wire must be bare.

GROUNDING

The supporting messenger shall be directly connected to the primary neutral at every pole. If a primary neutral is not available the messenger shall be connected to a driven ground rod at every pole. The messenger shall be connected to a driven ground rod at intervals not to exceed 400 feet.

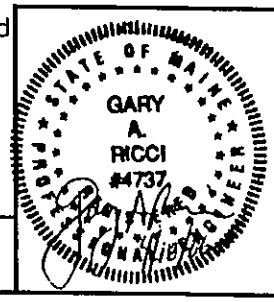
All messenger and phase conductor brackets shall be bonded to the pole equipment conductor. Banding of the support bracket does not constitute grounding the messenger.

SURGE PROTECTION

Surge arrester(s) shall be installed:

1- at all end-of-line spacer cable dead ends.
2- at all junctions with bare or covered open wire. If the junction is at a switch the arrester(s) shall be installed on the spacer cable side of the switch.
3- at any location where the covering is removed from the primary wire.

All surge arrester ground terminals shall be directly connected to a driven ground rod and banded to the primary neutral if available.



DESIGNED		
DRAWN		
DATE		

DESIGNED		CS
DRAWN		REC
DATE	01/24/06	

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

MACRO	DESCRIPTION SPACER CABLE MATERIAL ID NUMBERS	PAGE 330-2

NO.	REVISION	DATE	CK.
1	Corrected spelling of messenger	01/30/06	
2	Chgd 6000582640 burndy U321 to U655	07/07/09	

ITEM	15 KV 1/0 AAAC CONCENT AZUSA	15 KV 336.4 KCM COMPACT TULIP	34.5 KV 1/0 AAAC CONCENT AZUSA	34.5 KV 336.5 KCM COMPACT TULIP	34.5 KV 477 KCM COMPACT COSMOS
CONDUCTOR	6000207958	6000207981	6000207990	6000207995	6000207996
STRIPPER-MIDSPAN RIPLEY-UTILITYTODL	6000834277 WS1-101	6000834271 W52-6	6000834272 WSRK10-88	6000834279 W52-122	6000834274 WSRK10-111
SPLICE-CONDUCTOR -partial tension DIES FOR SLEEVES	6000584360 NICD: P, H: TU & BL: TR66		6000584360 NICD: P, H: TU & BL: TR66		6000582670 BURNDY U317
-full tension DIES FOR SLEEVES	6000582280 HDMAC TWTY	6000582640 BURNDY U655	6000582280 HDMAC TWTY	6000582640 BURNDY U655	
SPLICE COVERS	6000582695	6000582690	6000582695	6000582690	6000582690
	(8 KV COLD SHRINK DR TAPE W/130C & 88)				
MESSENGER	6000205382	6000205382	6000205382	6000205382	6000205430
	052 AWA & 1/2" ALUMDWELD (.486" DIA.)				
SPLICE-MESSENGER RELIABLE PART *	6000586780	6000586780	6000586780	6000586780	6000586780
	(5044), 12.25"L 1.70" DIA FOR 0.455-0.520" DIA.				
CONDUCTOR DEAD-END	6000110822	6000110830	6000110822	6000110830	6000110835
MESSENGER DEAD-END RELIABLE PART *	6000110806	6000110806	6000110806	6000110806	6000110806
	(5204)				
TANGENT BRACKETS HENDRIX PART *	6000620290	6000620290	6000620320	6000620320	6000620320
	BM-14		BM-24		
ANGLE BKT-4 COND HENDRIX PART *	6000620440	6000620440	N/A	N/A	N/A
	BA4-15				
ANGLE BKT-3 COND HENDRIX PART *	6000620470	6000620470	6000620480	6000620480	6000620480
	BA3-15		BA3-35		
DEAD-END BRACKET HENDRIX PART *	6000620350	6000620350	6000620350	6000620350	600620350
	BD-35				
ANTI-SWAY BRACKET HENDRIX PART *	6000620390	6000620390	6000620395	6000620395	6000620395
	BA5-14F		BA5-24F		
TAN. BKT. STIRRUP HENDRIX PART *	6000620380	6000620380	6000620380	6000620380	6000620380
	T5-1				
SPACERS 3-PHASE HENDRIX PART *	6000221520	6000221520	6000221490	6000221490	6000221490
	H15D		H46D		
COVER	N/A	N/A	N/A	N/A	6000113707

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	01/30/06

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EnergyEast

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
7/7/09
LICENSED
PROFESSIONAL ENGINEER

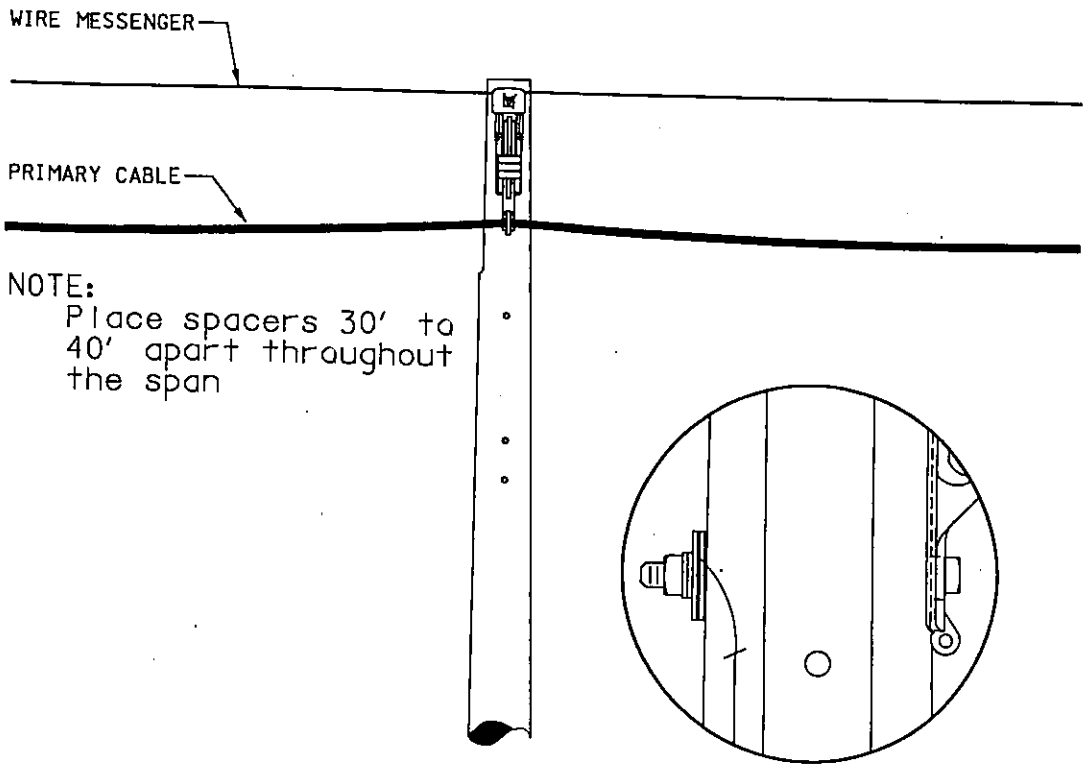
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6CDSCBMT14	1		SPACER CBL BKT MESS TANGENT 14IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS TANGENT 14 IN	6000620290
C6CDSCBMT14AS	1		BKT ANTI-SWAY 14IN USE W/CDSCBMT14	
		1	B LAG GALV FET 1/2 X 4	6000272540
		1	BRACKET - ANTI-SWAY 14"	6000620390
C6CDSCBS	1		SPACER CBL STIRRUP USE/W ANTI-SWAY BKT	
		1	BKT STIRRUP	6000620380
C6CDSCS20T1PH	7		SPACER CBL SPACER W/TIES F/20KV 1PHASE	
		1	SPACER - SINGLE - 20KV	6000221500
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MDULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

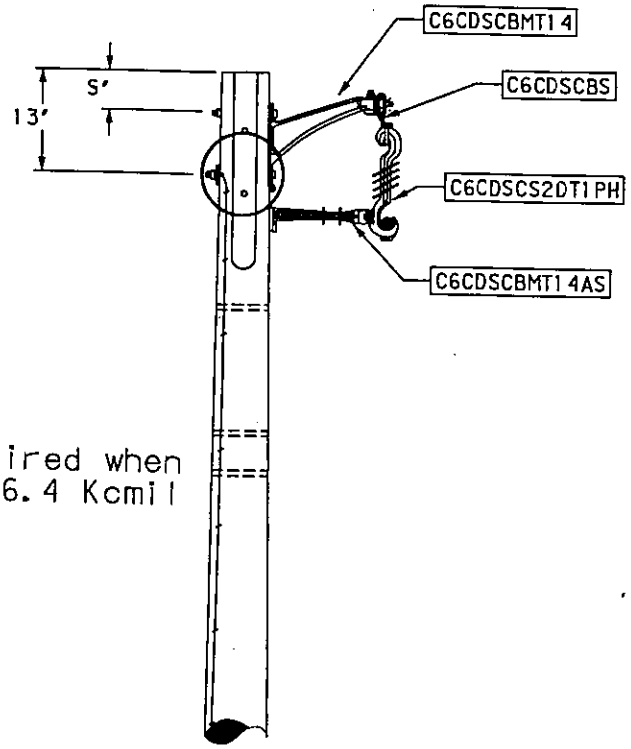
MACRO	DESCRIPTION	PAGE
C6MC1 SCT	1 PH SPACER CBL TANGENT STRUCTURE-12KV	331-1B

0 - 6' CORNER



NOTE:
Place spacers 30' to 40' apart throughout the span

All metalic brackets shall be grounded.



1/0 neut required when installing 336.4 Kcmil AL. Primary.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/24/06		

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	1/20/95

EnergyEast

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

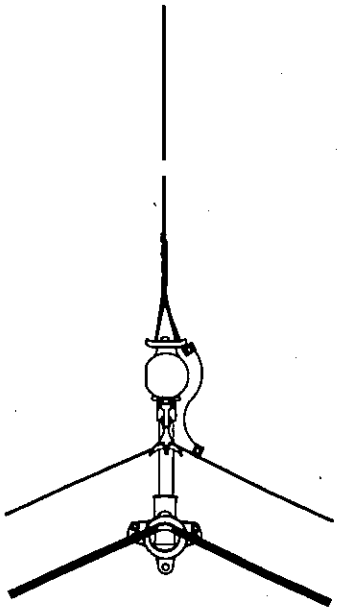
DISTRIBUTION CONSTRUCTION STANDARDS

Distribution Construction Standards - CMP Co.

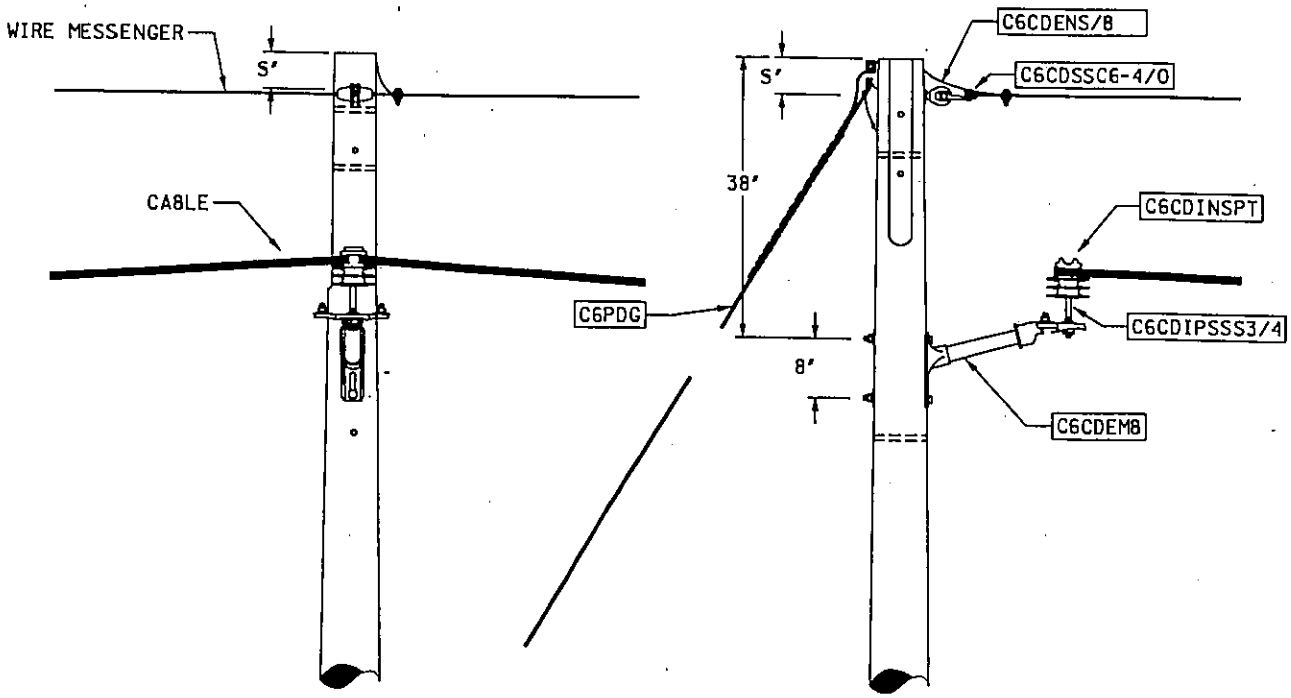
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6COEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPSSS3/4	1		INS PIN STEEL SHORT SHANK 3/4 INCH	
		1	PIN SHORT SHANK 3/4 IN	6000273980
C6CDSCS20T1PH	6		SPACER CBL SPACER W/TIES F/20KV 1PHASE	
		1	SPACER - SINGLE - 20KV	6000221500
C6CDSSC6-4/0	1		SEMI STRAIN CLAMP 6 TO 4/0	
		1	SEMI STRAIN CLAMP 6 TO 4/0	
		1	CL S/STRAIN 6 TO 4/0CU	6000111368
		1	CL S/STRAIN 6 TO 4/0CU	6000111368
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1SCA6-60	1 PH SPACER CBL TO 60 FT ANGLE 12KV	331-2B

6' - 60' CORNER



NOTE:
Place first spacers 30' from Pole and 30' to 40' apart throughout the span



1/0 neutral required when installing 336.4KCmil Al primary.

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	
DRAWN	GRG	REC	
DATE	04/11/95	01/17/06	

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	1/31/95

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

EnergyEast

GARY A. RICCI 24787

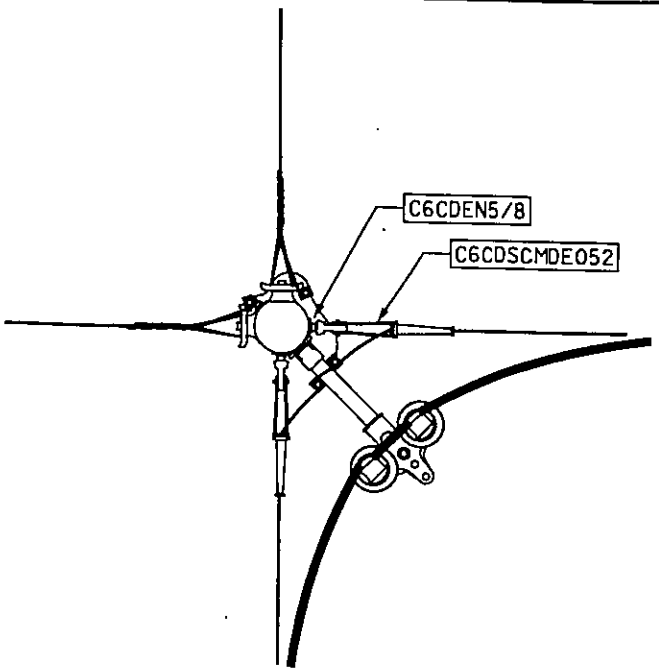
CENTRAL MAINE POWER CO.

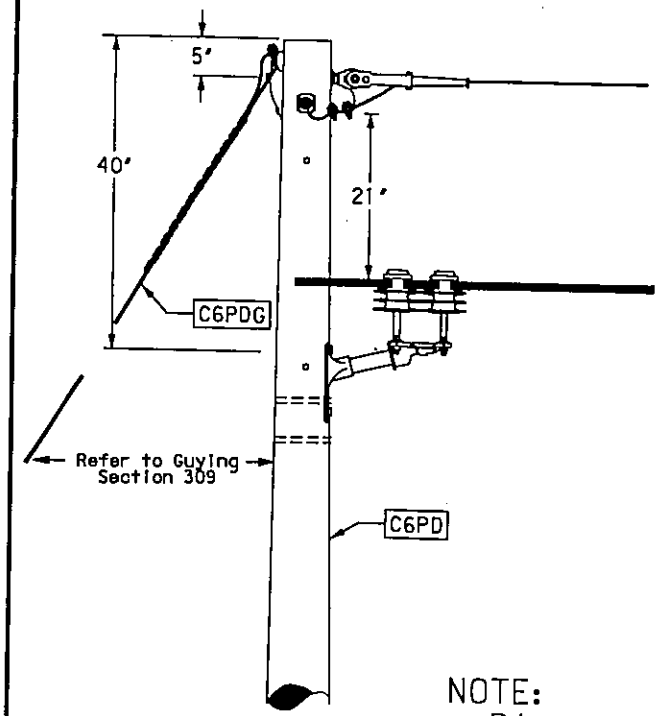
DISTRIBUTION CONSTRUCTION STANDARDS

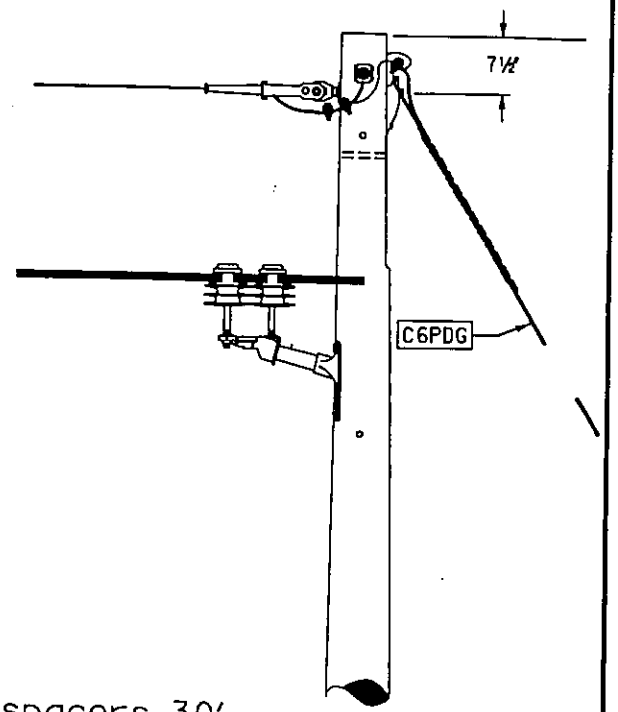
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	2		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDINSPT	2		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPSSS3/4	2		INS PIN STEEL SHORT SHANK 3/4 INCH	
		1	PIN SHORT SHANK 3/4 IN	6000273980
C6CDSCMDE052	2		SPACER CBL MESS DEADEND 052 A/W	
		1	D/E MESS .052 7NO 6 AW	6000110806
		1	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
		1	NUT EYE THIMBLE 3/4 TAP	6000273460
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6CDSCS20T1PH	6		SPACER CBL SPACER W/TIES F/20KV 1PHASE	
		1	SPACER - SINGLE - 20KV	6000221500
C6PO	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	2		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	2		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX

MACRO	DESCRIPTION	PAGE
C6MC1SCA60-90	1 PH SPACER CBL 60-90 FT ANGLE 12KV	331-3B

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/17/06		







NOTE:
Place first spacers 30' from Pole and 30' to 40' apart throughout the span

1/0 neut required when installing 336.4 Kcmil AL. Primary.

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	4/19/95

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

GARY A. RICCI 24787

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	1		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDE85/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	6000027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEM8	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	6000027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDLA9	1		LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
C6CDSCMDE052	1		SPACER CBL MESS DEADEND 052 A/W	
		1	D/E MESS .052 7NO 6 AW	6000110806
		1	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		1	NUT EYE THIMBLE 3/4 TAP	6000273460
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6CDSCS20T1PH	6		SPACER CBL SPACER W/TIES F/20KV 1PHASE	
		1	SPACER - SINGLE - 20KV	6000221500
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

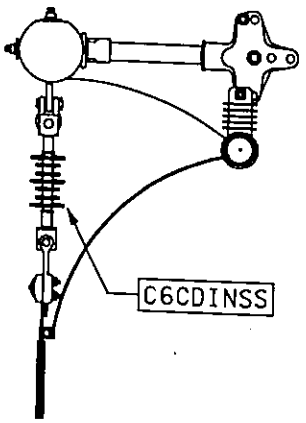
MACRO	DESCRIPTION	PAGE
C6MC1SCDE	1 PH SPACER CBL DEADEND STRUCTURE 12KV	331-4B

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/17/06		

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	2/1/95

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

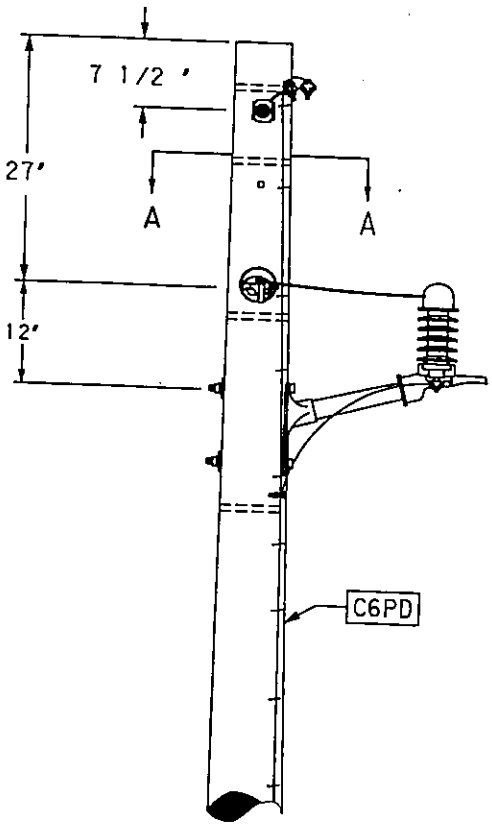


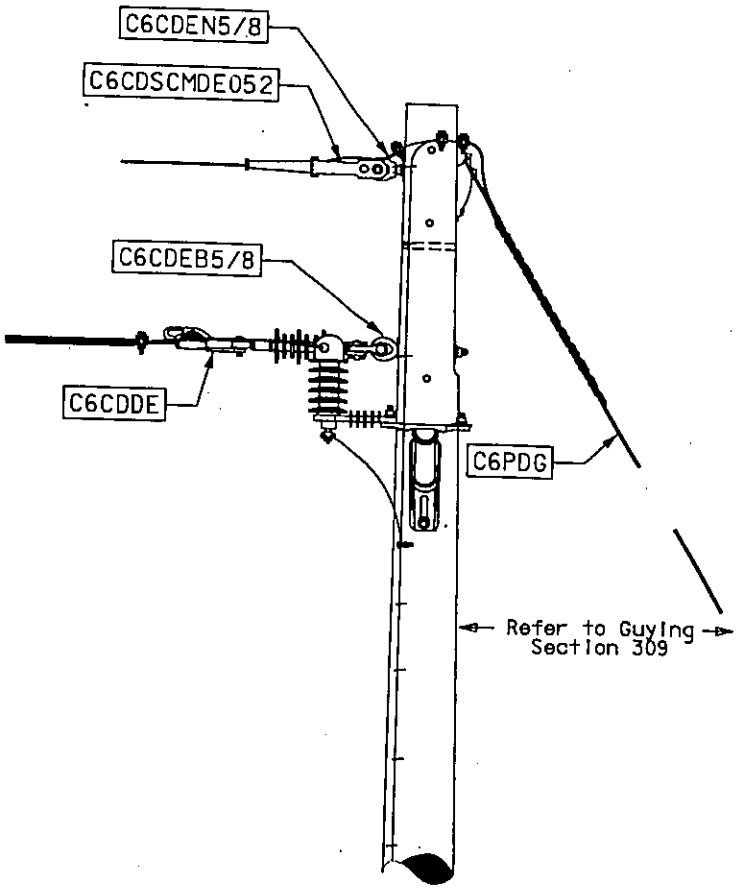
Primary Connections

A - A

Neutrol Connections

NOTE:
Place first spacers 30' from Pole and 30' to 40' apart throughout the span





1/0 neut required when installing 336.4 Kcmil AL. Primary.

STATE OF MAINE GARY A RICCI 14757 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO. | DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*	*Description*	*Material ID*
C6CDDE	2	DEADEND COND GENERIC (SELECT FROM CUCT)	
	1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDE85/8	3	EYE BOLT RDUND 5/8 INCH VARIOUS LENGTHS	
	1	BOLT, EYE 5/8 INCH ALL LENGTHS	6000270458
	1	WSH 2 TURN SPR GALV 5/8	6000274600
	2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEM8	1	EQUIP MOUNTING BRACKET 18IN	
	2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
	2	WSH 2 TURN SPR GALV 5/8	6000274600
	2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
	1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1	EYE NUT ROUND 5/8 INCH	
	1	NUT EYE ROUND 5/8 TAP	6000273430
	1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	2	SHACKLE 1/2IN W 5/8IN PIN	
	1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	2	INS DEADEND GENERIC (SELECT FROM CUCT)	
	1	INSULATORS	6000310XXX
C6CDLA9	1	LIGHTNING ARRESTOR 10KV	
	2	CONNECTORS	600011XXXX
	1	WILDLIFE PROTECTOR	60003128XX
	1	ARR DIST 10KV	6000490060
C6CDPC	5	CONNECTOR,PRIMARY	
	1	CONNECTORS	600011XXXX
C6CDSCMDE052	1	SPACER CBL MESS DEADEND 052 A/W	
	1	D/E MESS .052 7ND 6 AW	6000110806
	1	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
	1	NUT EYE THIMBLE 3/4 TAP	6000273460
	1	WSH 2 TURN SPR GALV 3/4	6000274610
	1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6CDTW	12	TAPWIRE GENERIC (SELECT FROM CUCT)	
	1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1	POLE GENERIC (SELECT FROM CUCT)	
	1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1	ANCHOR, GENERIC (SELECT FROM CUCT)	
	1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1	GUY,GENERIC (SEE TABLE PAGE 309-6)	
	1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1	POLE GROUND ASSEMBLY	
	1	CONN GRD ROD 3/4 IN	6000112662
	1	CONNECTORS	600011XXXX
	8	MDULDING PLAS 1/2 IN GR	6000251680
	1	ROD GROUND GALV 3/4X8FT	6000251860
	9	STAPLES GALV F/4 GRD WR	6000274402
	6	STAPLE F/ 1/2IN MOLDING	6000274410
	40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

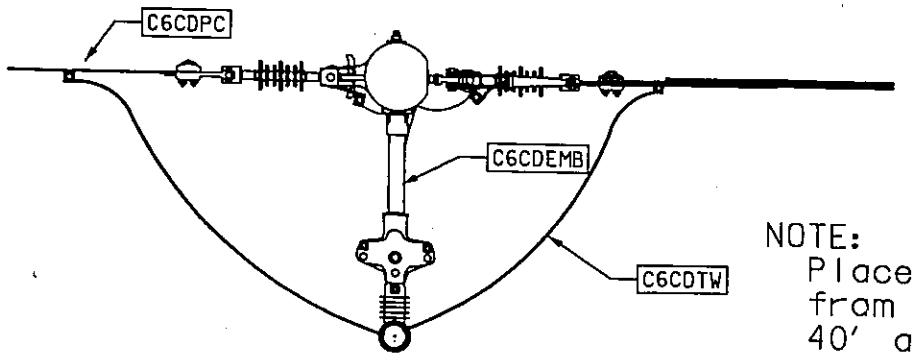
MACRO	DESCRIPTION	PAGE
C6MC1SCOWT	1 PH SPACER CBL OPEN WIRE TRANSITION 12KV	331-5B

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/24/06		

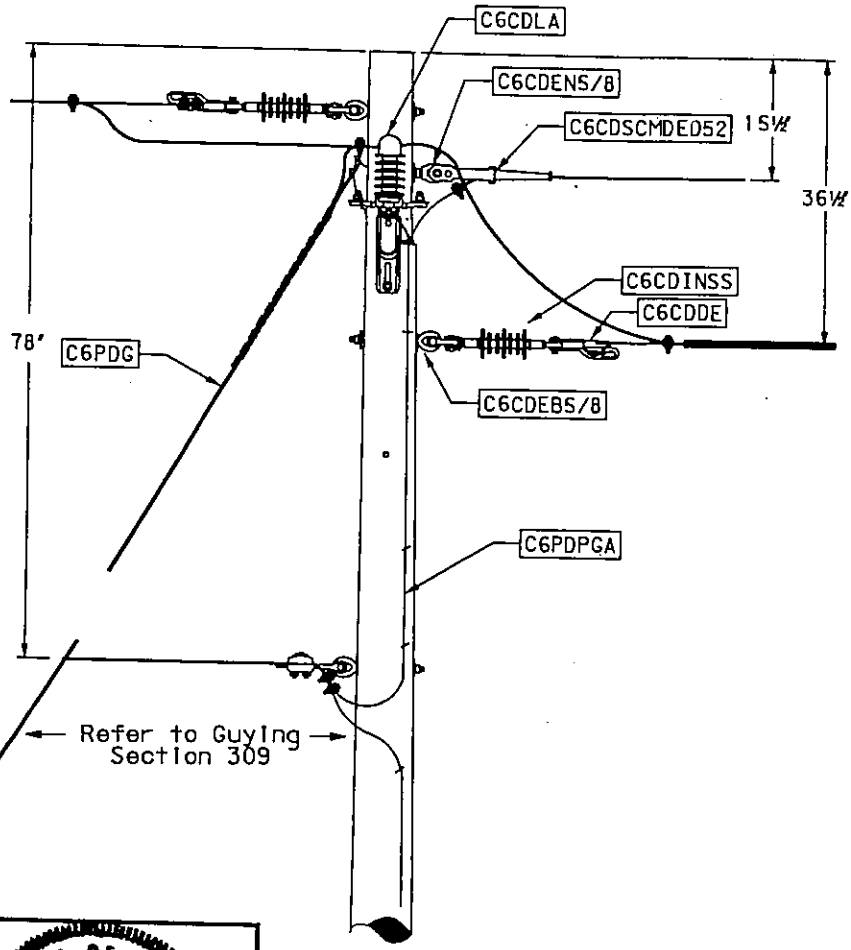
	ORIGINAL
DESIGNED	JEC
DRAWN	GRC
DATE	3/8/95

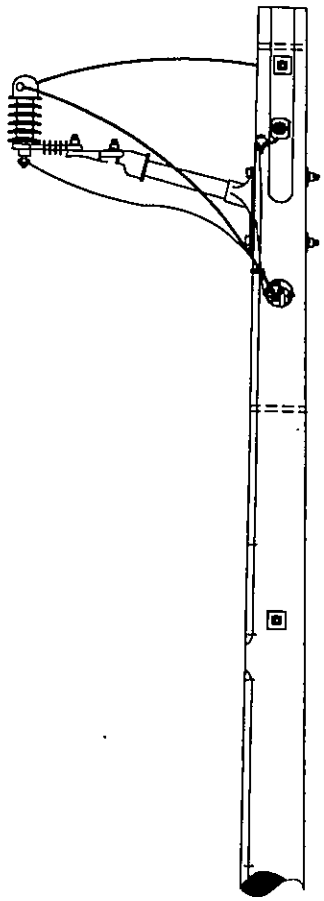
EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY



NOTE:
Place first spacers 30' from Pole and 30' to 40' apart throughout the span





1/0 neut required when installing 336.4 Kcmil AL. Primary Spacer Cable.

STATE OF MAINE GARY A. RICCI #4787 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	1		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	1		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDLA9	1		LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6COSCMDE052	1		SPACER CBL MESS DEADEND 052 A/W	
		1	D/E MESS .052 7NO 6 AW	6000110806
		1	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		1	NUT EYE THIMBLE 3/4 TAP	6000273460
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6PO	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

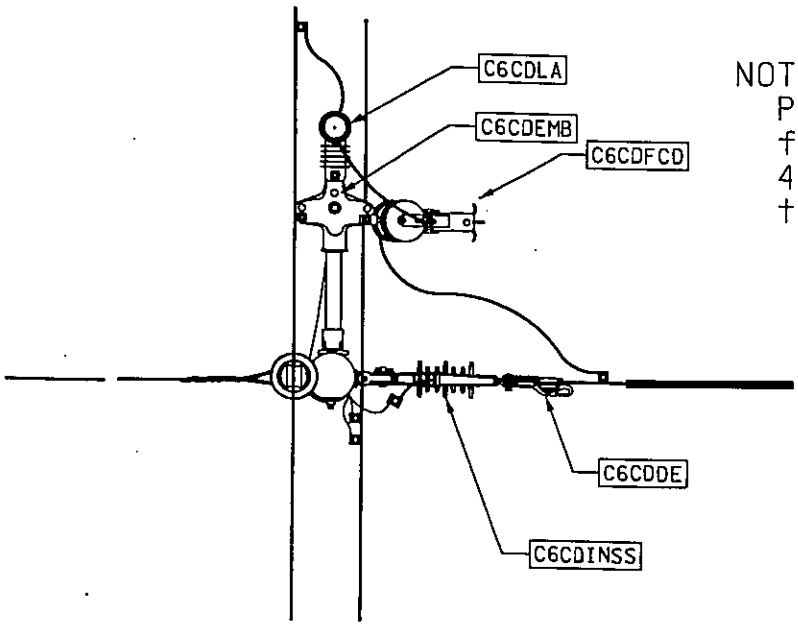
MACRO	DESCRIPTION	PAGE
C6MC1 SCTFPT	1 PH SPACER CBL TAP FROM POLE TOP ST 12KV	331-6B

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/24/06		

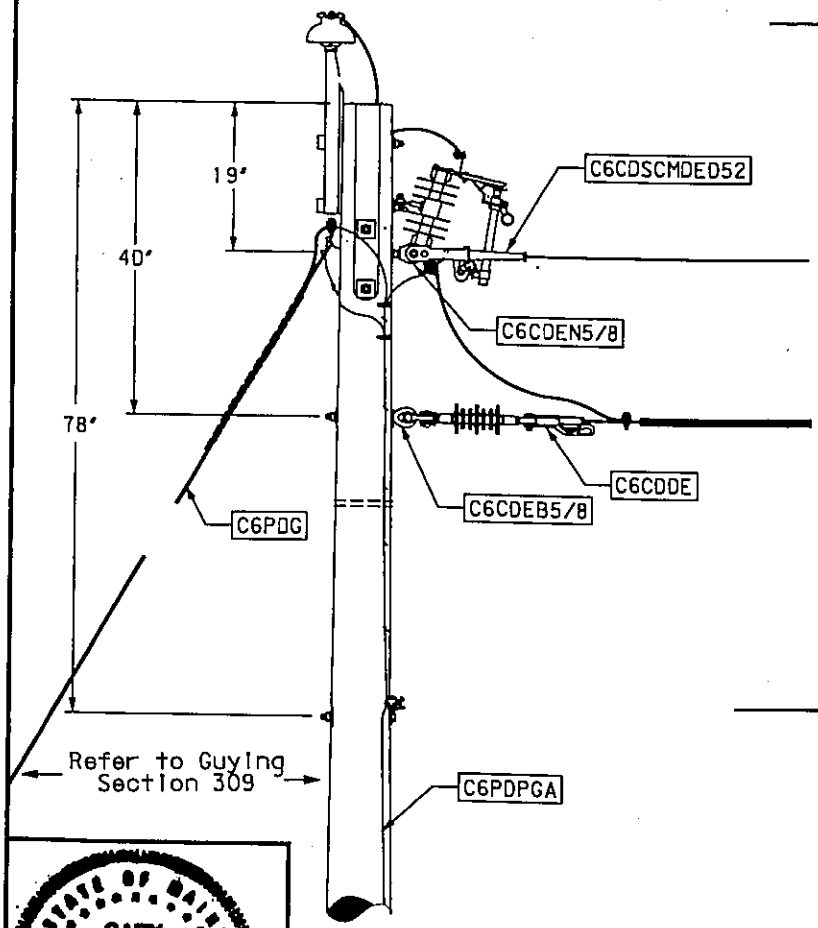
	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	3/10/95

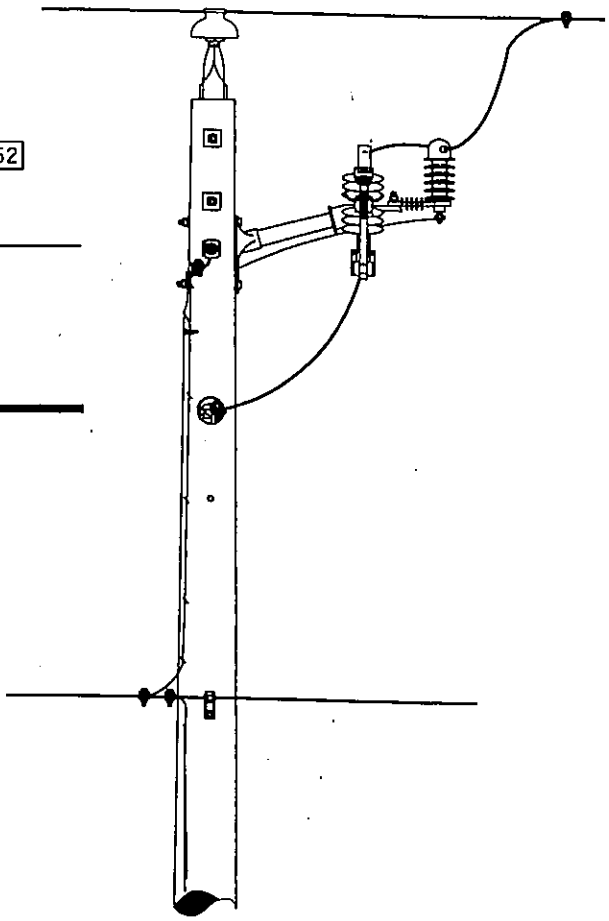
EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY



NOTE:
Place first spacers 30' from Pole and 30' to 40' apart throughout the span





1/0 neut required when installing 336.4 Kcmil AL. Primary Spacer Cable.

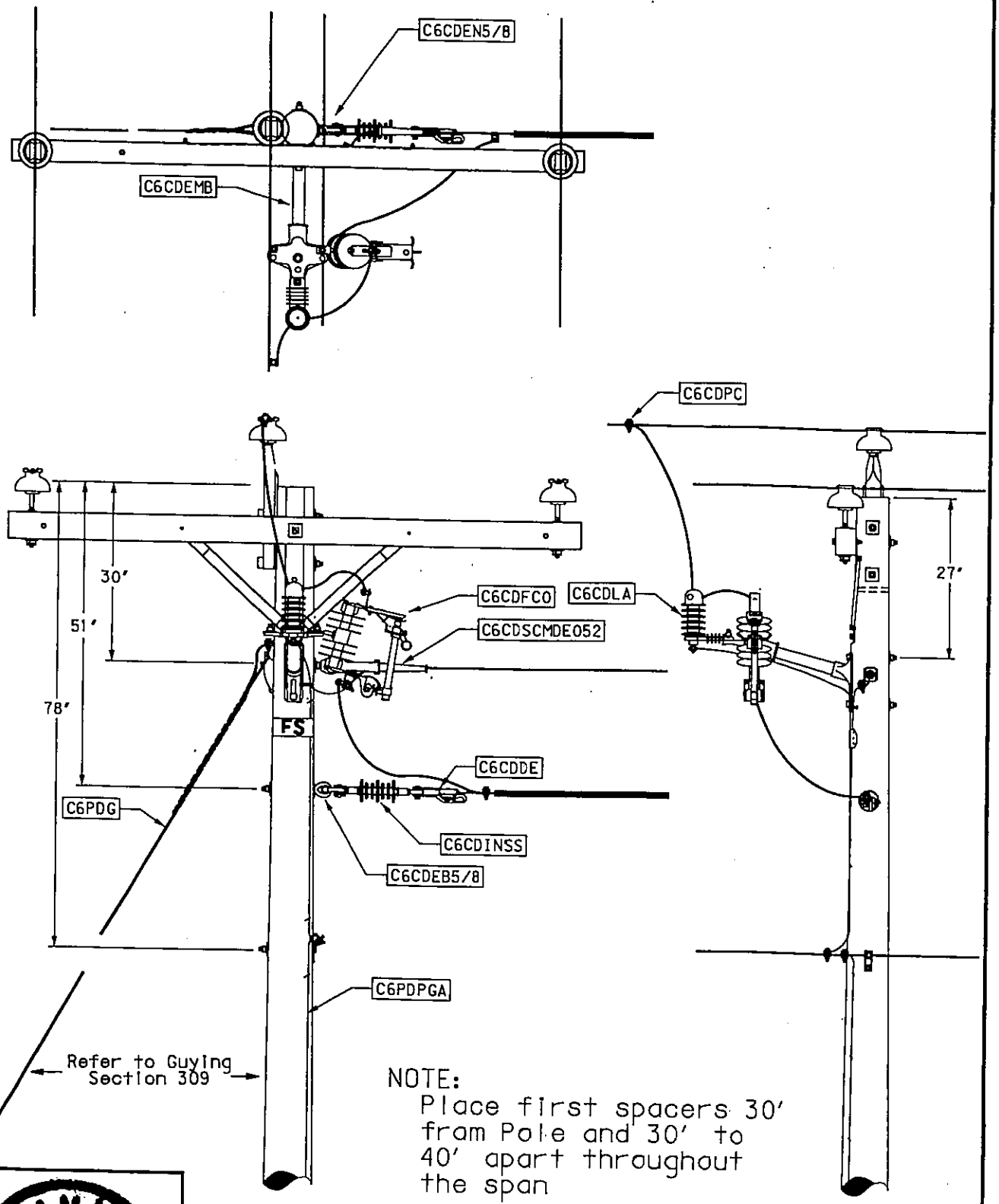
GARY A RICCI #4737 PROFESSIONAL ENGINEER STATE OF MAINE

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDDE	1		DEADEND COND. GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	60002720BX
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C8CDFCO	1		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	1		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	1		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C8CDIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6COLA9	1		LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6CDSCMDE052	1		SPACER CBL MESS DEADEND 052 A/W	
		1	D/E MESS .052 7ND 8 AW	6000110806
		1	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
		1	NUT EYE THIMBLE 3/4 TAP	6000273460
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA8	1		XARM, 6PINB, 8FT	
		1	XARM 6PIN B	6000740510
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3SC1 TFSX	1 PH SPACER CBL TAP FROM 3PH SX STR 12KV	331-7B



NOTE:
Place first spacers 30' from Pole and 30' to 40' apart throughout the span

1/0 neut required when installing 336.4 Kcmil AL. Primary Spacer Cable.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/17/06		

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	3/28/95

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

GARY A. FIOCI #4737 STATE OF MAINE REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

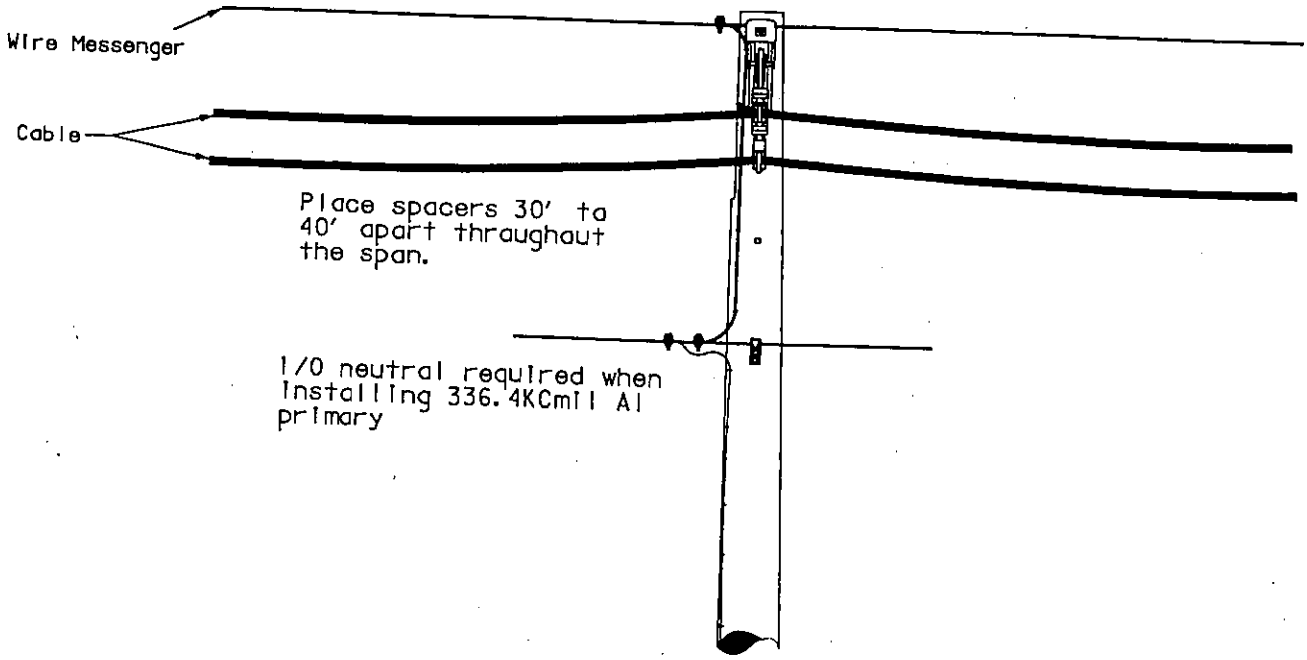
DISTRIBUTION CONSTRUCTION STANDARDS

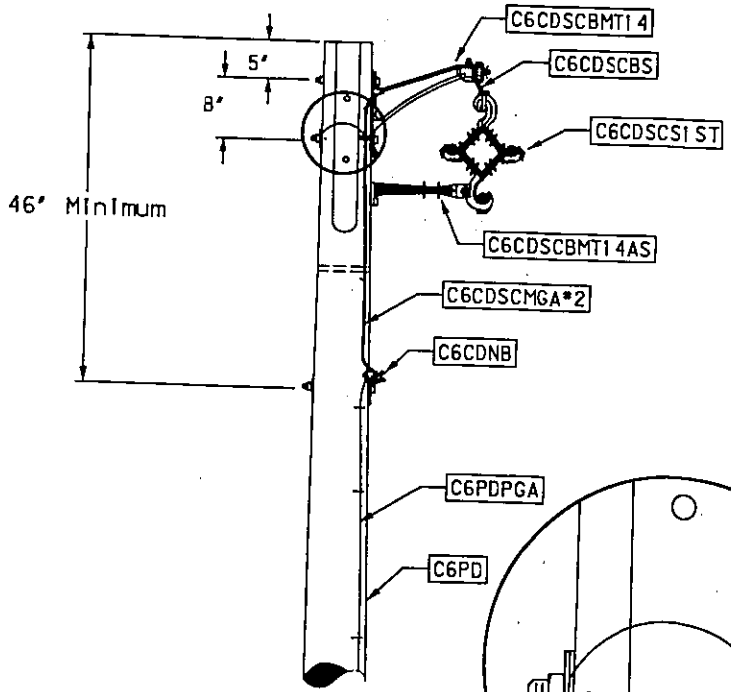
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDSCBMT14	1		SPACER CBL BKT MESS TANGENT 14IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS TANGENT 14 IN	6000620290
C6CDSCBMT14AS	1		BKT ANTI-SWAY 14IN USE W/CDSCBMT14	
		1	B LAG GALV FET 1/2 X 4	6000272540
		1	BRACKET - ANTI-SWAY 14"	6000620390
C6CDSCBS	1		SPACER CBL STIRRUP USE/W ANTI-SWAY BKT	
		1	BKT STIRRUP	6000620380
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	7		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

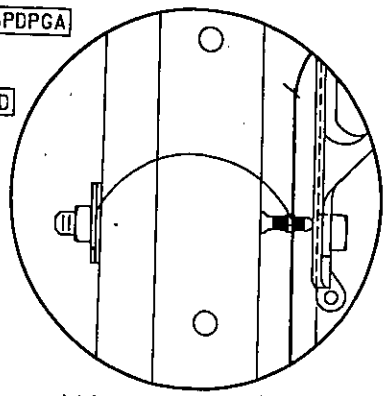
MACRO	DESCRIPTION	PAGE
C6MC3SCTAN	3 PH SPACER CBL TANGENT STRUCTURE 12KV	333-1B

0 - 5' CORNER

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/24/06		







All metallic brackets shall be grounded.

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	5/30/96

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

GARY A. RIOCI 14757

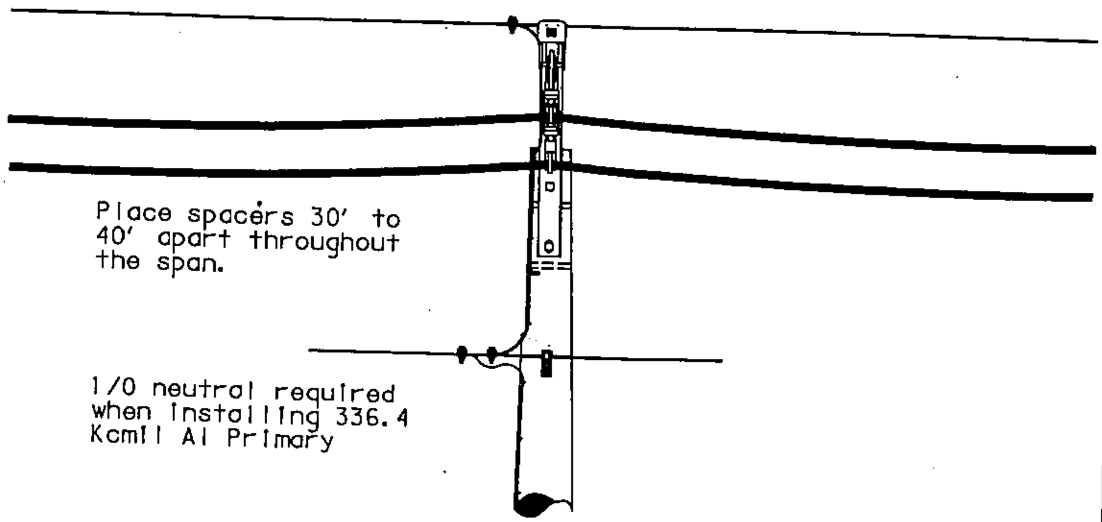
CENTRAL MAINE POWER CO.

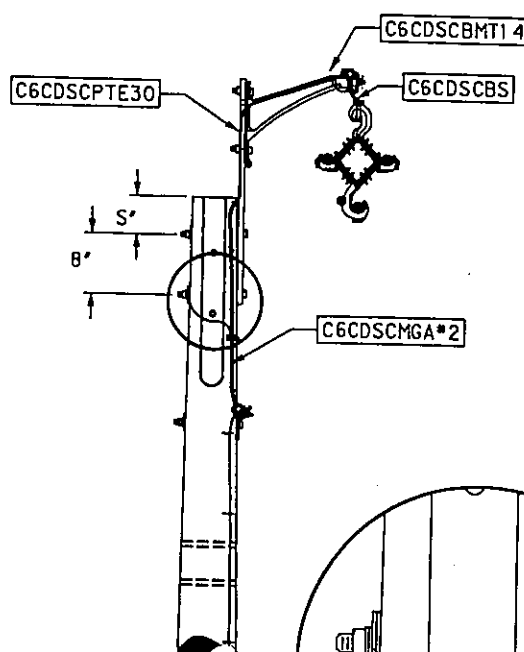
DISTRIBUTION CONSTRUCTION STANDARDS

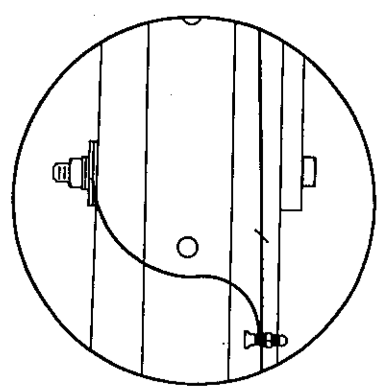
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDSCBMT14	1		SPACER CBL BKT MESS TANGENT 14IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS TANGENT 14 IN	6000620290
C6CDSCBS	1		SPACER CBL STIRRUP USE/W ANTI-SWAY BKT	
		1	BKT STIRRUP	6000620380
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCPTE30	1		SPACER CBL POLE TOP EXT 30IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP EXT 30IN STEEL	6000274214
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
C6CDSCS15T	1		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520

MACRO	DESCRIPTION	PAGE
C6MC3SCPTE30	3 PH SPACER CBL 30 IN POLE TOP EXT 12KV	333-2B

0 - 5' CORNER







All metalic brackets shall be grounded.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/24/06		

EnergyEast

	ORIGINAL REDRAWN
DESIGNED	
DRAWN	GRG
DATE	5/30/96

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE GARY A. FIOCI 847?? PROFESSIONAL ENGINEER

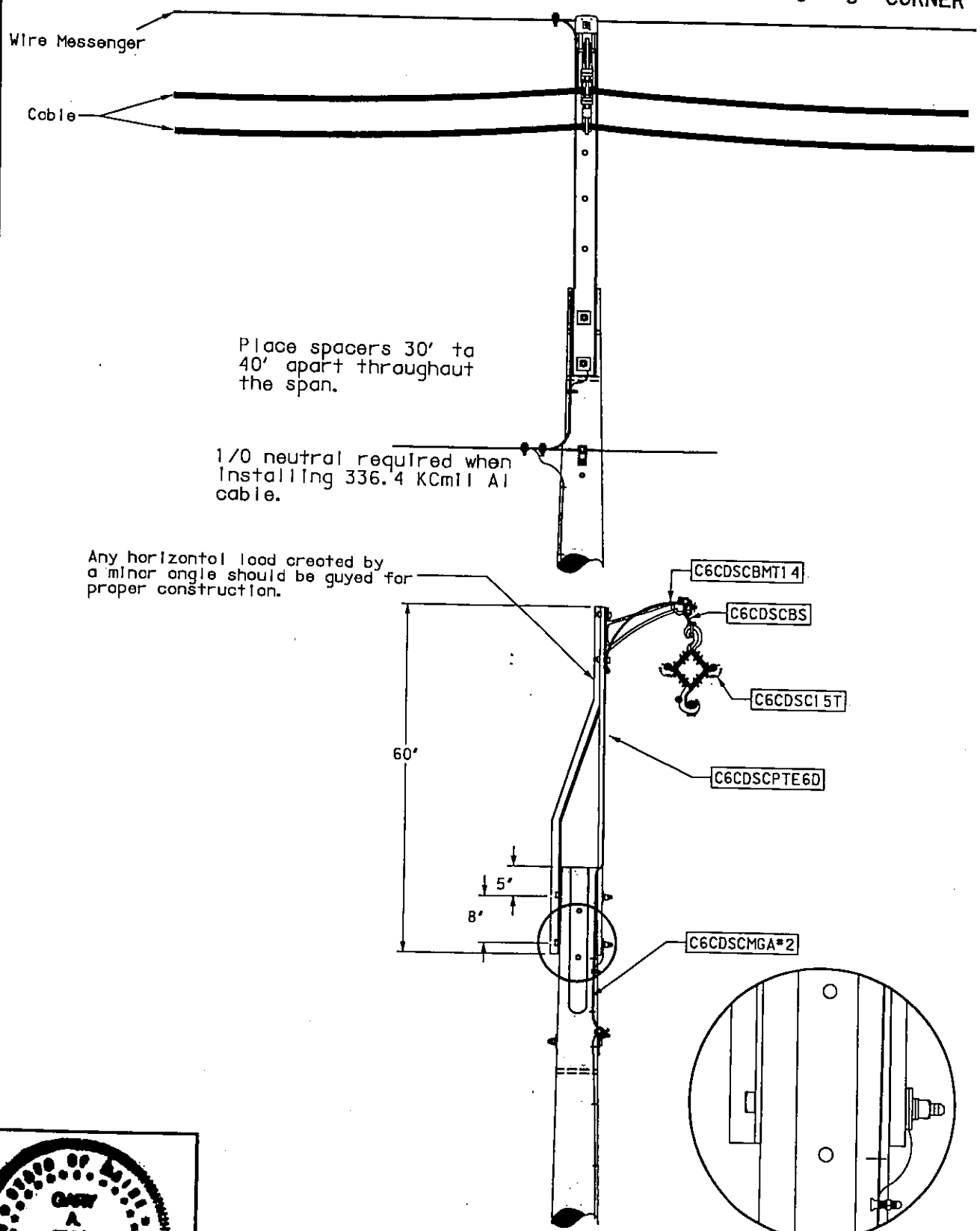
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDSCBMT14	1		SPACER CBL BKT MESS TANGENT 14IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS TANGENT 14 IN	6000620290
C6CDSCBS	1		SPACER CBL STIRRUP USE/W ANTI-SWAY BKT	
		1	BKT STIRRUP	6000620380
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCPTE60	1		SPACER CBL POLE TOP EXTN 60IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	POLE TOP EXT F/SPACER C	6000274220
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
C6CDSCS15T	1		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520

MACRO	DESCRIPTION	PAGE
C6MC3SCPTE60	3 PH SPACER CBL 60 IN POLE TOP EXT 12KV	333-3B

0 - 5' CORNER



	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/24/06		

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	5/31/96

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

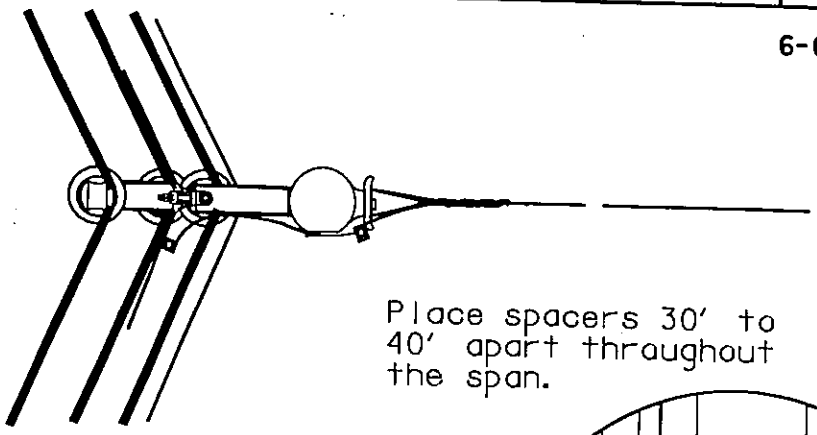
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

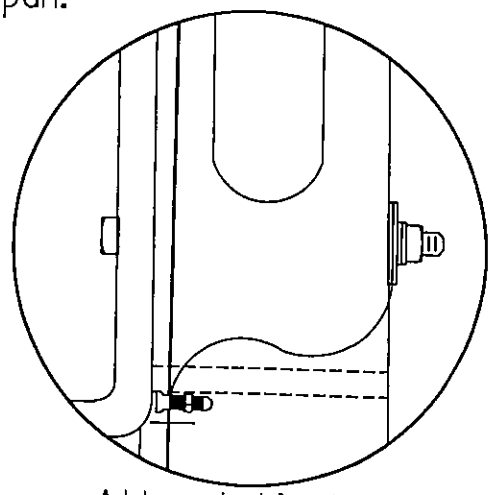
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDINSPT15TW	3		INSULATOR PIN TYPE F 15KV TREE WIRE	
		5	WIRE TIE #4AL MIL BTPR	6000205358
		1	INS PIN TYPE TREE 15KV	6000310352
C6COIPSSS3/4	3		INS PIN STEEL SHORT SHANK 3/4 INCH	
		1	PIN SHORT SHANK 3/4 IN	6000273980
C6CDSCBA15/4	1		SPACER CBL BKT ANGLE 15KV 4 COND	
		2	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		2	WSHFLTGALVSO2 1/4X3/16	6000274810
		1	BKT ANG 15KV 4 WIRE	6000620440
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	6		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6CDSSC	1		SEMI STRAIN CLAMP	
		1	SEMI STRAIN CLAMP ALUM OR GALV. STEEL	60001113XX
C6CDSSC6-4/0	1		SEMI STRAIN CLAMP 6 TO 4/0	
		1	CL S/STRAIN 6 TO 4/0CU	6000111368
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MC3SCA6-60	3 PH SPACER CBL ANGLE STRUCT 6-60 FT 12KV	333-4B

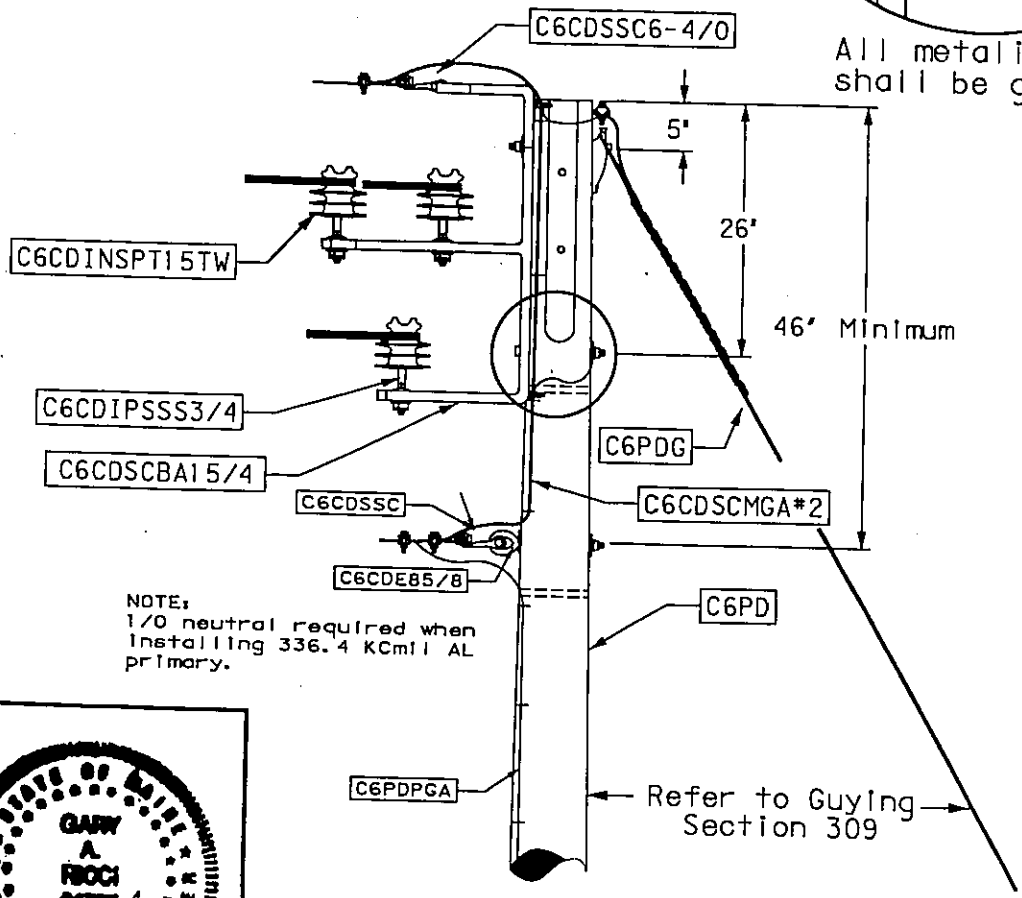
6-60 FT Corner



Place spacers 30' to 40' apart throughout the span.



All metalic brackets shall be grounded.



NOTE:
1/0 neutral required when installing 336.4 KCmil AL primary.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	01/24/06		

EnergyEast

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	5/2/96

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

GARY A. RICCI 20757 MAINE

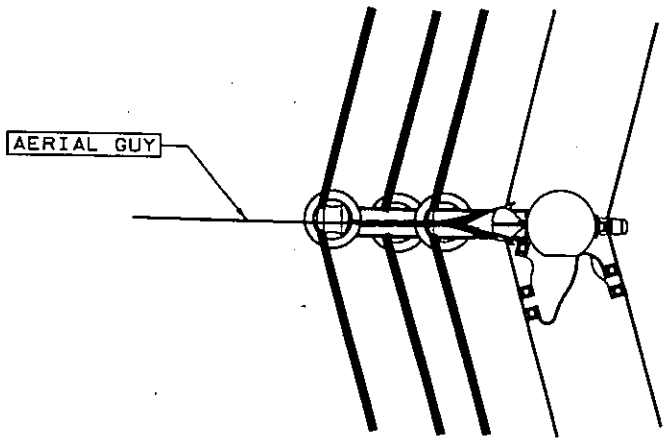
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

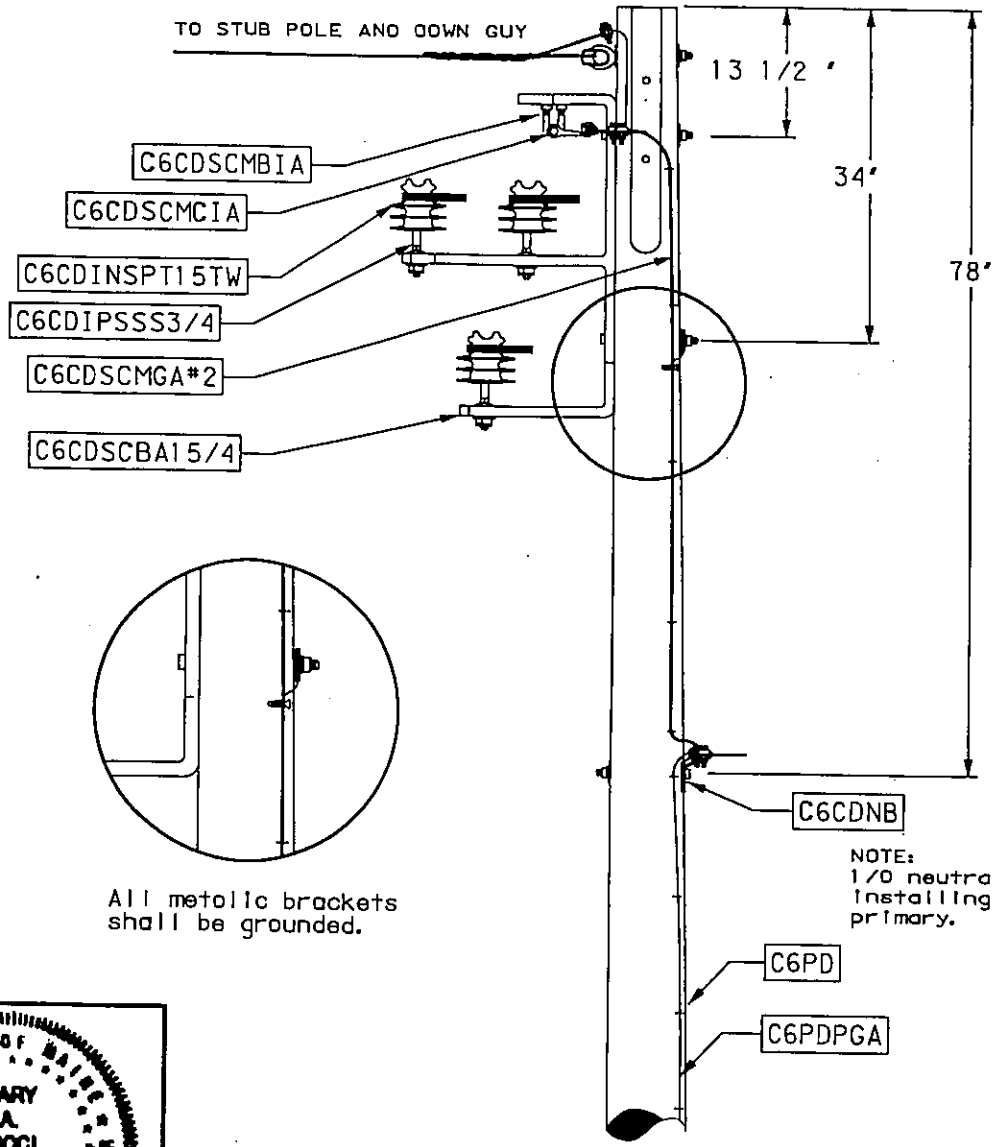
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT15TW	3		INSULATOR PIN TYPE F 15KV TREE WIRE	
		5	WIRE TIE #4AL MIL BTPR	6000205358
		1	INS PIN TYPE TREE 15KV	6000310352
C6CDIPSSS3/4	3		INS PIN STEEL SHORT SHANK 3/4 INCH	
		1	PIN SHORT SHANK 3/4 IN	6000273980
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDSCBA15/4	1		SPACER CBL BKT ANGLE 15KV 4 COND	
		2	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		2	WSHFLTGALVSO2 1/4X3/16	6000274810
		1	BKT ANG 15KV 4 WIRE	6000620440
C6CDSCMBIA	1		SPACER CBL MESS BOLT I/A USE W/CDSCMCIA	
		1	B U MESS I/SD ANG F/BA4	6000272560
C6CDSCMCIA	1		SPACER CBL MESS CLAMP I/A USE W/CDSCMBIA	
		1	CL MESS I/SO ANG F/BA4	6000111330
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SO	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	6		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MC3SC16-25	3 PH SPACER CBL INSIDE ANGLE 6-25 FT 12KV	333-5B

6-25FT Corner



Place spacers 30' to 40' apart throughout the span.



All metallic brackets shall be grounded.

NOTE:
1/0 neutral required when installing 336.4 KCmil AL primary.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	02/07/06		

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	10/30/96

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND, GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	4		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDLA9	3		LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
C6CDLAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6COPC	4		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSCMDE052	1		SPACER CBL MESS DEADEND 052 A/W	
		1	D/E MESS .052 7NO 6 AW	6000110806
		1	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		1	NUT EYE THIMBLE 3/4 TAP	6000273460
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6COSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	6		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN*8	6000740510
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	6 CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	8 LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

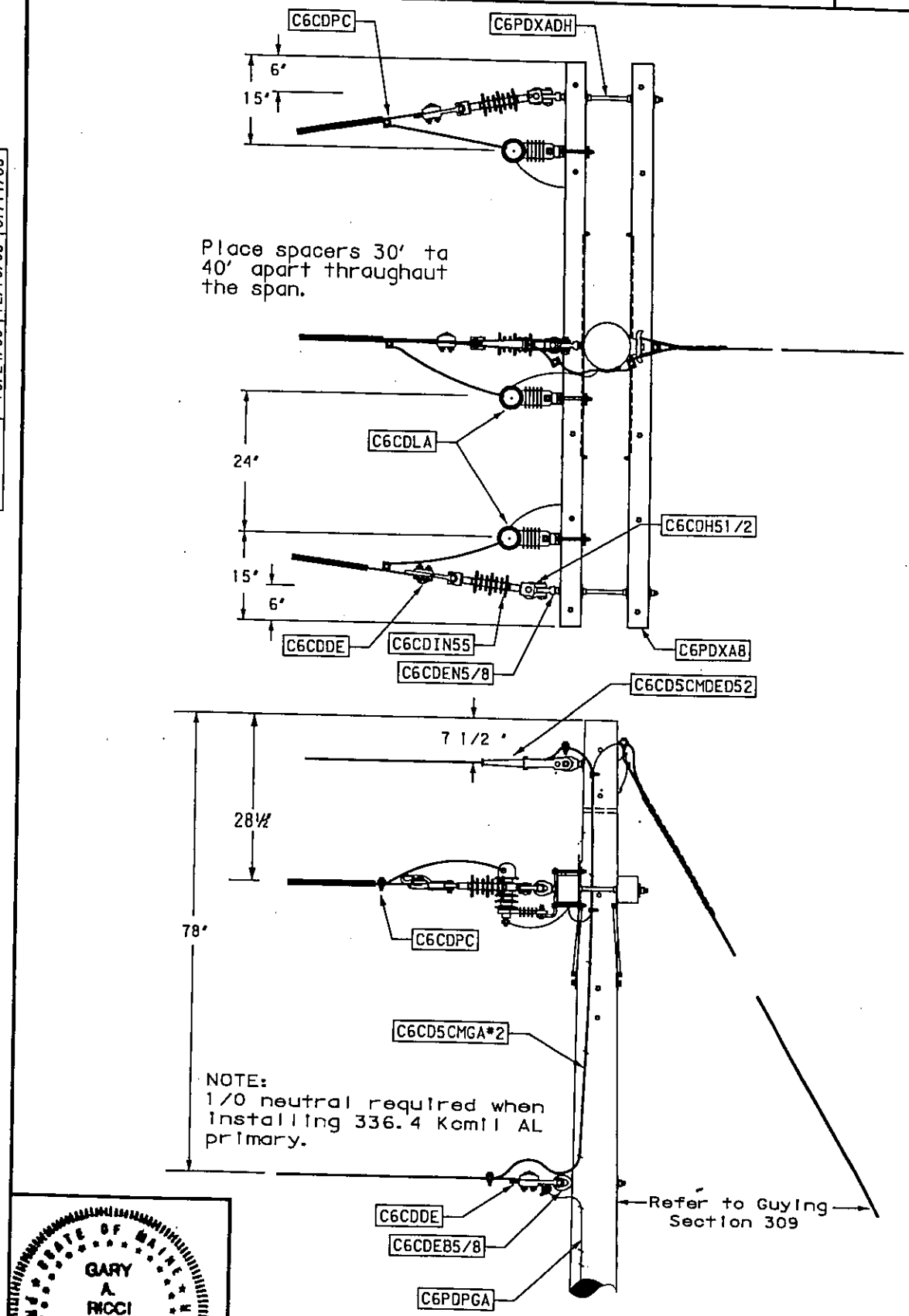
MACRO	DESCRIPTION	PAGE
C6MC3SCDE	3PH SPACER CABLE DEADEND 12KV	333-6B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	10/24/00	12/10/03	01/17/06

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/9/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY



STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDE85/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	6000027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	2		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	12		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT15TW	2		INSULATOR PIN TYPE F 15KV TREE WIRE	
		5	WIRE TIE #4AL MIL BTPR	6000205358
		1	INS PIN TYPE TREE 15KV	6000310352
C6CDINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDPC	4		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSCBDMC	2		SPACER CBL BKT DEADEND MESS & COND	
		2	WSH 2 TURN SPR GALV 3/4	6000274610
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS & COND D/E	6000620350
C6CDSCDEG336	6		GRIP D/E 336 SPACER CABLE	
		1	GRIP D/E 336 SPACER CBL	6000221531
C6CDSCMDE052	2		SPACER CBL MESS DEADEND 052 A/W	
		1	D/E MESS .052 7NO 6 AW	6000110806
		1	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		1	NUT EYE THIMBLE 3/4 TAP	6000273460
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	6		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	2		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	2		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S O	751182

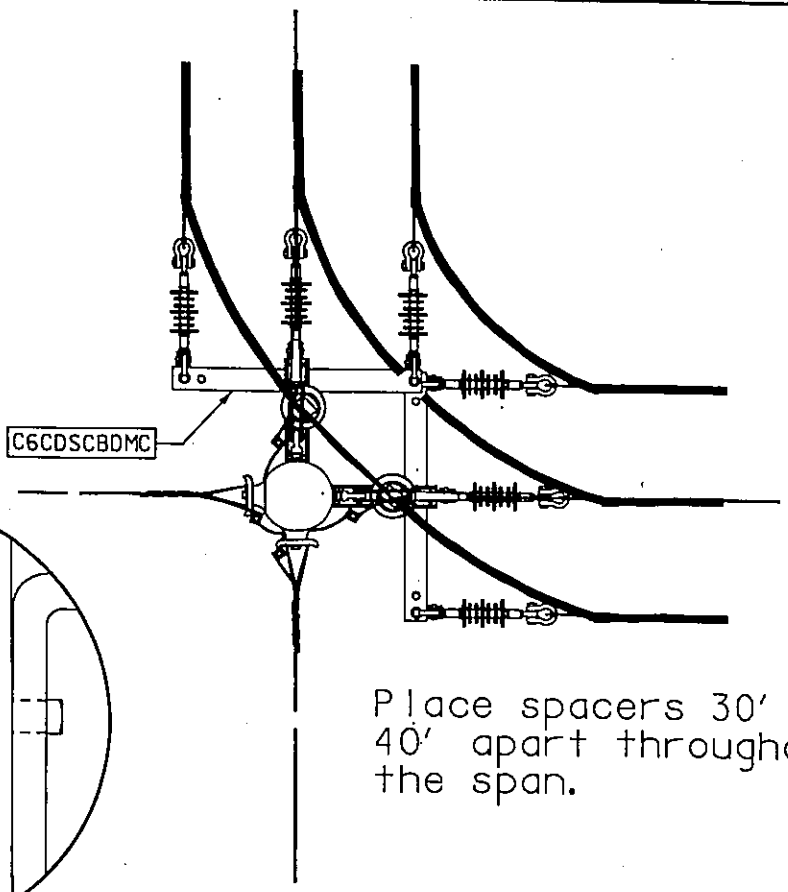
MACRO	DESCRIPTION	PAGE
C6MC3SCDDEPG	3PH SPACER CBL DBL D/E PREFORM GRIP 12KV	333-7B

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			

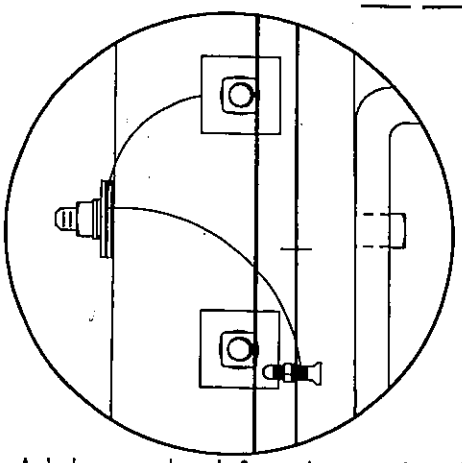
EnergyEast

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	11/18/06

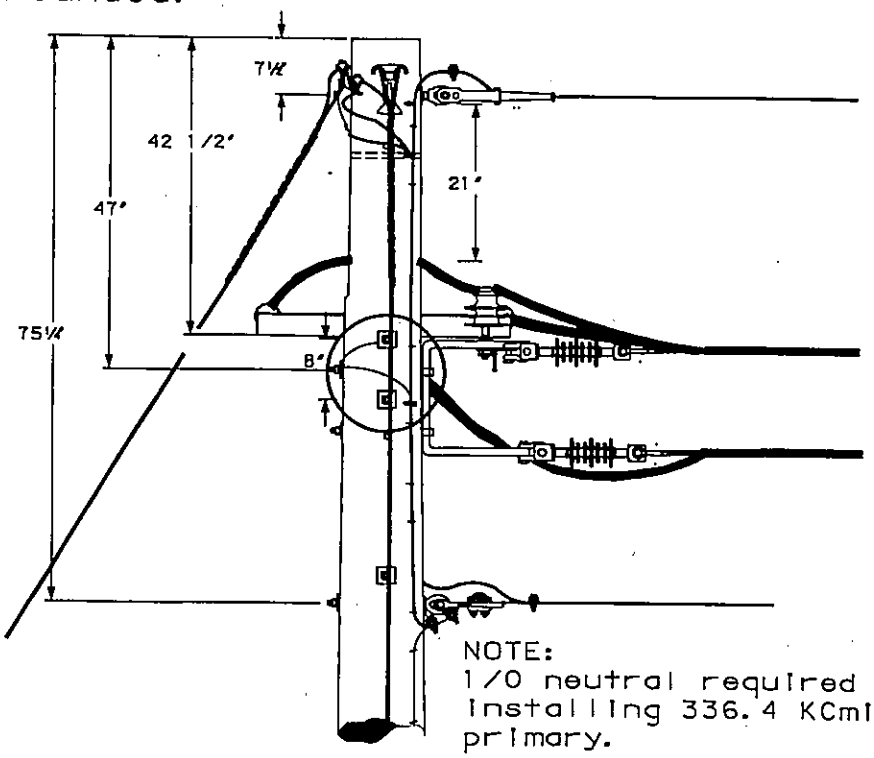
THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY



Place spacers 30' to 40' apart throughout the span.



All metalic brackets shall be grounded.



NOTE:
1/0 neutral required when installing 336.4 KCmil AL primary.

STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED
PROFESSIONAL ENGINEER
11/17/06

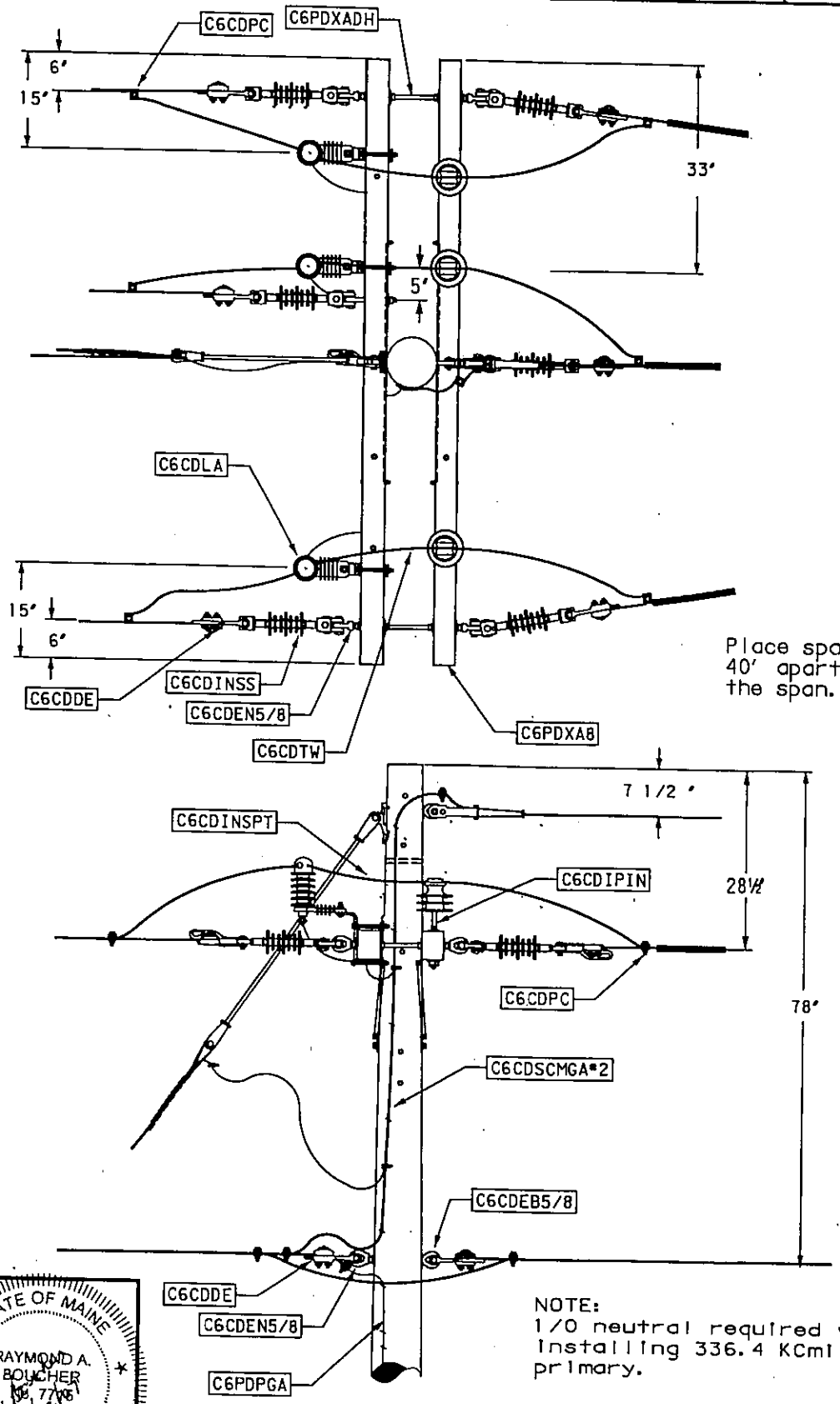
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	8		DEADEND CDND ,GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	3		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	6000027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
C6CDEN5/8	7		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	6		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDINSS	6		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDIPIN	3		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDLA9	3		LIGHTNING ARRESTDR 10KV	
		2	CONNECTORS	600011XXXX
		1	WILDLIFE PROTECTOR	6000312BXX
		1	ARR DIST 10KV	6000490060
C6CDLAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDPC	8		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSCMDE052	1		SPACER CBL MESS DEADEND 052 A/W	
		1	D/E MESS .052 7NO 6 AW	6000110B06
		1	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		1	NUT EYE THIMBLE 3/4 TAP	6000273460
		1	WSH 2 TURN SPR GALV 3/4	6000274610
		1	WASHER SQ FLAT GALVN 4 X 4 X 3/16, 3/4	6000274840
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDTW	18		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FRDM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDGSLF	1		GUY STRAIN LINK, F/G 36IN (LINK ONLY)	
		1	INS STRAIN 21000LBX36IN	6000251620
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	60002516B0
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GRDUND BARE STRANDED S D	7511B2
C6PDXAB	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN B	6000740510
C6PDXADH	1		XARM, DDUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	6000274BXX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3SCDE-OW	3PH SPACER CBL DEADEND TO OPEN WIRE 12KV	333-8B

NO.	REVISION	DATE	CK.
1	Corrected measurement	7/12/2	KE



EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/9/93

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STATE OF MAINE
RAYMOND A. BOUCHER
No. 7706
REGISTERED PROFESSIONAL ENGINEER
7/12/02

CENTRAL MAINE POWER CO.

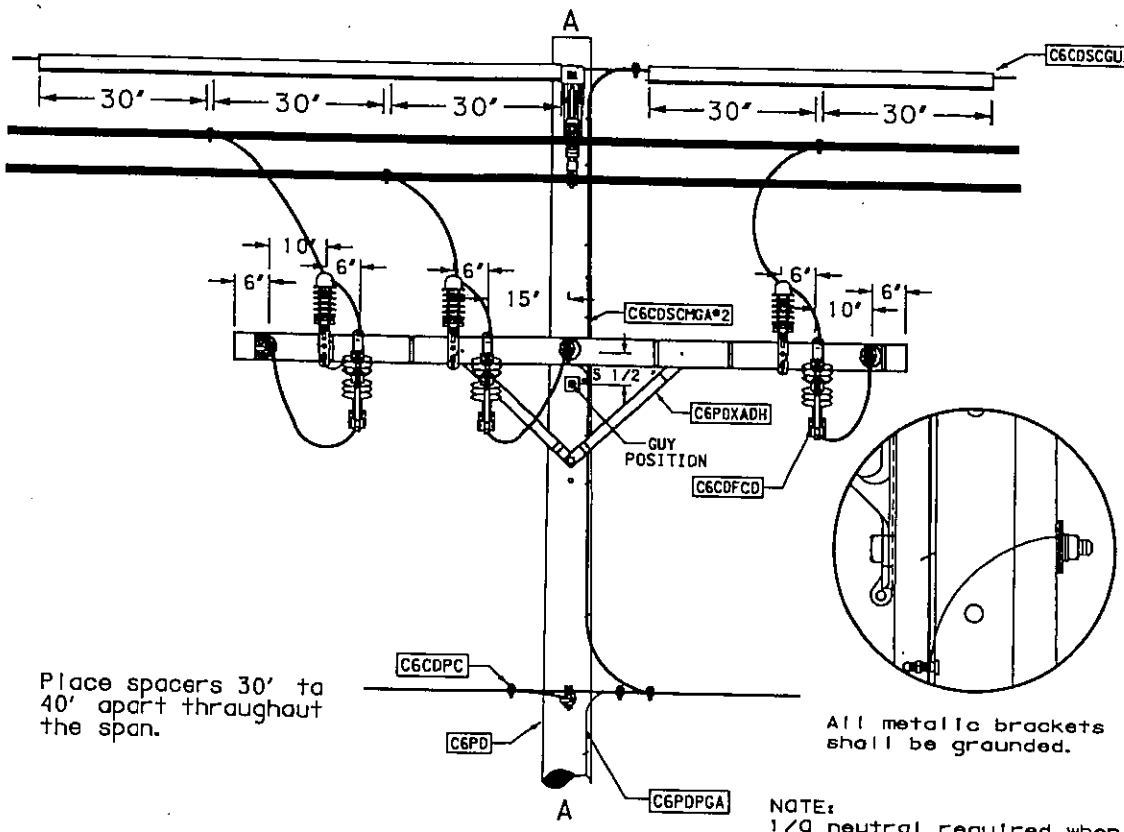
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	3		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDFCO	3		FUSED CUTOUT GENERIC (SELECT FROM CUCT)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6CDHS1/2	3		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	3		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDLA9	3		LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
C6CDLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6CDN8	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LD88Y	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	4		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSC8MT14	1		SPACER CBL BKT MESS TANGENT 14IN	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS TANGENT 14 IN	6000620290
C6CDSC8MT14AS	1		BKT ANTI-SWAY 14IN USE W/CDSC8MT14	
		1	8 LAG GALV FET 1/2 X 4	6000272540
		1	BRACKET - ANTI-SWAY 14"	6000620390
C6CDSCBS	1		SPACER C8L STIRRUP USE/W ANTI-SWAY BKT	
		1	BKT STIRRUP	6000620380
C6CDSCGUARDS	2		GUARD LINE CLIP ON 1" X 8' STANDARD	
		1	GUARD LINE CLIP ON STAN	6000220922
C6CDSCMGA#2	2		SPACER C8L MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	7		SPACER C8L SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	1		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	1		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA10	2		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3SCOWT	3 PH SPACER CBL OPEN WIRE TAP 12KV	333-9B

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	
DRAWN	GRG	REC	
DATE	9/5/95	02/02/06	

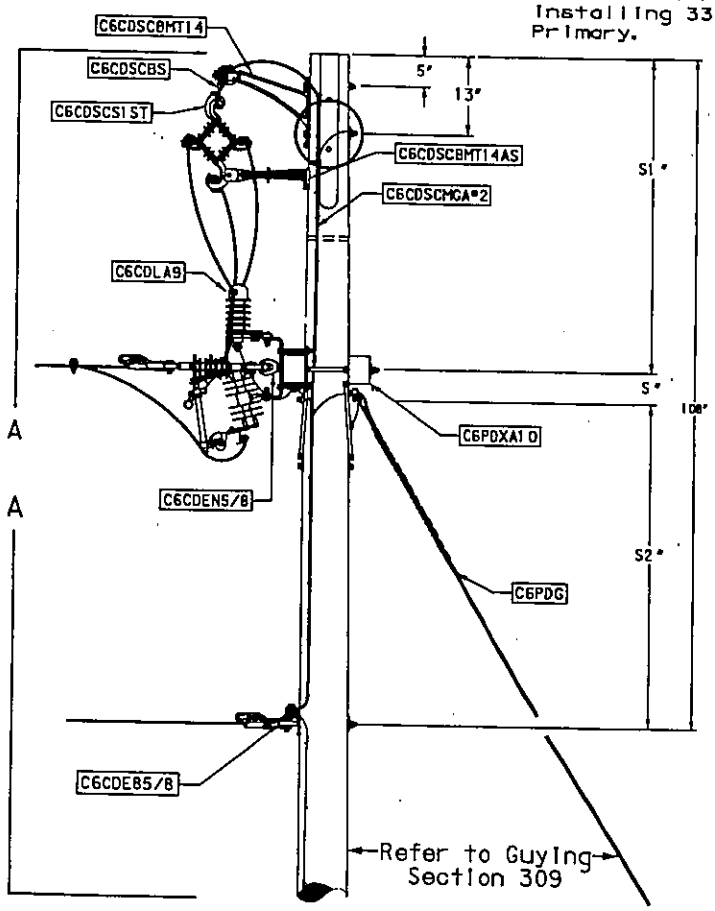
	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	4/11/95



Place spacers 30' to 40' apart throughout the span.

All metallic brackets shall be grounded.

NOTE:
1/0 neutral required when installing 336.4 Kcmil AL Primary.



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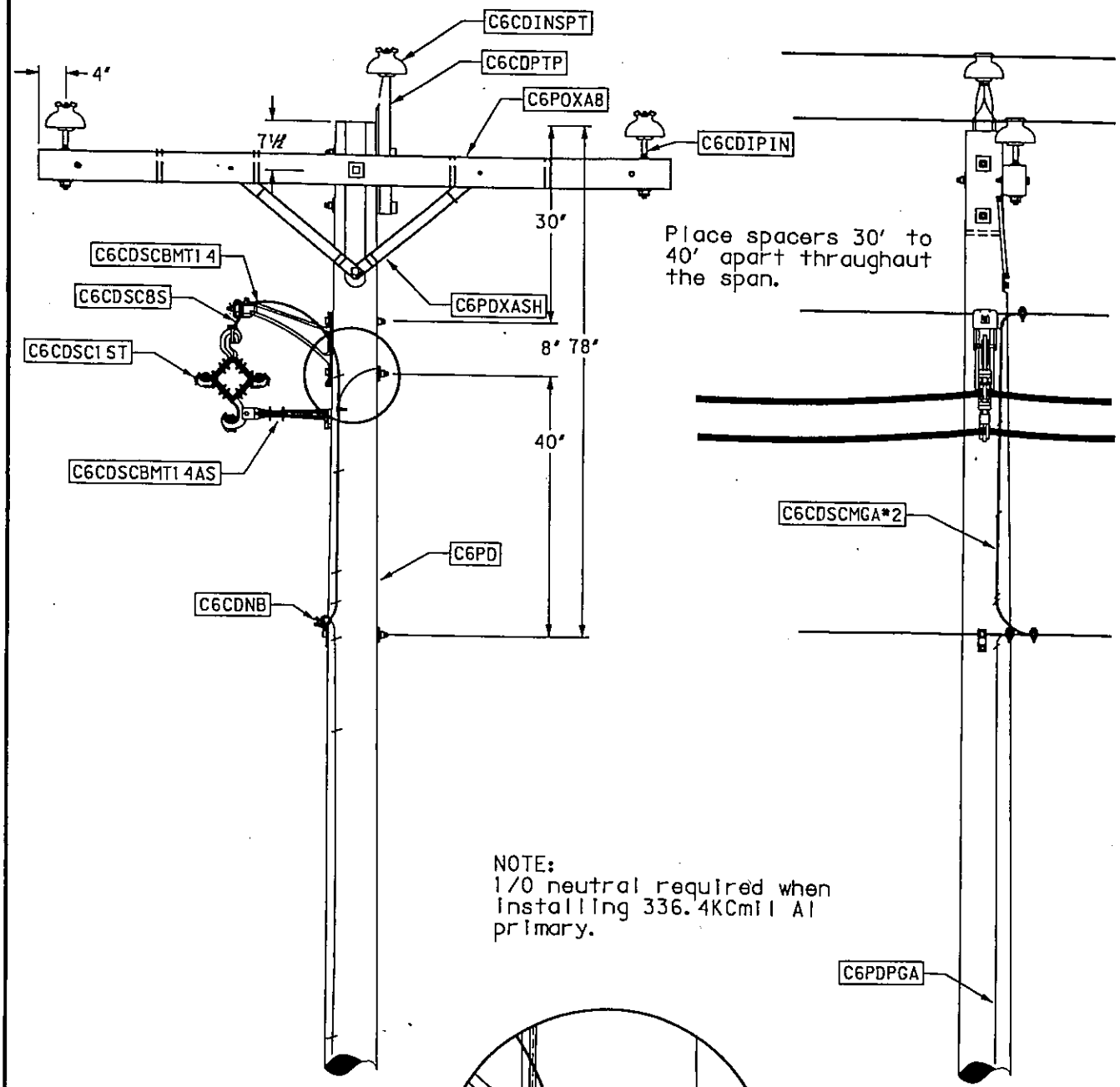
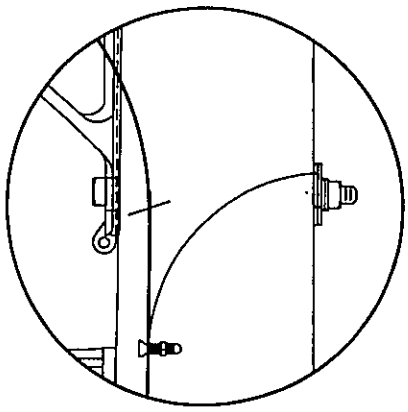
STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6COINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6COIPIN	2		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	4		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDPTP	1		POLE TOP PIN 24 INCH STEEL	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN 24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6CDSCBMT14	1		SPACER CBL BKT MESS TANGENT 14IN	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHFLTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS TANGENT 14 IN	6000620290
C6CDSCBMT14AS	1		BKT ANTI-SWAY 14IN USE W/CDSCBMT14	
		1	B LAG GALV FET 1/2 X 4	6000272540
		1	BRACKET - ANTI-SWAY 14"	6000620390
C6CDSCBS	1		SPACER CBL STIRRUP USE/W ANTI-SWAY BKT	
		1	BKT STIRRUP	6000620380
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	7		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251660
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA8	1		XARM, 6PIN8, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX

MACRO	DESCRIPTION	PAGE
C6MC3SPC/30B	3PH SPACER CBL W/3PH OVERBUILD STR 12KV	333-10B



NOTE:
1/0 neutral required when installing 336.4KCmil Al primary.



All metallic brackets shall be graunded.

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	01/17/06

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STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	GENERAL FIBER OPTIC CABLE	335

General
Fiber Optic Cable

1. Central Maine Power Company shall own all Fiber Optic cable located within the "Power Space".

2. All fiber optic cable located in the supply space shall be installed and maintained so to be in complete compliance with the National Electrical Safety Code and all other applicable rules and regulations.

3. Fiber Optic Cable shall be attached in the Power Space using a stand off bracket which provides a minimum of 12" off set.

4. The supporting bracket shall be attached to the pole at the bottom of the Power Space with the lowest part of the bracket and any attached hardware or cable a minimum of 40" above the highest communications attachment.

5. Midspan separation between Fiber Optic cable attached in the Power Space and any conductors attached in Communication space shall not be less than 12 inches for all applicable conditions..

6. Fiber Optic cables located in the Power Space shall be All Dielectric Self-Supporting (ADSS). For a SINGLE span where the span length exceeds 250' and where the Single span length exceeds the average span of the entire line section a metallic wire may be used to support the ADSS. Any metallic or otherwise conductive support wire shall be effectively bonded to the power neutral.

7. The Fiber Optic cable shall have adequate strength and shall be tensioned such that NESC required clearance will be maintained under all required conditions. Guying shall be provided to support the cable maximum cable tension.

8. Where the power neutral is attached at the same pole position as the Fiber Optic cable, the power neutral and Fiber Optic cable should alternate the pole and standoff positions to avoid mid-span crossings of the wire. Where a mid-span crossing of the neutral and fiber optic cable can not be avoided the fiber optic cable and neutral may be coupled at a single point.

9. At dead-end structures where the power neutral and fiber optic cable must terminate on the pole, the power neutral shall be attached a minimum of 12" above the fiber optic cable attachment.

10. Each cable shall be assigned a unique number. Each cable shall be labeled with the assigned number at each attached pole so as to provide positive identification for the life of the cable. The cable label shall be an ACP International. "millennium" stainless steel marker or equivalent.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	08/31/01		

	ORIGINAL
DESIGNED	KBP
DRAWN	REC
DATE	05/22/00

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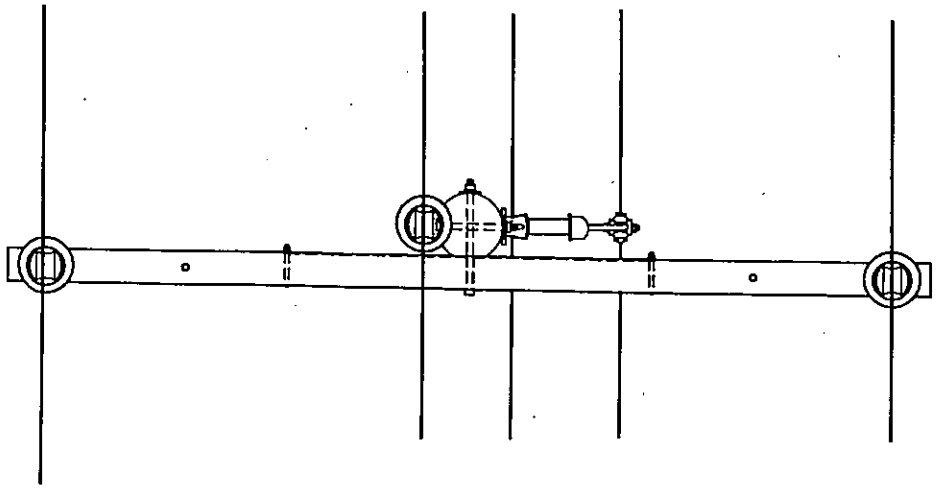
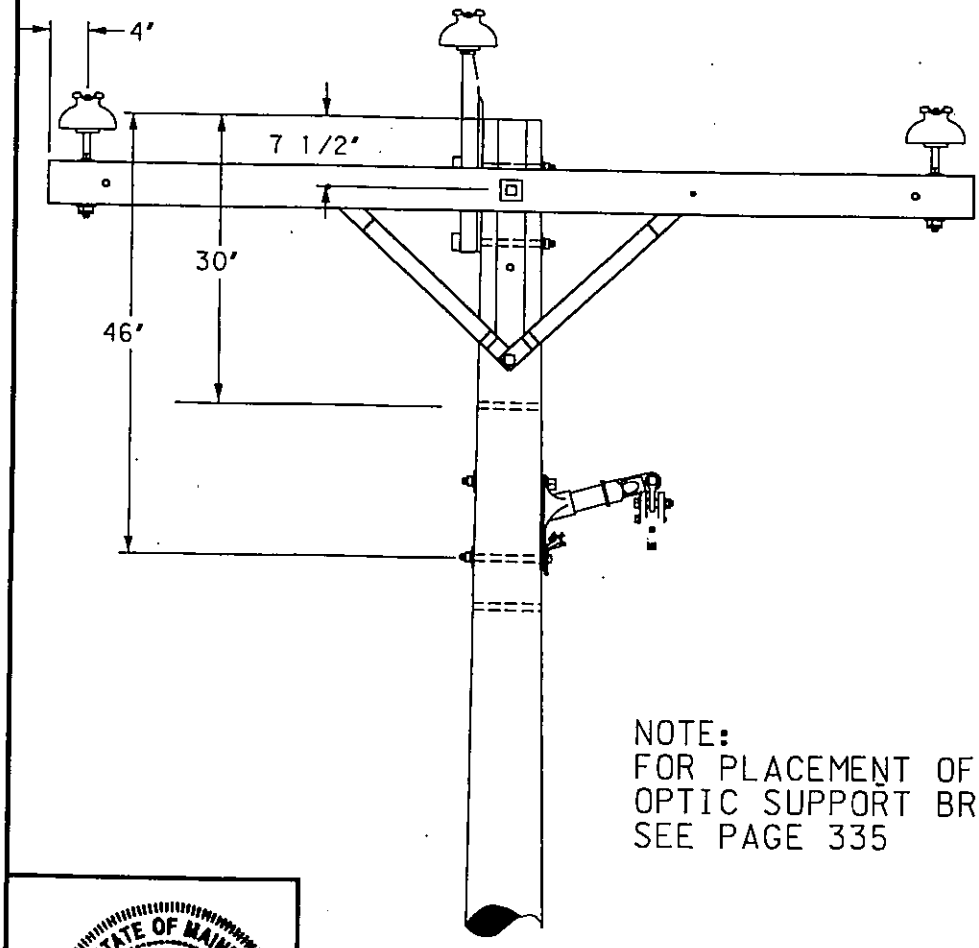
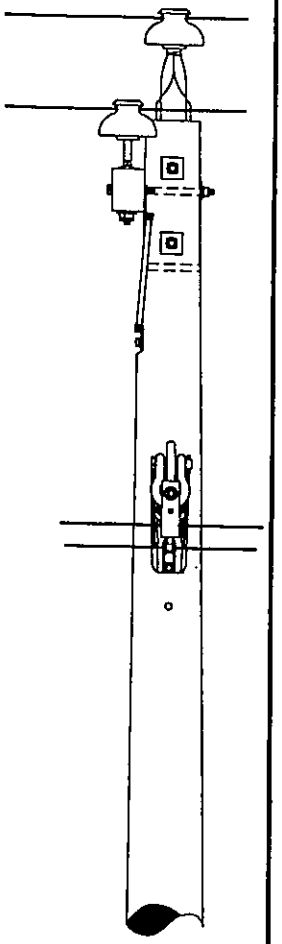
STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH SINGLE XARM FOR UP TO 6FT. CORNER	335-1B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY







NOTE:
FOR PLACEMENT OF FIBER
OPTIC SUPPORT BRACKET
SEE PAGE 335

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	01/19/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/13/00

EnergyEast

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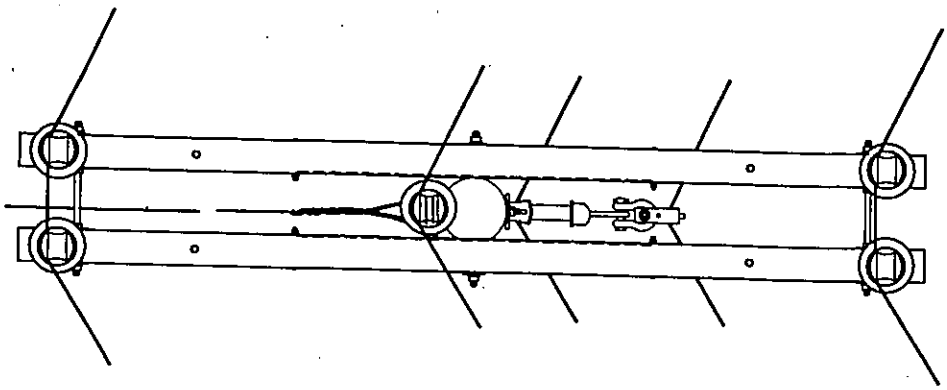
STATE OF MAINE
BRENT C. BROOKS #8209
REGISTERED PROFESSIONAL ENGINEER
11/13/06

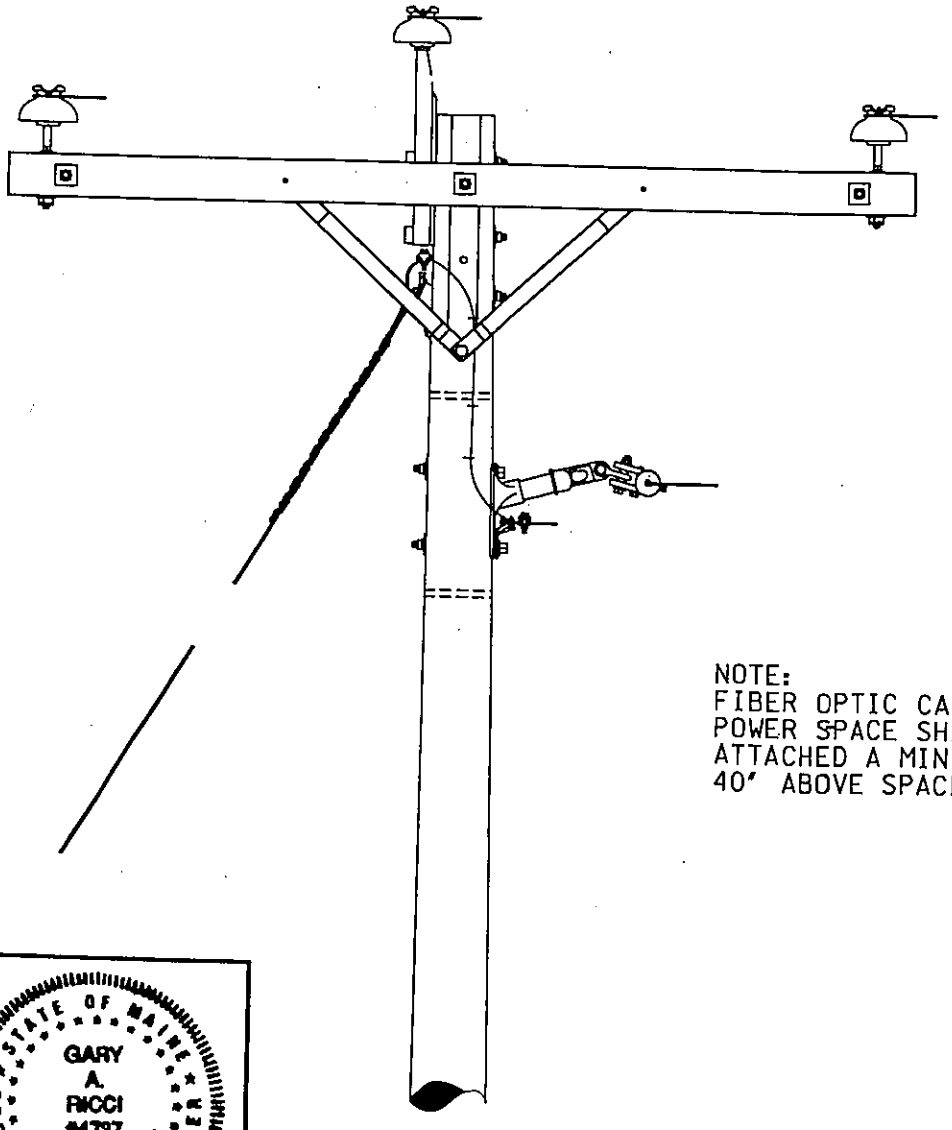
CENTRAL MAINE POWER CO.

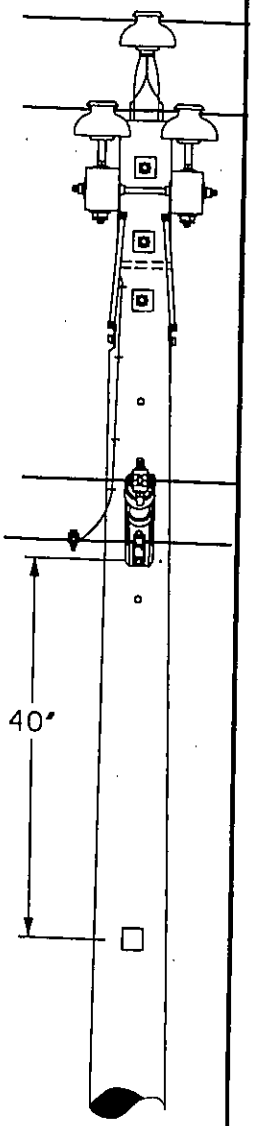
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH DOUBLE XARM UP TO 25FT. CORNER	335-2B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY







NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM OF 40' ABOVE SPACE TAG

40'

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	01/31/06	

EnergyEast

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/13/00

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

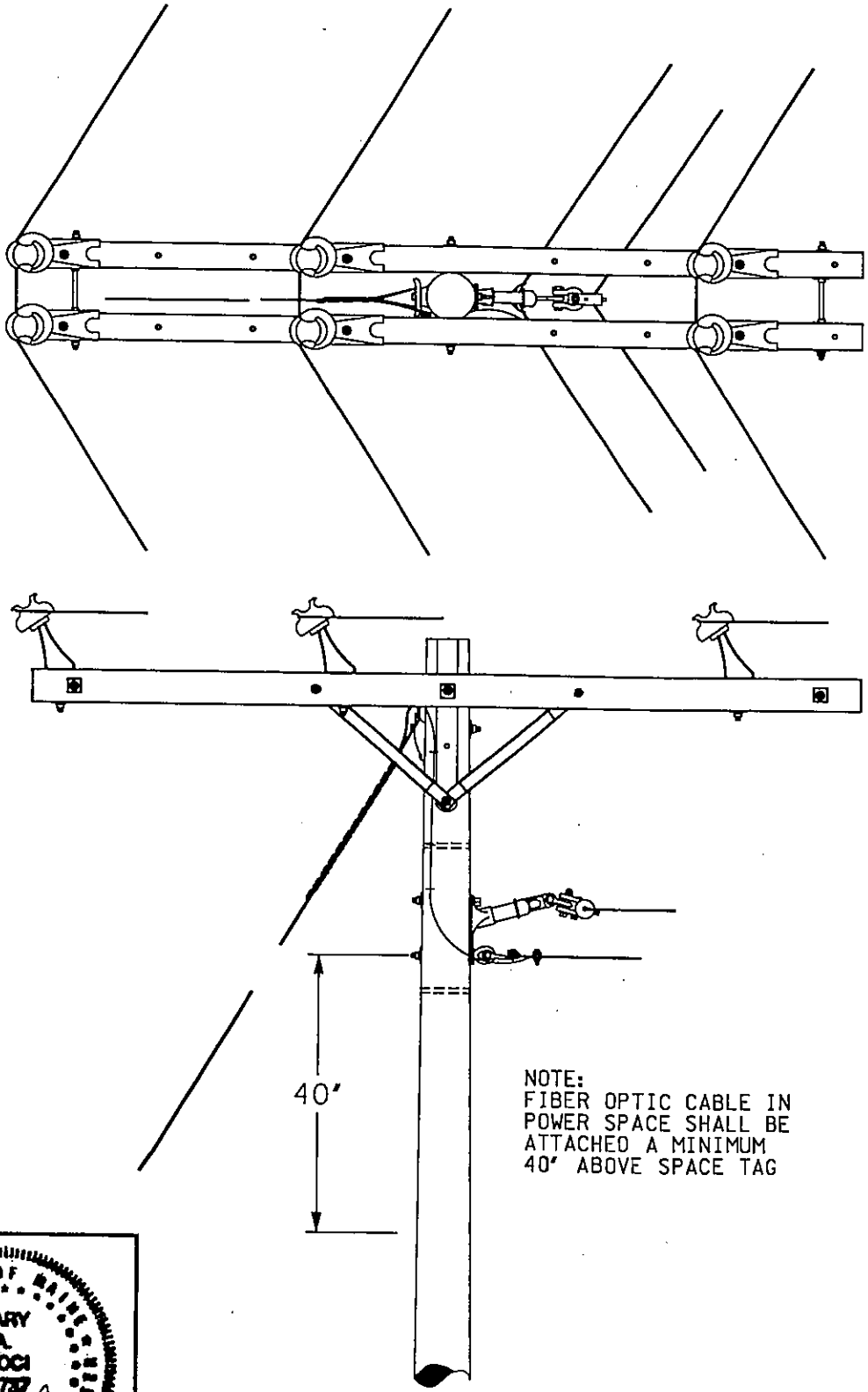
STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH DOUBLE XARM ANGLE PIN TO 50 FT. CORNER	335-3B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY



NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40" ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/07/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/15/00

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

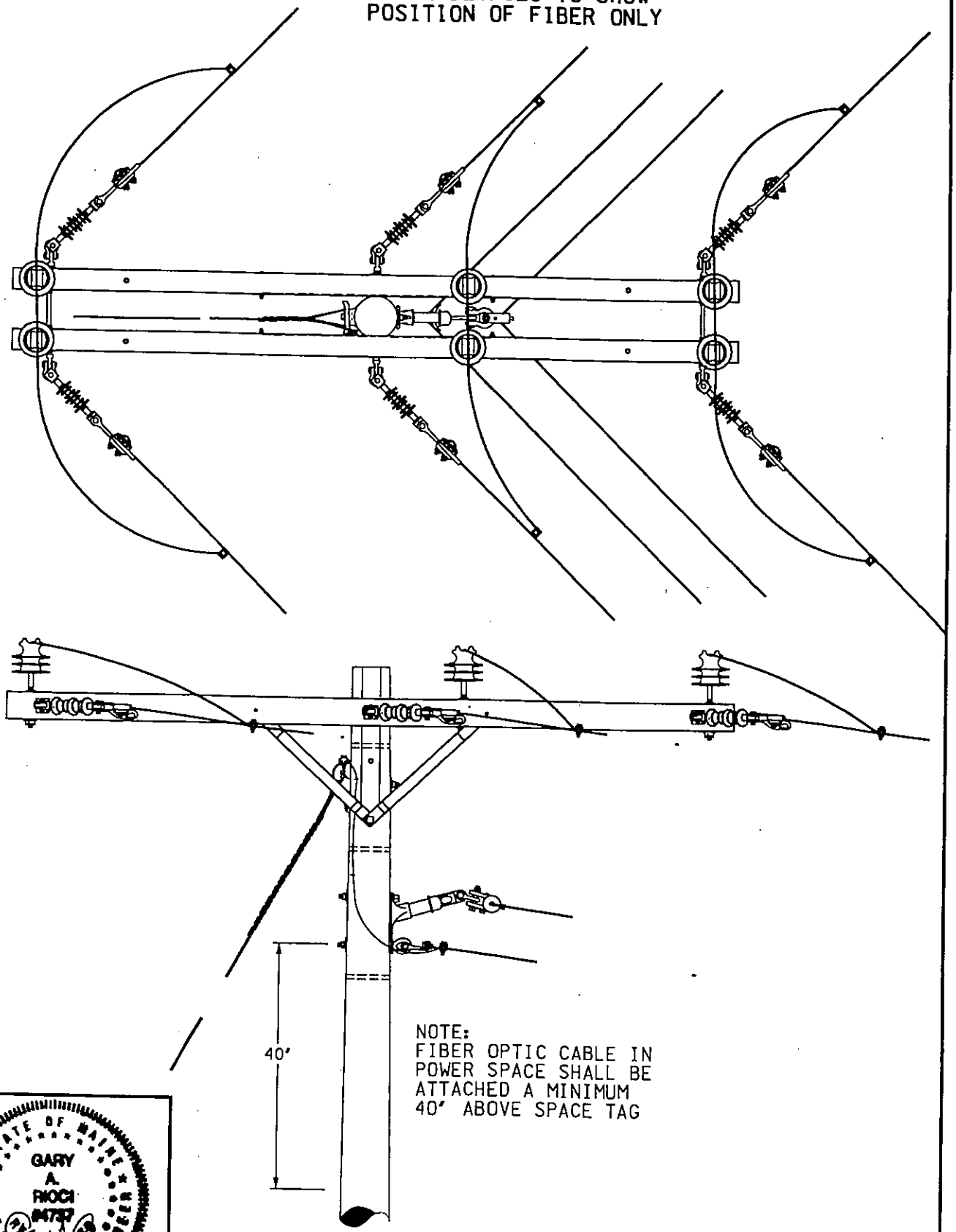
STATE OF MAINE
GARY A. RICCI
#4737
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH DOUBLE DEADEND ANGLE	335-4B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY



NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/03/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/15/00

EnergyEast

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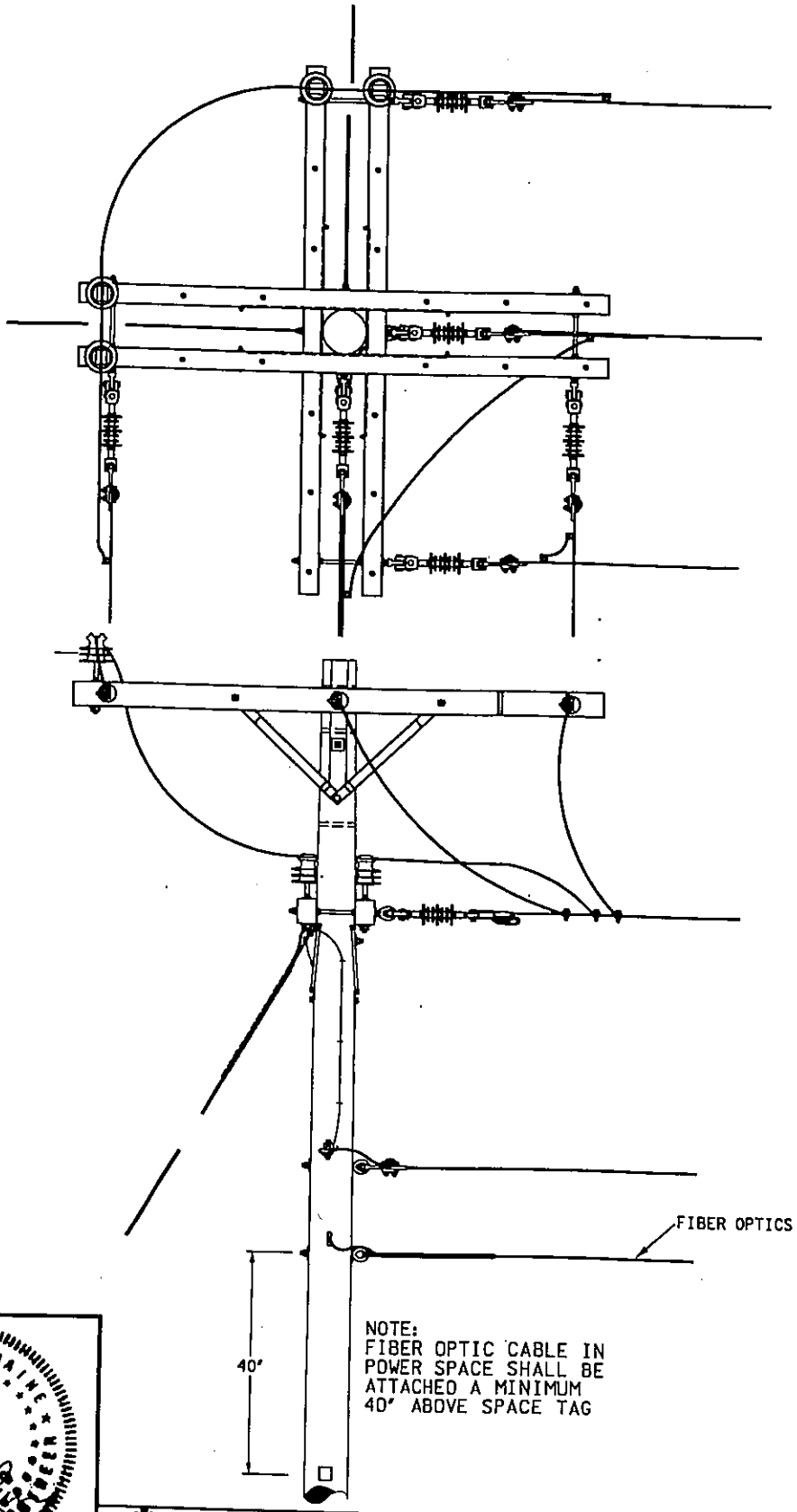
STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH DOUBLE BUCKARMS OVER 50 FT CORNER	335-5B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY



NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	01/31/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/15/00

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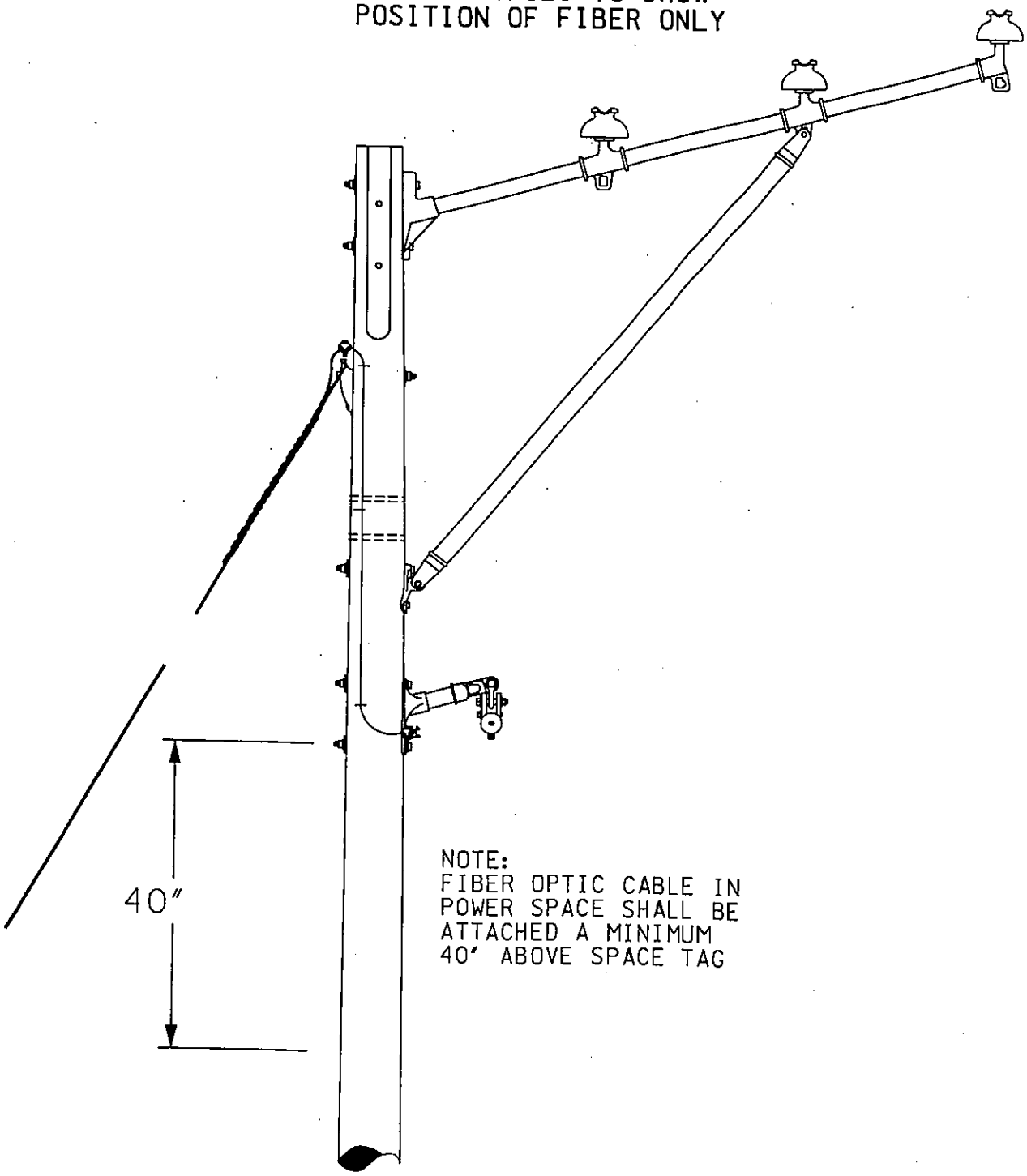
STATE OF MAINE
GARY A. RICCI
14737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH FIBERGLASS ALLEY ARM STRUCTURE	335-6B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY



NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/03/06	

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DESIGNED	CS
DRAWN	REC
DATE	03/29/00

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#4737
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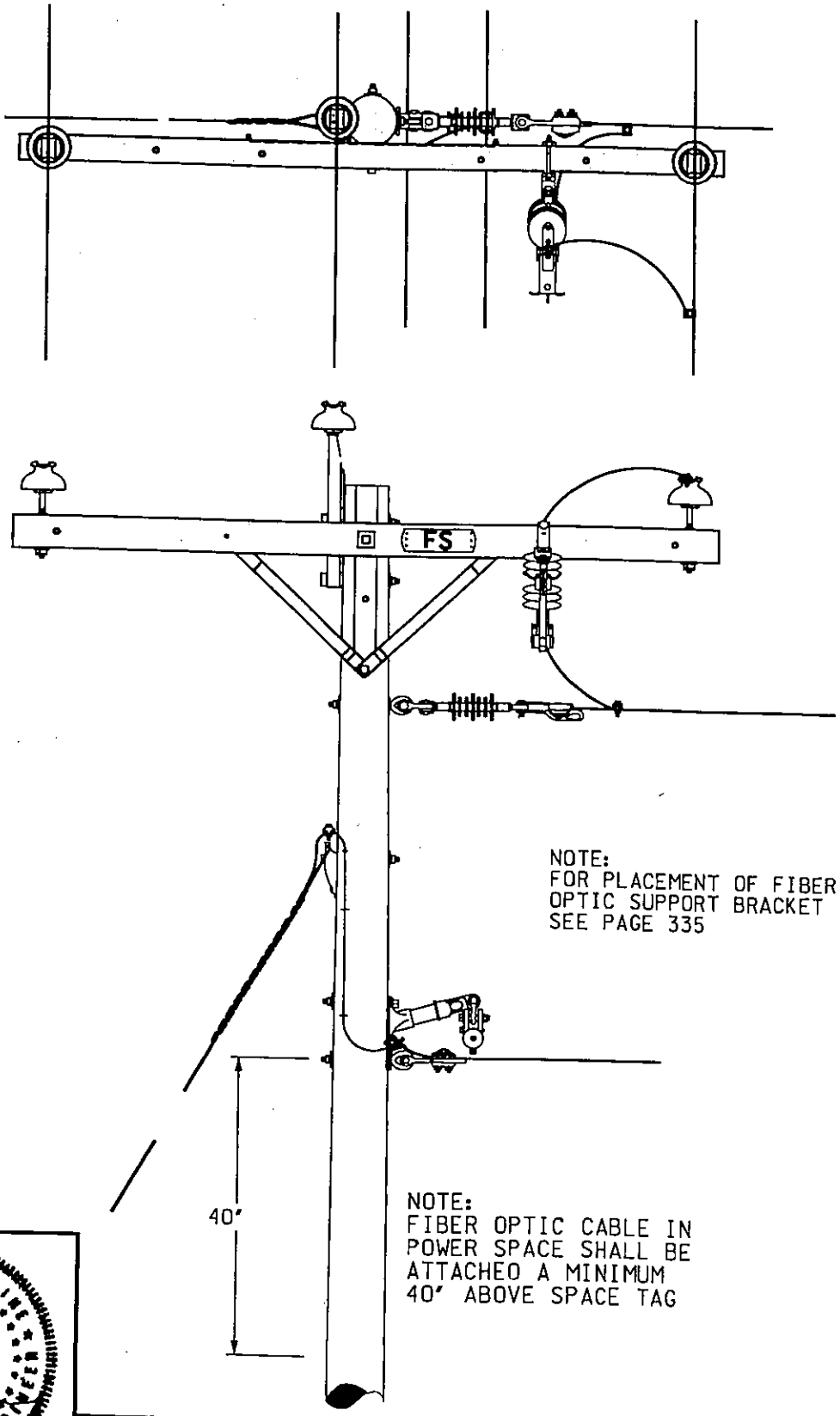
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 1 PH TAP FROM 3 PH XARM STRUCTURE	335-7B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY



NOTE:
FOR PLACEMENT OF FIBER OPTIC SUPPORT BRACKET SEE PAGE 335

NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/02/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	06/08/00

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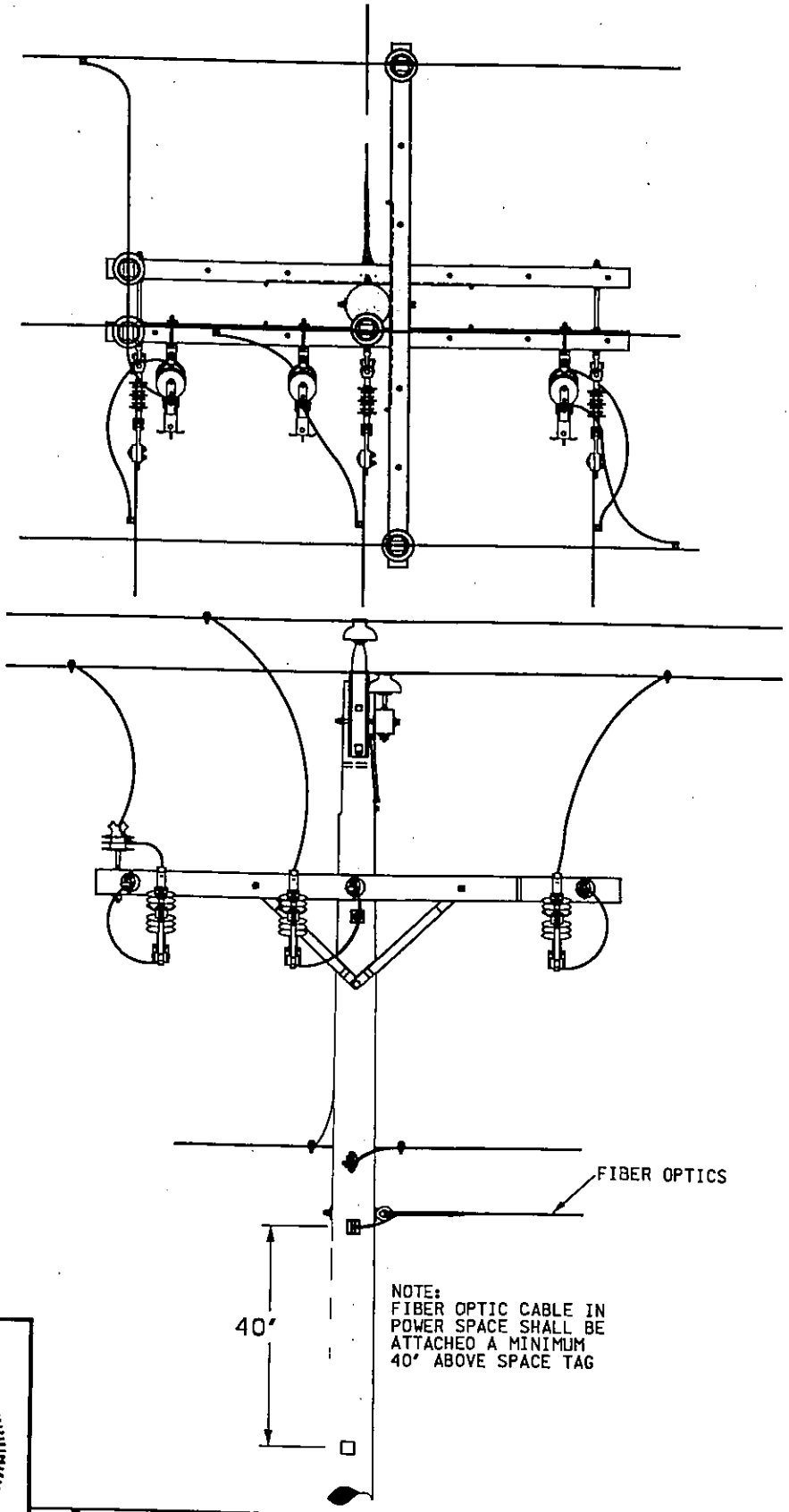
MACRO	DESCRIPTION FIBER POSITION ON 3 PH DOUBLE XARM TAP FUSED FROM 12KV	PAGE 335-8B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY



NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/08/06	

	ORIGINAL
DESIGNED	KBP
DRAWN	REC
DATE	06/08/00

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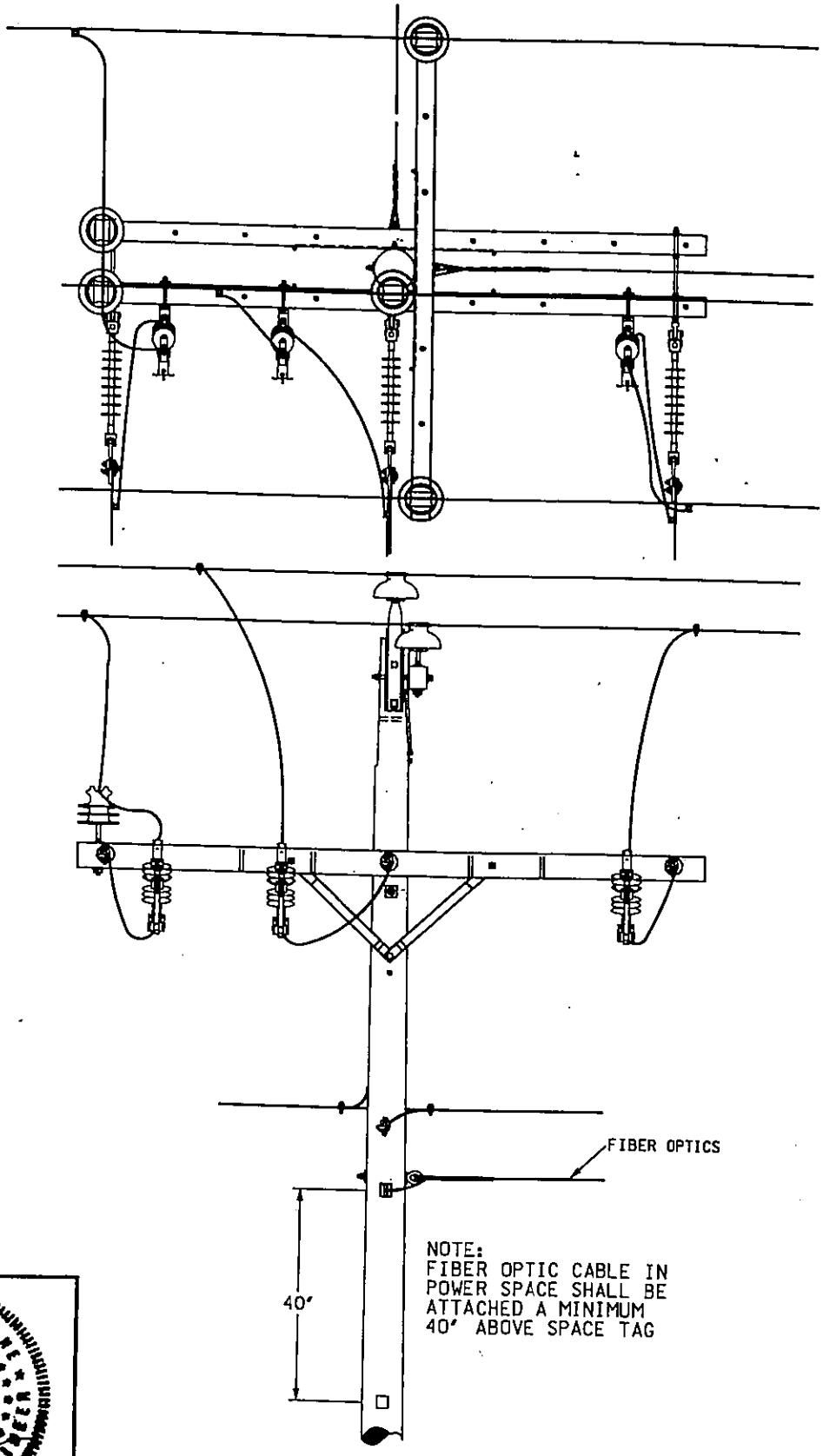
MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH DOUBLE XARM TAP FUSED FROM 34KV	335-9B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY



NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	07/03/01	02/08/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
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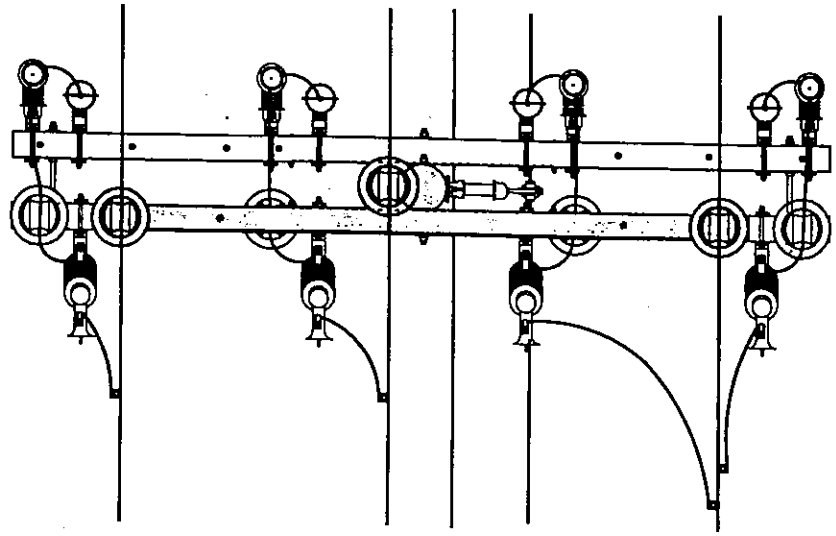
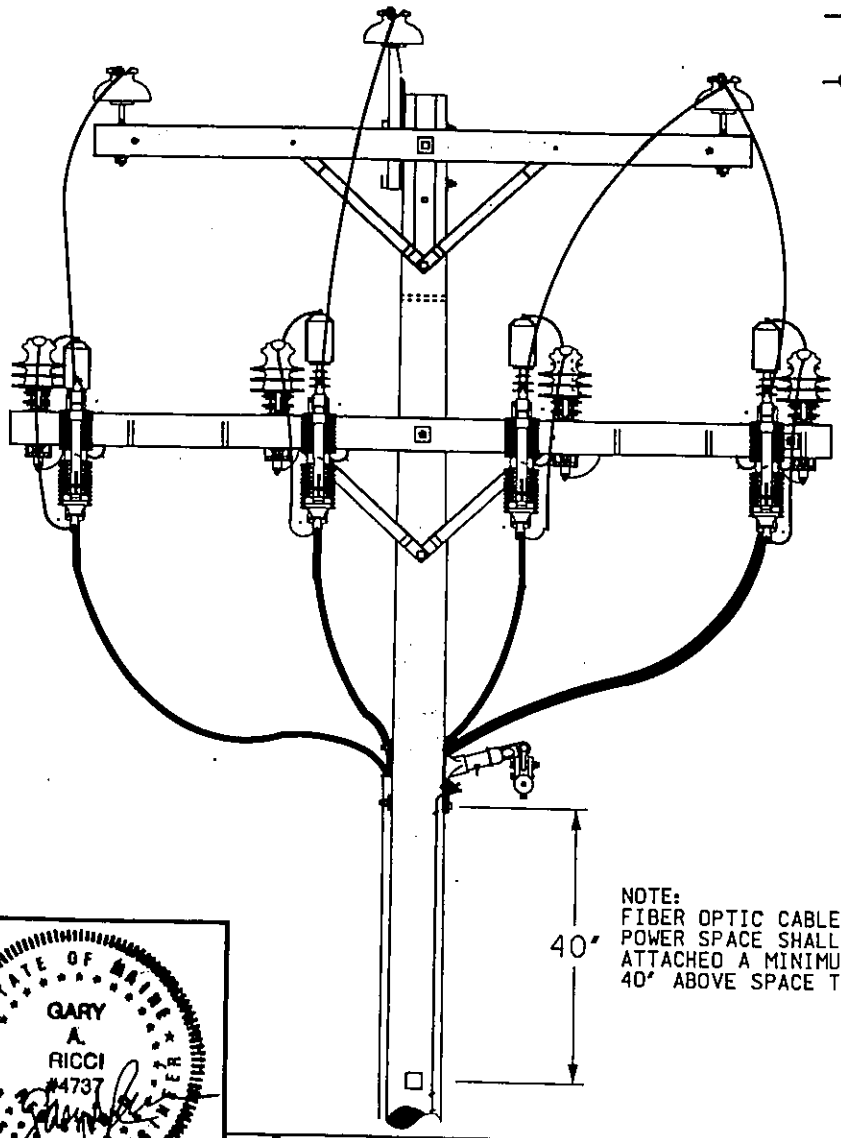
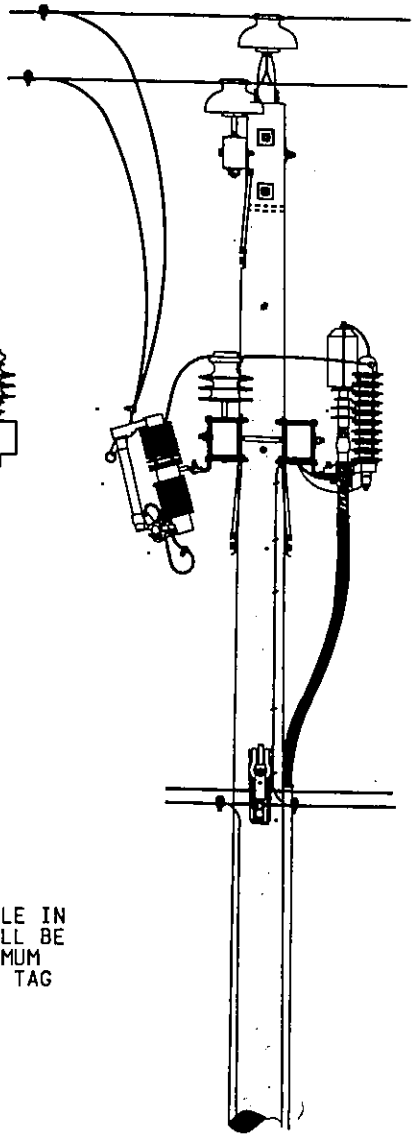
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH RISER 4 WIRE 34KV	336-1B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY







40'

NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/24/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	06/08/00

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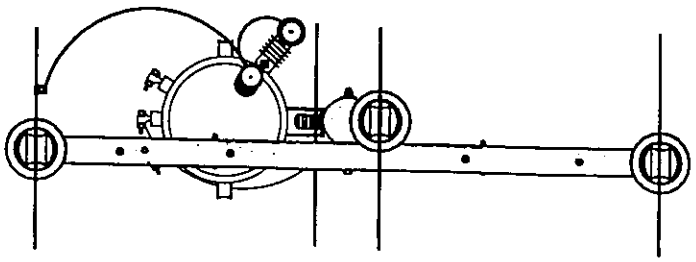
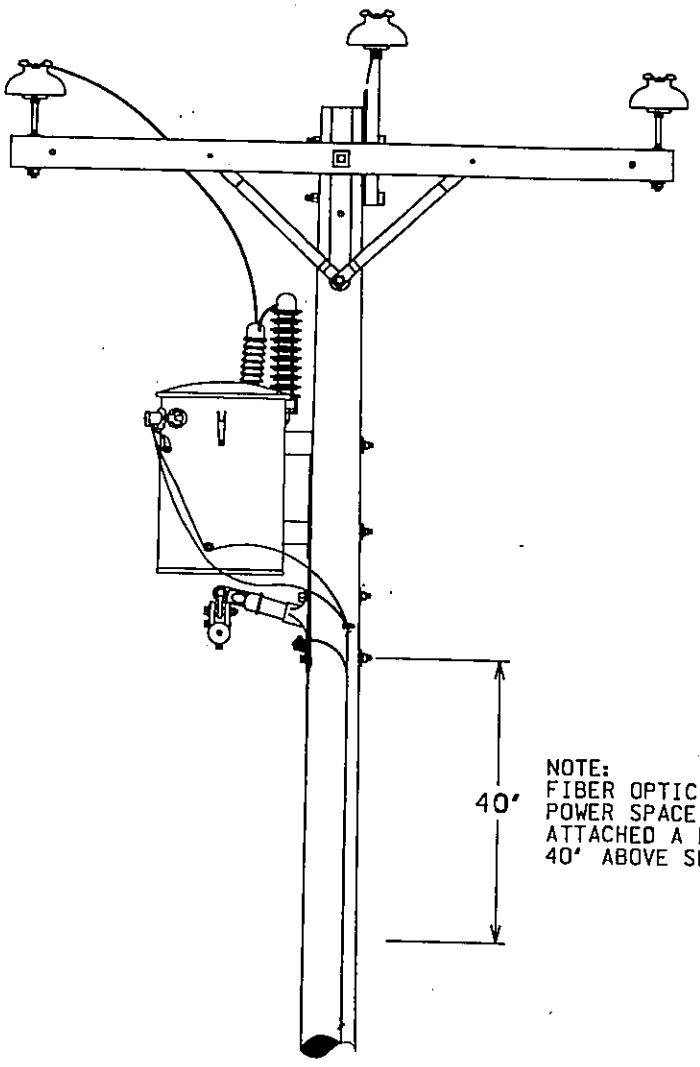
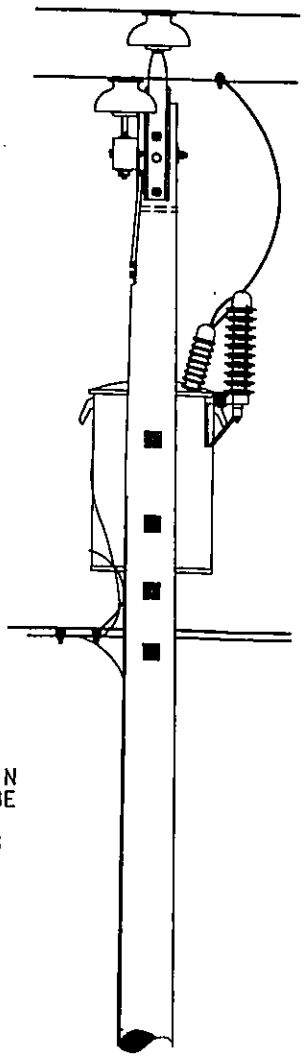
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 1 PH XFMR 10 TO 50 KVA ON 3 PH SX 34KV	337-1B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY







40'

NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/03/06	

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DESIGNED	CS
DRAWN	REC
DATE	03/28/00

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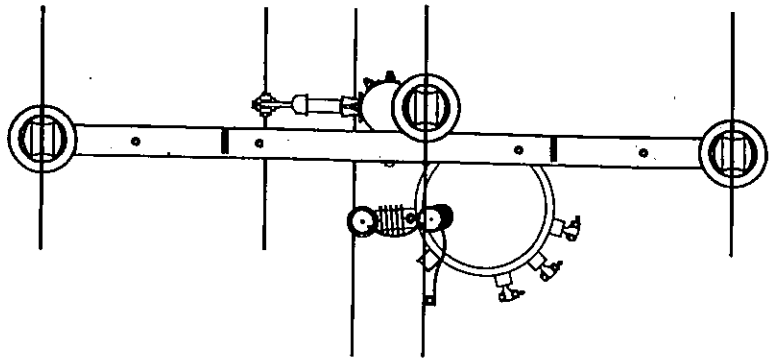
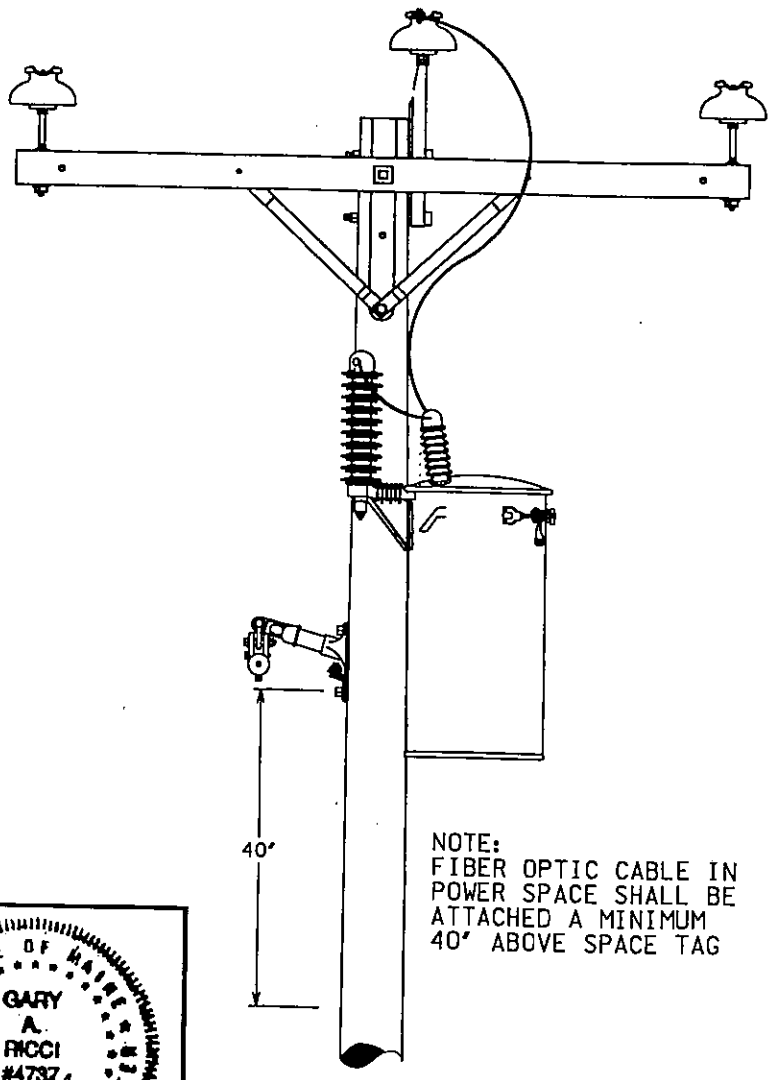
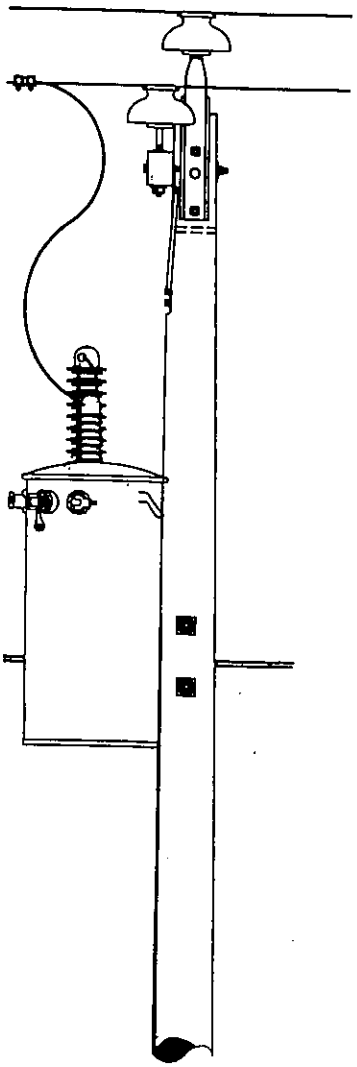
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 1 PH XFMR 75-100KVA ON 3 PH SX 34KV	337-2B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY







40'

NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/03/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/28/00

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DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3PH TO 167KVA CLUSTER MT ON SX 34KV	337-3B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/09/06	

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DESIGNED	CS
DRAWN	REC
DATE	06/08/00

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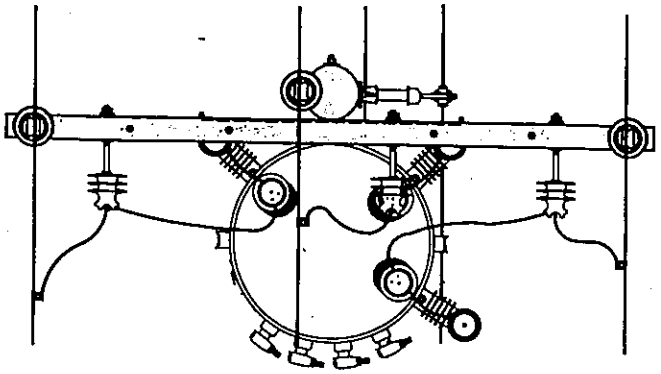
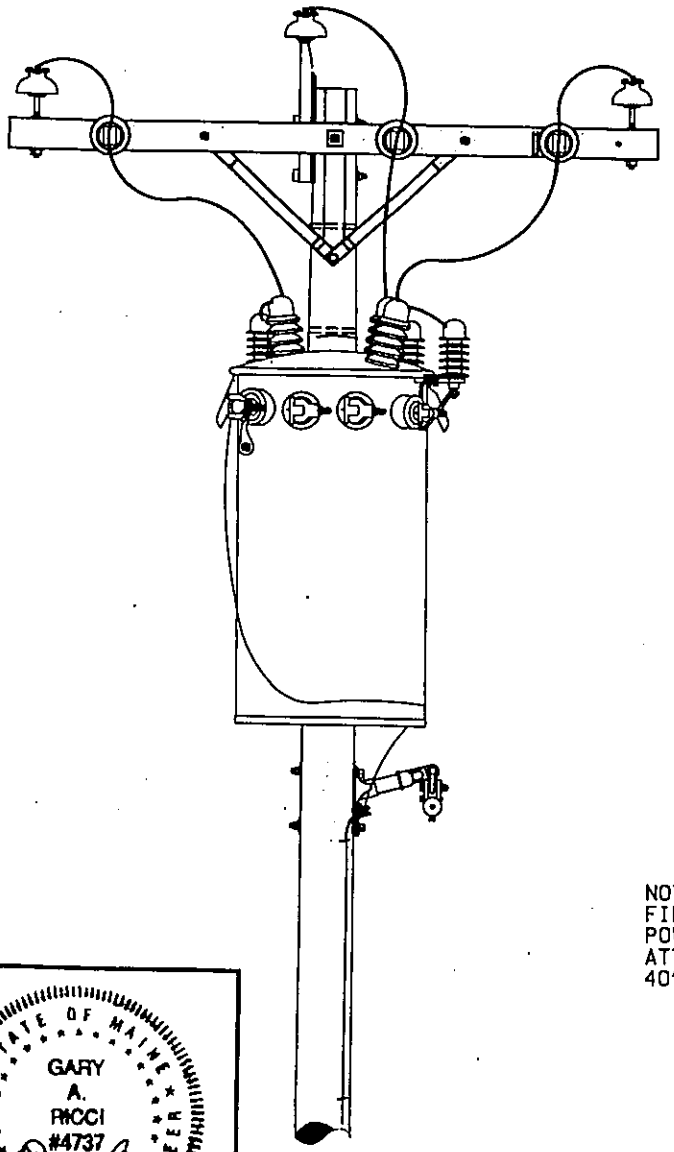
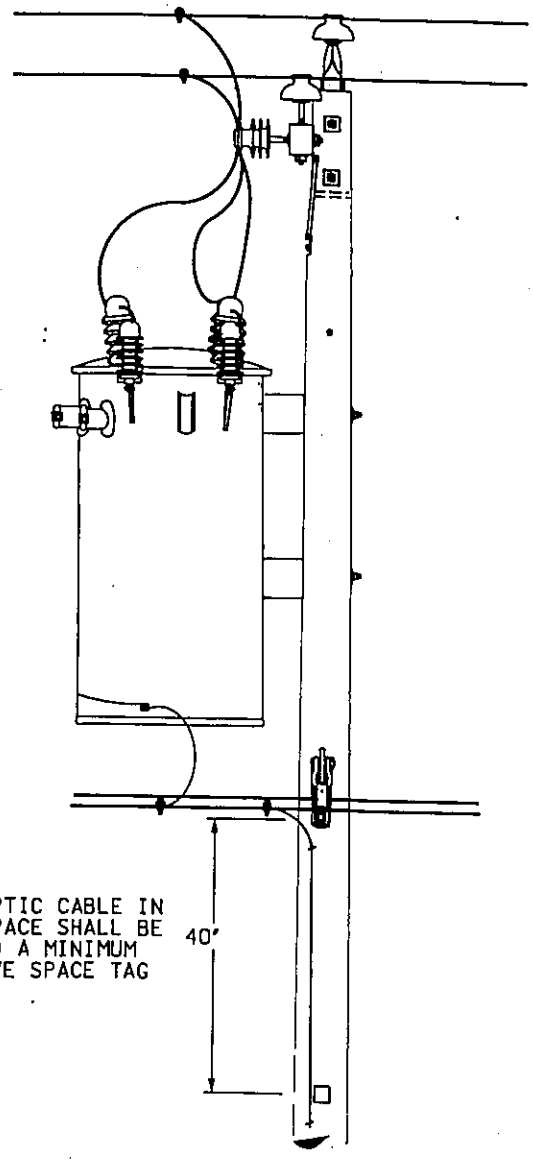
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH XFMR UNIT PROT ON SX STRUCTURE 12kV	337-4B

THESE DETAILS TO SHOW
POSITION OF FIBER ONLY







NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

40'

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/08/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/29/00

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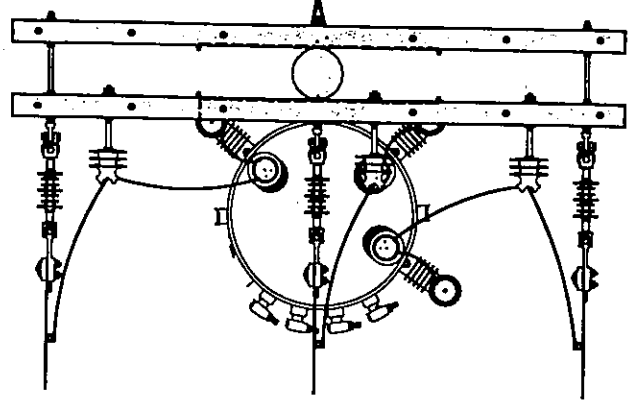
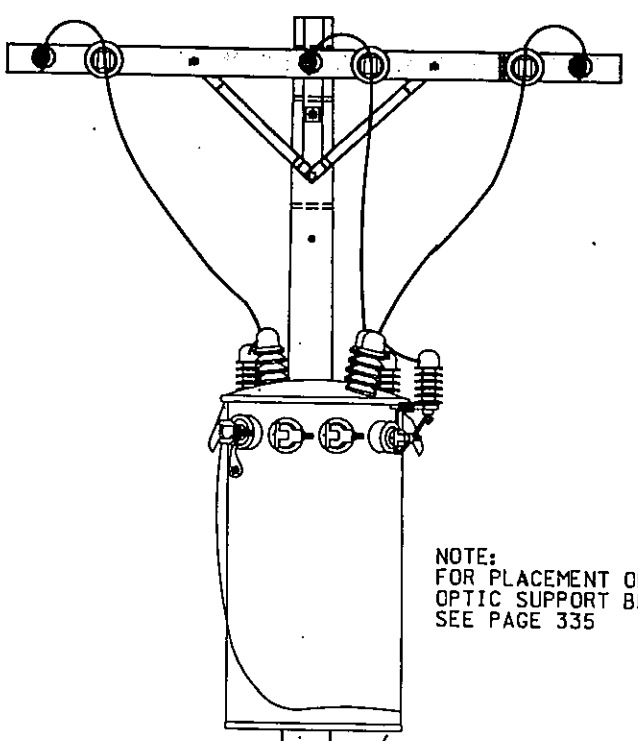
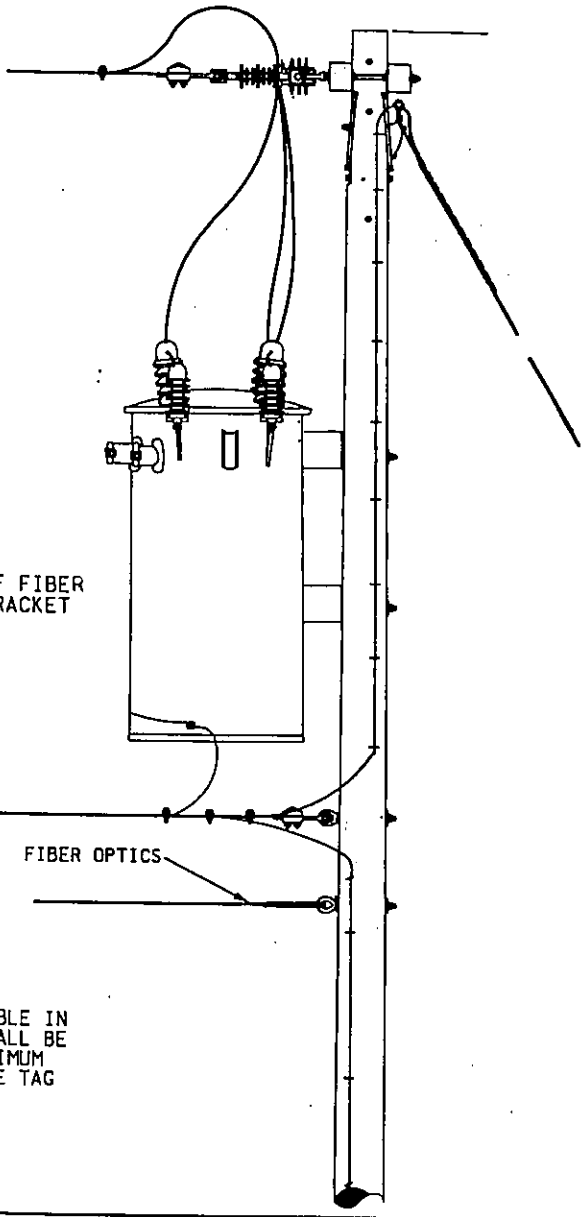
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	FIBER POSITION ON 3 PH XFMR UNIT ON DEADEND STRUCTURE 12KV	337-5B

THESE DETAILS TO SHOW POSITION OF FIBER ONLY







NOTE:
FOR PLACEMENT OF FIBER OPTIC SUPPORT BRACKET SEE PAGE 335

FIBER OPTICS

40'

NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/03/01	02/08/06	

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/20/00

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DISTRIBUTION CONSTRUCTION STANDARDS

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DESIGNED	CS
DRAWN	REC
DATE	06/08/00

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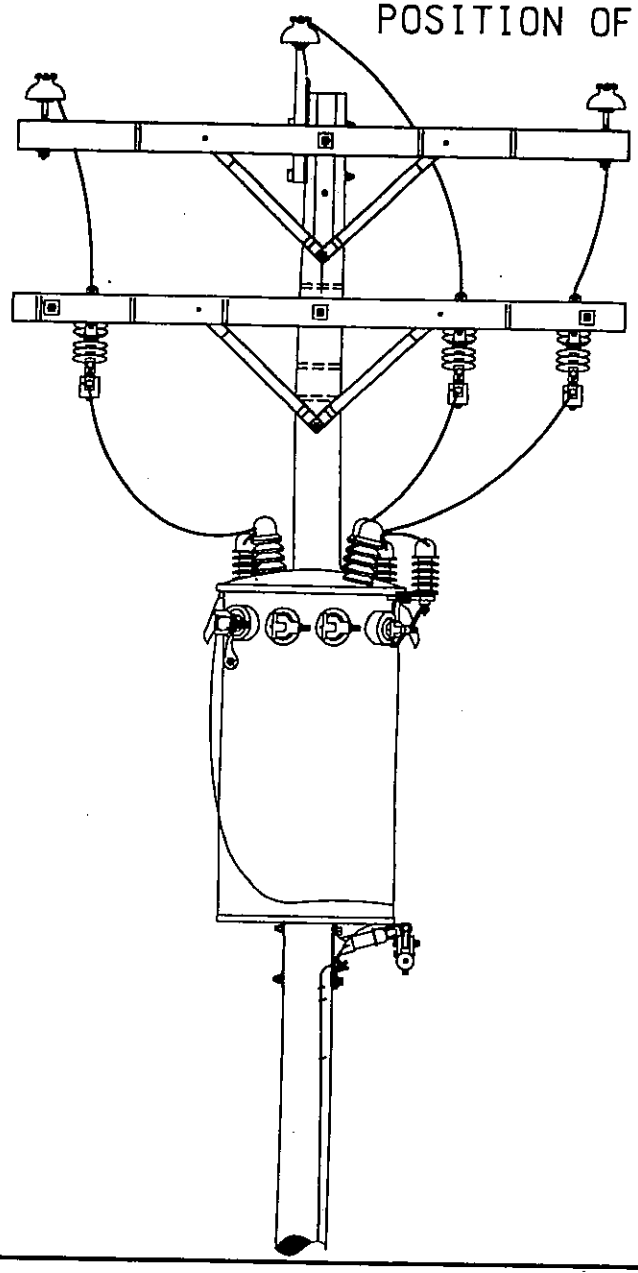
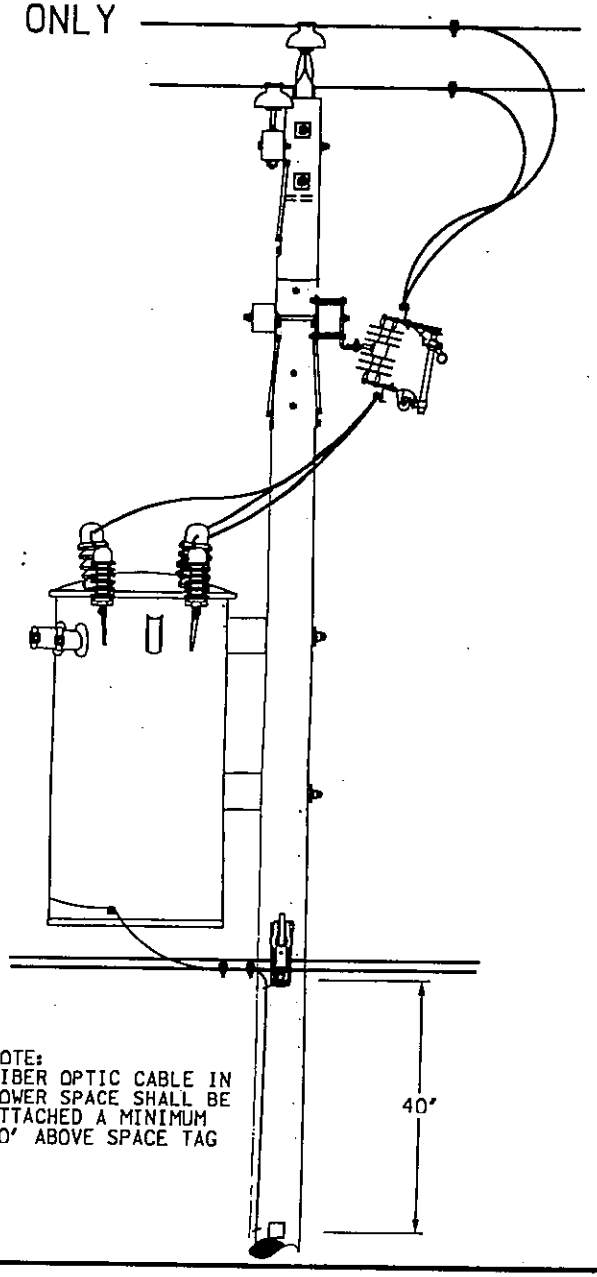
	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/08/06	

STATE OF MAINE · PROFESSIONAL ENGINEER · GARY A. RICCI · 14737

THESE DETAILS TO SHOW POSITION OF FIBER ONLY





NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
FIBER POSITION ON 3PH XFMR UNIT
CONV ON SX STRUCTURE 12KV

PAGE
337-6B

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/29/00

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	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/31/01	02/09/06	

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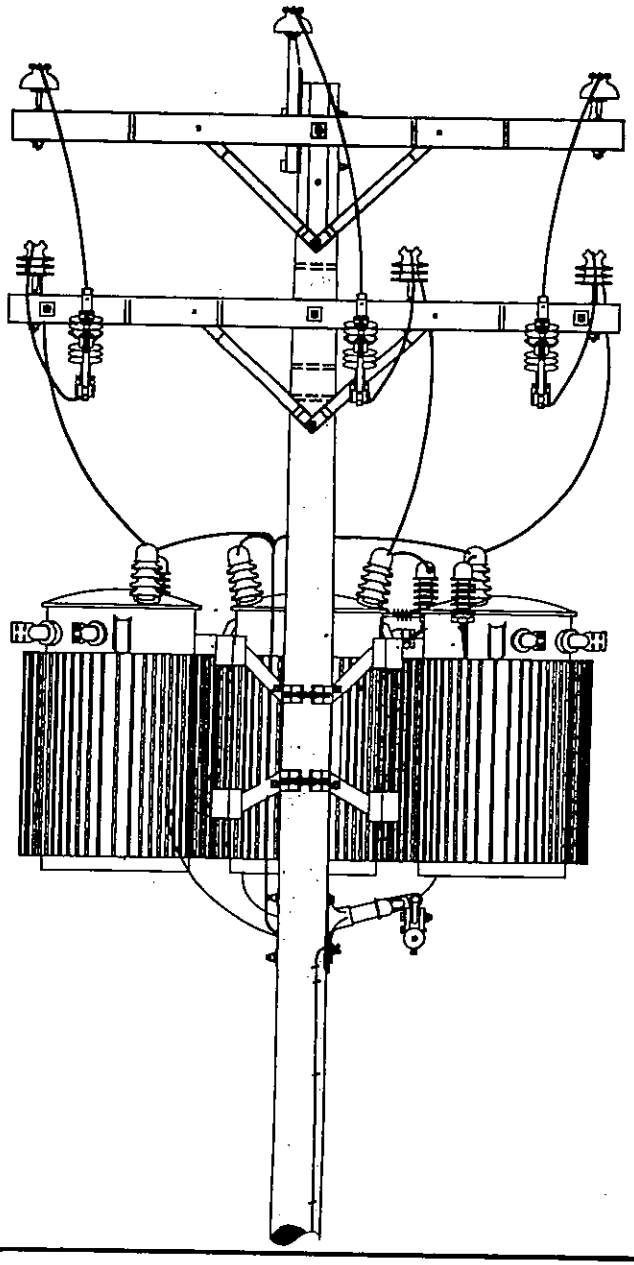
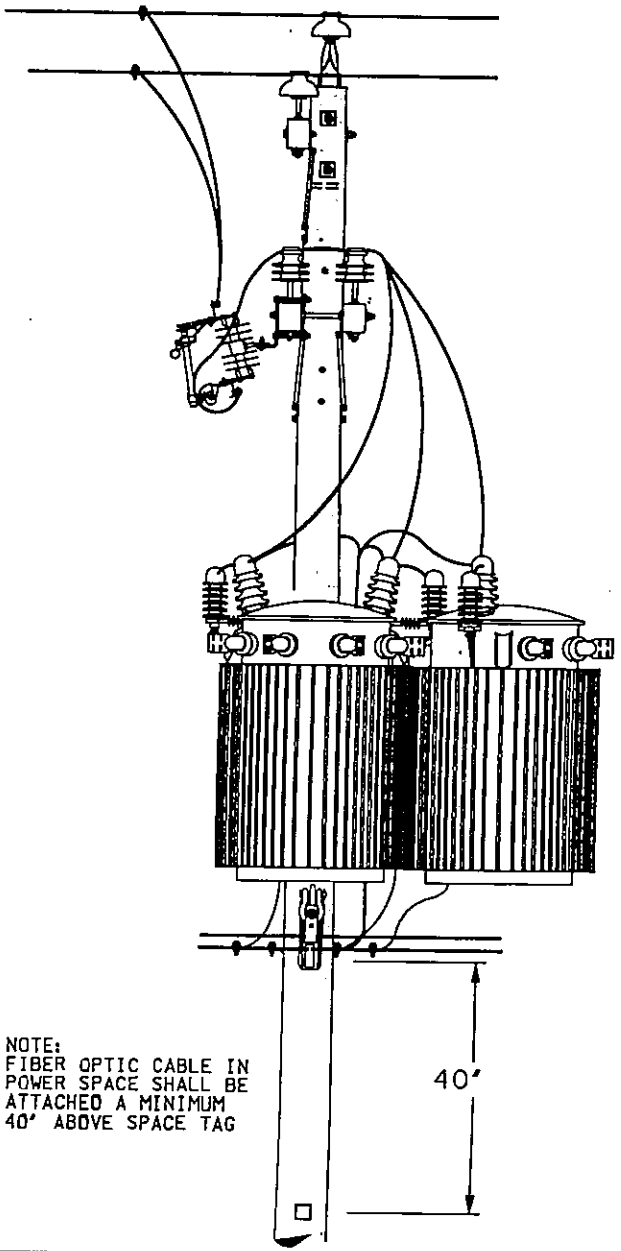
THESE DETAILS TO SHOW POSITION OF FIBER ONLY





NOTE:
FIBER OPTIC CABLE IN POWER SPACE SHALL BE ATTACHED A MINIMUM 40' ABOVE SPACE TAG

40'

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
FIBER POSITION ON 3PH XMFR UNIT CONV ON ON SX STRUCTURE 12KV

PAGE
337-7B

NO.	REVISION	DATE	CK.
1	Added 277/480Y rating, 2 sec bushing trans	12/05/07	JH

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

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TRANSFORMERS - GENERAL

Protected (CSP) Transformers

To provide the best possible protection for the transformer, the protected transformer is commonly used, especially for single phase residential services. The lightning arresters are mounted directly on the tank, thus providing the shortest, heaviest possible connection from arrester to tank and, therefore, the best possible chance to protect the transformer from overvoltage. Overload protection is provided by a circuit breaker in the secondary leads mounted under the oil and just above the transformer windings. If the transformer is overloaded, the heat from the transformer plus the heat from the current flow through the breaker trips the breaker. In case of a secondary short circuit, the breaker trips quickly from the current flow through the breaker. A fuse is connected in the primary lead of the transformer inside the tank to disconnect the transformer from the line in case of transformer failure. This fuse should not blow except on transformer failure, so no provision is made for replacing these fuses in the field. Caution: Protected transformers shall not be used in 3 phase transformer banks.

Series/Multiple Connections

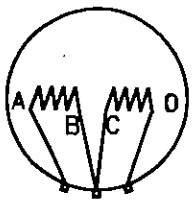
Many transformers have dual voltage ratings. The various voltages may be provided by changing internal connections, external connections, an internally operated switch, or a switch with the shaft run through the tank wall for external operation. The transformer must always be deenergized to change voltages. The nameplate must be checked for any particular transformer, however, the most common series multiple secondary arrangements follow:

Transformer Ratings

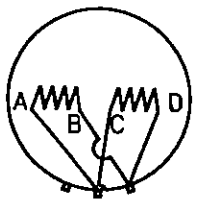
277x346
240x480
138.5x277 (19.9 KV ONLY)
120/240
277/480 Y

Connection For

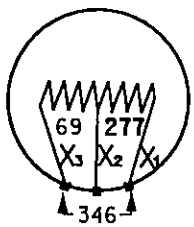
480
277
120/240V



240
138.5
120V



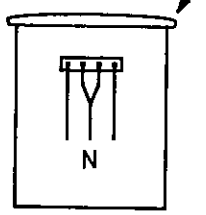
277 X
346V



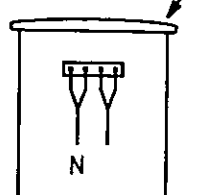
With 3 secondary bushings, reconnect inside the tank

Connection For

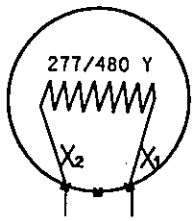
480
277
120/240v



240
138.5
120v



With 4 secondary leads, or 4 bushings, reconnect outside the tank as shown.

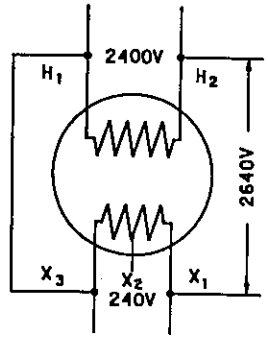


2 secondary bushings

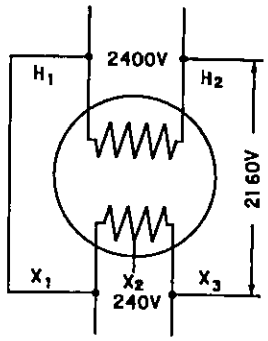
STATE OF MAINE
JEFFREY L. HANSCOM
No. 5934
LICENSED PROFESSIONAL ENGINEER
01/31/2008

PAGE 340-1	DESCRIPTION TRANSFORMER - GENERAL POLARITY MARKINGS	MACRO

TRANSFORMER - GENERAL



Additive Polarity



Subtractive Polarity

Illustrations of Transformer Polarity

The polarity of a transformer is additive if, when adjacent High and Low voltage terminals are connected (see above illustrations), and the transformer excited from either side, the sum of the High and Low voltages is measured across the other two adjacent terminals.

In the case of subtractive polarity transformers, the difference of the High and Low voltages will be measured across the remaining adjacent High and Low terminals.

If standard three phase bank connections are made, all transformers in the bank must be of the same polarity. If a transformer of odd polarity is included in the bank, the leads on either the high or the low side, but not on both sides, of the odd polarity unit must be reversed or the bank will be damaged by heavy circulating currents.

To parallel two individual transformers, connect H1 to H1, H2 to H2, X1 to X1, X2 to X2, and X3 to X3.

The NEMA standards for new transformers at this writing state that all single phase transformers with high voltage windings of 8660 volts or less and rated 200 kva or less shall be additive polarity. All others are to be subtractive polarity.

From the above data, it is obvious that most of the distribution transformers used on 2400/4160 and 7200/12470 lines will be of additive polarity.

Transformers used on 11kV and 20/34.5kV lines will be of subtractive polarity.

	DESIGNED	REDRAWN	CS
	DRAWN	REC	REC
	DATE	10/03/01	01/31/06

	DESIGNED	HEP
	DRAWN	GRG
	DATE	05/02/90

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STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

TRANSFORMERS - GENERAL

Transformer Siting

Distribution transformers contain various quantities of mineral oil used for internal insulation and to remove heat (generated from losses) away from current carrying parts. In general, there are no existing regulations that restrict the locating of distribution transformers near water. However, the volume of mineral oil in the transformer(s) may require certain measures to be taken.

If a single transformer contains greater than 660 gallons of mineral oil or if multiple transformers at one location contain greater than 1,320 gallons of mineral oil, then they may be subject to the Spill Prevention, Control and Countermeasure (SPCC) requirements of federal regulations. If you are planning to install equipment that will meet or exceed these volumes of oil, you should call the Enviromental and Licensing Department for advice on whether an SPCC Plan is required.

Even though there are no state or federal prohibitions for mineral oil transformer locations, care should be taken when siting transformers around water sources to minimize the possibility of oil migrating towards the water if a spill should occur. When possible, transformers should be placed away from water sources or locations where oil spills could flow to water sources. Secondary conductors can be used to allow locating the transformers away from potentially sensitive locations, as long as the level of customer load and length of secondary run is considered.

	REVISED	REVISED	REVISED
DESIGNED	CS	JLH	
DRAWN	REC	REC	
DATE	08/23/01	07/06/06	

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	JRP
DATE	06/15/98

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STATE OF MAINE
JEFFREY L. HANSCOM
NO. 5934
REGISTERED PROFESSIONAL ENGINEER

The factors below are to be used as a guide for transformer loading.

The factor for electric heat customers allows for the normal appliance usage such as electric range, dryer, water heater, etc.

Transformers serving commercial customers must be considered individually.

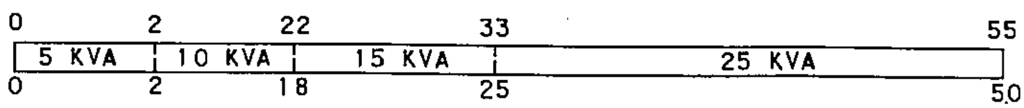
To size a transformer, add the factors for all the customers to be served, and use the upper scale if any electric heat customers are served, the lower scale if no electric customers are served. Smaller transformers than indicated may be used if electrical useage is known to be low.

For each electrically heated residence, use a factor of 1.1 per kW of installed heat. If installed heat is unknown, use a factor of 1.1 for each 100 square feet of floor space in a new house designed for electric heat, or a factor of 1.6 for each 100 square feet of floor space in a house being converted to electric heat.

For each 100 ampere residence service not electrically heated, use a factor of 3.

For each 60 ampere residence service or apartment, use a factor of 2.

FACTOR WITH ELECTRIC HEAT CUSTOMERS



FACTORS WITH NO ELECTRIC HEAT CUSTOMERS

Example I

1 - Electric heat customer with 11 kW installed	12.1
2 - 100 amp residence services	6
2 - 60 amp residence services	4
Total	22.1

This is over 22. Check secondaries for voltage drops, if satisfactory, use a 15 kVA if available, or a 25 kVA transformer.

Example II

2 - 100 amp residence services	6
4 - 60 amp residence services	8
3 - Apartments	6
Total	20

This is over 18 with no electric heat customers. Check secondaries for voltage drops, if satisfactory use a 15 kVA if available, or a 25 kVA transformer.

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ORIGINAL	
DESIGNED	RCS
DRAWN	RCE
DATE	2/01/75

1 CHANGED KV TO KW AND RELOCATED "REVIEW" "22.1" — 03/14/07

STATE OF MAINE — JEFFREY L. HANSCOM No. 5934 — LICENSED PROFESSIONAL ENGINEER — 03/12/2007

MACRO	DESCRIPTION	PAGE
	TRANSFORMER FUSE SCHEDULE	341-1

REVISED	REVISED	REVISED
DESIGNED	CS	
REDRAWN	REC	
JRP	03/14/06	
DRAWN		
DATE	06/16/98	

TRANSFORMER KVA		VOLTAGE			
1 PHASE	3 PHASE	2400 3 PHASE	2400 1 PHASE and 4160 3 PHASE	7200 1 PHASE and 12,470 3 PHASE	20 KV 1 PHASE and 34.5 KV 3 PHASE
10	30	10 T	10 T	3 T	3 T
15	45	15 T	10 T	6 T	6 T
25	75	25 T	15 T	6 T	6 T
50	150	65 T	40 T	10 T	6 T
100	300	100 T	65 T	25 T	10 T
167½	500	140 T	100 T	40 T	15 T
250	750	200 T	140 T	65 T	25 T
333	1000	200 T	200 T	65 T	25 T
500	1500	-	200 T	100 T	40 T
	2000	-	-	140 T	65 T
	2500	-	-	200 T	65 T

1. For single phase transformer use phase to ground (1 Phase) voltage and single phase tronsfarmer KVA.
2. For 3 phase bank use phase to phase (3 Phase) voltage and individual single phase transfarmer KVA.
3. For 3 phase transformer units use phase to phase (3 Phase) voltage and transformer 3 phase KVA.
4. For open wye and delta banks use phase to ground (1 Phase) voltage and individual single phase transformer KVA.
5. For phase to ground (1 Phase) use: choose next highest fuse available. $\frac{KVA}{KV_{\phi-G}} \times 1.5 = (X)$ Then
6. For phase to phase (3 Phase) use: choose next highest fuse available. $\frac{KVA}{KV_{\phi-\phi}\sqrt{3}} \times 1.5 = (X)$ Then

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ORIGINAL		
DESIGNED	HEP	
DRAWN	GRG	
DATE	05/02/90	

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STATE OF MAINE
JEFFREY L. HANSCOM
NO. 5934
REGISTERED PROFESSIONAL ENGINEER
03/12/2006

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	CIRCUITS REQUIRING CURRENT LIMITING FUSES	341-1A

Circuits Requiring Current Limiting Fuses

Alfred Service Center

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation	
			CSP'S	Conventional
Baldwin Tap	691D1	34.5	6 Miles	n/r
Bar Mills	678D1	12.47	1 Mile	1/2 Mile
Bossett	602D1	34.5	Entire Circuit	3 miles
Berwick	603D1	12.47	1/2 Mile	n/r
	603D2	12.47	1/2 Mile	n/r
Biddeford Industrial	673D1	12.47	2 Miles	1 1/2 Miles
	673D2	12.47	2 Miles	1 1/2 Miles
	673D3	12.47	2 Miles	1 1/2 Miles
Biddeford Pump	605D1	12.47	1 Mile	1/2 Mile
Bolt Hill	685D1	12.47	2 Miles	1 1/2 Miles
	685D2	12.47	2 Miles	1 1/2 Miles
Bonney Eagle	610D1	12.47	1 1/2 Miles	1 Mile
Bragdon Commons	689D1	12.47	1/2 Mile	1/2 Mile
Branch Brook	681D1	12.47	1 1/2 Miles	1 Mile
	681D2	12.47	2 Miles	1 1/2 Miles
	681D3	12.47	2 Miles	1 1/2 Miles
Butlers Corner	612D1	12.47	1 Mile	1/2 Mile
	612D2	12.47	1 Mile	1/2 Mile
Dunstan	617D2	12.47	1 1/2 Miles	1 Mile
Eliot	687D1	12.47	1/2 Mile	1/2 Mile
Factory Island	621D1	12.47	1 1/2 Miles	1 1/2 Miles
	621D2	12.47	1 1/2 Miles	1 1/2 Miles
	621D3	12.47	1 1/2 Miles	1 Mile
	621D4	12.47	1 1/2 Miles	1 Mile
High Street	626D1	12.47	1 Mile	1/2 Mile
	626D5	12.47	1 Mile	1/2 Mile
Hiram	419D1	12.47	1 Mile	1/2 Mile
Kennebunkport	629D1	12.47	1 1/2 Miles	1 Mile
	629D2	12.47	1 1/2 Miles	1 Mile
	629D3	12.47	1 Mile	1/2 Mile
Kittery	688D1	12.47	1 1/2 Miles	1 Mile
	688D2	12.47	1 1/2 Miles	1 Mile
Limerick	632D1	12.47	1 Mile	1/2 Mile
	632D2	12.47	1 Mile	1/2 Mile
Lauden	633D1	12.47	1/2 Mile	1/2 Mile
May Street	634D1	12.47	1 1/2 Miles	1 1/2 Miles
	634D4	12.47	1 1/2 Miles	1 1/2 Miles
	634D2	12.47	1 1/2 Miles	1 1/2 Miles
	634D3	12.47	1 1/2 Miles	1 1/2 Miles
North Limington	638D1	12.47	1 1/2 Miles	1 Mile
Ogunquit	640D1	12.47	1/2 Mile	1/2 Mile
	640D2	12.47	1 1/2 Miles	1 Mile
	640D3	12.47	1 1/2 Miles	1 Mile
Old Orchard Beach	641D1	12.47	1 1/2 Miles	1 Mile
	641D2	12.47	1 1/2 Miles	1 Mile
	641D3	12.47	1 1/2 Miles	1 Mile
	641D4	12.47	1 1/2 Miles	1 Mile
Pratt Whitney	661D1	12.47	1 1/2 Miles	1 1/2 Miles
	661D2	12.47	1 1/2 Miles	1 1/2 Miles
Saco Industrial Park	652D1	12.47	1 1/2 Miles	1 Mile
Sanford Industrial P	656D1	12.47	2 Miles	1 1/2 Miles
	656D2	12.47	2 Miles	1 1/2 Miles
	656D3	12.47	2 Miles	1 1/2 Miles
Sanford Switch	657D2	12.47	1 1/2 Miles	1 Mile
	657D3	12.47	1 1/2 Miles	1 Mile
	657D4	12.47	1 1/2 Miles	1 Mile
South Berwick	663D1	12.47	1 Mile	1/2 Mile
	663D2	12.47	1 Mile	1/2 Mile

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			

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	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	01/23/06

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STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
341-1B	CIRCUITS REQUIRING CURRENT LIMITING FUSES	

Circuits Requiring Current Limiting Fuses
Alfred Service Center (cont'd)

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
South Sonford	667D1	12.47	1 1/2 Miles	1 Mile
	667D2	12.47	1 1/2 Miles	1 Mile
Waterboro	671D1	12.47	2 Miles	1 1/2 Miles
	671D2	12.47	2 Miles	1 1/2 Miles
York Beach	676D1	12.47	1 1/2 Miles	1 Mile
	676D2	12.47	1 1/2 Miles	1 Mile
York Harbor	677D1	12.47	1 1/2 Miles	1 Mile

Circuits Requiring Current Limiting Fuses
Augusta/Fairfield Service Center

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
Browns Crossing	211D1	12.47	2 Miles	1 1/2 Miles
	211D2	12.47	2 Miles	1 1/2 Miles
Winslow	870D1	12.47	1 1/2 Miles	1 Mile
	870D2	12.47	1 1/2 Miles	1 Mile
North Augusta	272D3	12.47	1 1/2 Miles	1 1/2 Miles
	272D4	12.47	1 1/2 Miles	1 1/2 Miles
Augusta K5	200D2	12.47	1 1/2 Miles	1 Mile
	200D3	12.47	1 1/2 Miles	1 Mile
	200D1 future	12.47	1 1/2 Miles	1 Mile
Bond Brook	208D1	12.47	1 1/2 Miles	1 Mile
	208D2	12.47	1 1/2 Miles	1 Mile
	208D3	12.47	1 1/2 Miles	1 Mile
South Waterville	855D1	12.47	1 1/2 Miles	1 Mile
	855D2	12.47	1 1/2 Miles	1 Mile
Vassalboro	861D8	12.47	1 1/2 Miles	1 Mile
	861D9	12.47	1 1/2 Miles	1 Mile
Capitol Street	215D5	12.47	1 1/2 Miles	1 Mile
	215D2	12.47	1 1/2 Miles	1 Mile
	215D3	12.47	1 1/2 Miles	1 Mile
Blair Road	207D1	12.47	1 1/2 Miles	1 Mile
	207D2	12.47	1 1/2 Miles	1 Mile
Cony Road	216D1	12.47	1 1/2 Miles	1 Mile
	216D2	12.47	1 1/2 Miles	1 Mile
	216D3	12.47	1 1/2 Miles	1 Mile
Detroit	812D1	12.47	1 1/2 Miles	1 Mile
	812D2	12.47	1 1/2 Miles	1 Mile
West Waterville	865D2	12.47	1 1/2 Miles	1 Mile
	865D5	12.47	1 1/2 Miles	1 Mile
	865D1	12.47	1 Mile	1/2 Mile
Winthrop	256D2	12.47	1 Mile	1/2 Mile
	256D3	12.47	1 Mile	1/2 Mile
	256D1	12.47	1/2 Mile	n/r
Shawmut	852D1	12.47	1 Mile	1/2 Mile
Rice Rips	873D2	12.47	1 Mile	1/2 Mile
Fairfield	817D1	12.47	1 Mile	1 Mile
	817D3	12.47	1 Mile	1 Mile
	817D2	12.47	1 Mile	1/2 Mile
Gardiner	226D2	12.47	1 Mile	1/2 Mile
Oakland	839D1	12.47	1 Mile	1/2 Mile
	839D2	12.47	1 Mile	1/2 Mile
Rice Rips	873D1	34.5	17 Miles	6 Miles
Puddledock	262D1	34.5	17 Miles	5 1/2 Miles
Rondolph Circuit	263D1	34.5	* 14 Miles	* 2 1/2 Miles

(* FROM RECLOSER or 17 mi. and 6 mi, respectively from s/s)

	DESIGNED	
	DRAWN	
DATE		

	DESIGNED	CS
	DRAWN	REC
DATE	01/23/06	

ORIGINAL

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STATE OF MAINE PROFESSIONAL ENGINEER
GARY A. RICCI #4737

MACRO	DESCRIPTION	PAGE
	CIRCUITS REQUIRING CURRENT LIMITING FUSES	341-1C

REVISED			
REVISED			
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	DESIGNED		
	DRAWN		
	DATE		

EnergyEast

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DESIGNED	CS	
DRAWN	REC	
DATE	01/23/06	

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Circuits Requiring Current Limiting Fuses
Brunswick Service Center

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
Washington St	204D1	4.16	1/2 Mile	n/r
	204D3	4.16	1/2 Mile	n/r
	204D6	34.5	12 miles	6 1/2 Miles
Brunswick WS	213D1	12.47	1/2 Mile	n/r
	213D3	12.47	1/2 Mile	n/r
Cooks Corner	217D1	12.47	2 Miles	1/2 Mile
	217D2	12.47	2 Miles	1/2 Mile
	217D3	34.5	9 1/2 Miles	3 1/2 Miles
Lisbon	231D1	12.47	1 Mile	n/r
	231D2	12.47	1 Mile	n/r
Topsham Old	249D2	12.47	1 Mile	n/r
Topsham 115	250D1	12.47	1 1/2 Miles	1 Mile
	250D2	12.47	1 1/2 Miles	1 Mile
Bath 115	261D3	12.47	1 Mile	n/r
	261D4	12.47	1 Mile	n/r
Bruns. Hydro	273D4	12.47	1 1/2 Miles	1 Mile
	273D5	12.47	1 1/2 Miles	1 Mile
Elm St	620D1	12.47	2 Miles	1 1/2 Miles
	620D2	12.47	1/2 Mile	1/2 Mile
	620D3	12.47	2 Miles	1 1/2 Miles

Circuits Requiring Current Limiting Fuses
Farmington/Skowhegon/Dover Service Centers

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
Livermore Falls	428D1	12.47 kV	1 1/2 Miles	1 Mile
	428D2	12.47 kV	1 1/2 Miles	1 Mile
	428D3	12.47 kV	1 1/2 Miles	1 Mile
Sturtevant	858D3	12.47 kV	1 1/2 Miles	1 Mile
	858D4	12.47 kV	1 1/2 Miles	1 Mile
Rumford B3	447D1	12.47 kV	1 1/2 Miles	1 Mile
	447D2	12.47 kV	1 1/2 Miles	1 Mile
	447D3	12.47 kV	1 1/2 Miles	1 Mile
Hartland	824D1	12.47 kV	1 1/2 Miles	1 Mile
	824D2	12.47 kV	1 1/2 Miles	1 Mile
Skowhegon North	853D1	12.47 kV	1 Mile	3/4 Mile
	853D2	12.47 kV	1 Mile	3/4 Mile
Skowhegon South	854D1	12.47 kV	1 Mile	3/4 Mile
	854D2	12.47 kV	1 Mile	3/4 Mile
Guilford	821D1	12.47 kV	1 Mile	3/4 Mile
	821D2	12.47 kV	1 Mile	3/4 Mile
Embden	868D1	12.47 kV	1/2 Mile	n/r
Weston	866D1	12.47 kV	1/2 Mile	n/r
	866D2	12.47 kV	1/2 Mile	n/r
Wyman Hydro	872D1	12.47 kV	3/4 Mile	1/4 Mile
Newport	837D1	12.47 kV	N/A	N/A
	837D2	12.47 kV	1/4 Mile	N/A
Bangor Hydro	120D1-1	12.47 kV	* 3/4 Mile	* 1/4 Mile
Carmel	808D1	12.47 kV	3 Miles	1/2 Mile
	808D2	12.47 kV	3 Miles	1/2 Mile
Guilford	821D3	34.5 kV	8 Miles	2 Miles
Sturtevant	858D1A	34.5 kV	11 Miles	3 Miles
	858D1B	34.5 kV	14 Miles	3 Miles
Livermore Falls	428D4	34.5 kV	14 Miles	3 Miles
Bigelow	882D1	34.5 kV	7 Miles	1 Mile
	882D2	34.5 kV	13 Miles	2 Miles
Rumford Ind	466D1	34.5 kV	12 Miles	1 Mile
Monson	834D1	34.5 kV	10 Miles	N/A
Bethel	403D2	34.5 kV	7 Miles	N/A

GARY A RICCI 8757 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
341-1D	CIRCUITS REQUIRING CURRENT LIMITING FUSES	

Circuits Requiring Current Limiting Fuses
Farmington/Skowhegan/Dover Service Centers (cont'd)

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
Rangeley	875D2	34.5 kV	3 Miles	N/A
Newry	460K1	34.5 kV	2 Miles	N/A
			* FROM RECLOSER	* FROM RECLOSER

Circuits Requiring Current Limiting Fuses
Lewiston/Bridgton Service Centers

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
Bridgton	406D1	12.47	1 Mile	1/2 Mile
	406D2	12.47	1 Mile	1/2 Mile
	406D3	12.47	1 Mile	1/2 Mile
Fryeburg	415D1	4.16	1/2 Mile	1/2 Mile
	415D3	4.16	1/2 Mile	1/2 Mile
Hiram	419D1	12.47	1 Mile	1/2 Mile
Norway	435D1	12.47	2 Miles	1 1/2 Miles
	435D2	12.47	2 Miles	1 1/2 Miles
	435D3	12.47	2 Miles	1 1/2 Miles
Oxford	437D1	12.47	1 Mile	1/2 Mile
Papoose Pond	438D1	34.5	Entire 34.5 kV Portion	n/r
Raymond (Local)	444D1	12.47	1 1/2 Miles	1 Mile
	444D2	12.47	1 1/2 Miles	1 Mile
	444D3	12.47	1 1/2 Miles	1 Mile
Raymond (115 kV)	445D1	34.5	Entire 34.5 kV Portion	Entire 34.5 kV Portion
Baldwin tap	691D1	34.5	Entire 34.5 kV Portion	n/r
Crowley's	411D1	12.47	1 1/2 Miles	1 1/2 Miles
	411D2	12.47	1 1/2 Miles	1 1/2 Miles
Deer Rips	412D1	12.47	2 Miles	1 1/2 Miles
	412D2	12.47	2 Miles	1 1/2 Miles
	412D3	12.47	2 Miles	1 1/2 Miles
	412D4	12.47	2 Miles	1 1/2 Miles
Gray	416D1	12.47	1 Mile	1/2 Mile
	416D2	12.47	1 Mile	1/2 Mile
Hotel Road	420D1	12.47	2 Miles	1 1/2 Miles
	420D2	12.47	2 Miles	1 1/2 Miles
	420D5	12.47	2 Miles	1 1/2 Miles
	420D4	34.5	Entire 34.5 kV Portion	Entire 34.5 kV Portion
	420D6	34.5	Entire 34.5 kV Portion	Entire 34.5 kV Portion
	420D7	34.5	Entire 34.5 kV Portion	Entire 34.5 kV Portion
Challenger Drive	421D4	34.5	Entire Circuit	Entire Circuit
	421D1	12.47	1 1/2 Miles	1 1/2 Miles
	421D2	12.47	1 1/2 Miles	1 1/2 Miles
Lewiston Lower	424D2	12.47	2 Miles	1 1/2 Miles
	424D4	12.47	2 Miles	1 1/2 Miles
	424D5	12.47	2 Miles	1 1/2 Miles
	424D6	12.47	2 Miles	1 1/2 Miles
Lewiston	426D2	12.47	2 Miles	1 1/2 Miles
	426D3	12.47	2 Miles	1 1/2 Miles
	426D6	12.47	2 Miles	1 1/2 Miles
	426D8	12.47	2 Miles	1 1/2 Miles
Mechanic Falls	431D1	12.47	1 1/2 Miles	1 Mile
	431D2	12.47	1 1/2 Miles	1 Mile
Great Falls	436D1	12.47	1 1/2 Miles	1 Mile
	436D2	12.47	1 1/2 Miles	1 Mile
	436D3	12.47	1 1/2 Miles	1 Mile
	436D6	12.47	1 1/2 Miles	1 Mile
Sabattus	450D1	12.47	1 1/2 Miles	1 Mile
	450D2	12.47	1 1/2 Miles	1 Mile
Turner	454D1	12.47	1/2 Mile	1/2 Mile
	454D2	12.47	1/2 Mile	1/2 Mile
Wales Corner	456D1	34.5	Entire 34.5 kV Portion	n/r

DESIGNED
DRAWN
DATE

En East

DESIGNED CS
DRAWN REC
DATE 01/23/06

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GARY A RICCI #4737

MACRO	DESCRIPTION	PAGE
	CIRCUITS REQUIRING CURRENT LIMITING FUSES	341-1E

NO.	REVISION	DATE	CK.
1	Added Fore River Substation	11/25/08	LCZ
2	Added 2 Substations & clr 64703		

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	01/23/06

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Circuits Requiring Current Limiting Fuses
Portland Service Center

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation	
			CSP's	Conventional
Gray	416D3	12.47	1/2 Mile	n/r
Bishop Street	607D1	12.47	1 1/2 Miles	1 Mile
	607D2	12.47	1 1/2 Miles	1 Mile
	607D5	12.47	1/2 Mile	1/2 Mile
Bonny Eagle	610D2	12.47	2 Miles	1 1/2 Miles
Brighton Avenue	611D1	12.47	2 Miles	1 1/2 Miles
	611D2	12.47	2 Miles	1 1/2 Miles
	611D3	12.47	2 Miles	1 1/2 Miles
Cape Elizabeth	613D1	12.47	1 Mile	1/2 Mile
	613D2	12.47	1 Mile	1/2 Mile
	613D3	12.47	1/2 Mile	n/r
Dunstan	617D1	12.47	1 1/2 Miles	1 Mile
	617D2	12.47	1 1/2 Miles	1 Mile
East Deering	618D1	12.47	1/2 Mile	n/r
	618D2	12.47	1 Mile	1/2 Mile
	618D3	12.47	1 Mile	1/2 Mile
Elm Street	620D1	12.47	2 Miles	1 1/2 Miles
	620D2	12.47	1/2 Mile	1/2 Mile
	620D3	12.47	2 Miles	1 1/2 Miles
	620D4	12.47	2 Miles	1 1/2 Miles
Falmouth	622D1	12.47	1 1/2 Miles	1 Mile
	622D2	12.47	1 1/2 Miles	1 Mile
Fore River	653D1	12.47	Entire Circuit	Entire Circuit
	653D2	12.47	Entire Circuit	Entire Circuit
	653D3	12.47	Entire Circuit	Entire Circuit
	653D4	12.47	Entire Circuit	Entire Circuit
	653D5	12.47	Entire Circuit	Entire Circuit
	653D6	12.47	Entire Circuit	Entire Circuit
Forest Avenue	623D1	12.47	2 Miles	1 1/2 Miles
	623D2	12.47	2 Miles	1 1/2 Miles
	623D4	12.47	2 Miles	1 1/2 Miles
	623D5	12.47	2 Miles	1 1/2 Miles
Fort Hill	624D1	12.47	1/2 Mile	1/2 Mile
	624D2	12.47	1/2 Mile	1/2 Mile
Lambert Street	631D1	12.47	1 1/2 Miles	1 Mile
	631D2	12.47	1 1/2 Miles	1 Mile
Mosher's	635D1	12.47	2 Miles	1 1/2 Miles
	635D2	12.47	2 Miles	1 1/2 Miles
North Windham	639D1	12.47	1 Mile	1/2 Mile
	639D2	12.47	1/2 Mile	n/r
Pleasant Hill	644D1	12.47	2 Miles	1 1/2 Miles
	644D2	12.47	2 Miles	1 1/2 Miles
	644D3	12.47	2 Miles	1 1/2 Miles
	644D4	12.47	1 Mile	1/2 Mile
Union Street	645D1	12.47	2 Miles	1 1/2 Miles
	645D2	12.47	2 Miles	1 1/2 Miles
	645D3	12.47	2 Miles	1 1/2 Miles
	645D4	12.47	2 Miles	1 1/2 Miles
	645D7	12.47	2 Miles	1 1/2 Miles
	645D8	12.47	2 Miles	1 1/2 Miles
	645D9	12.47	2 Miles	1 1/2 Miles
	645N1-N6	11	N/A	N/A
Randall Road	646D1	12.47	1/2 Mile	1/2 Mile
Prides Corner	647D1	12.47	2 Miles	1 1/2 Miles
	647D2	12.47	2 Miles	1 1/2 Miles
	647D3	12.47	2 Miles	1 1/2 Miles

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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
341-1F	CIRCUITS REQUIRING CURRENT LIMITING FUSES	

Circuits Requiring Current Limiting Fuses
Portland Service Center (cont'd)

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
Rigby	650D1	12.47	1/2 Miles	n/r
	650D3	12.47	1 1/2 Miles	1 Mile
	650D4	12.47	1 1/2 Miles	1 Mile
Sewall Street	659D4	12.47	2 Miles	1 1/2 Miles
	659D5	12.47	2 Miles	1 1/2 Miles
	659D6	12.47	2 Miles	1 1/2 Miles
	659D8	12.47	2 Miles	1 1/2 Miles
	659D9	12.47	2 Miles	1 1/2 Miles
	659D13	12.47	2 Miles	1 1/2 Miles
Spring Street	668D1	12.47	2 Miles	1 1/2 Miles
	668D2	12.47	2 Miles	1 1/2 Miles
	668D3	12.47	2 Miles	1 1/2 Miles
	668D4	34.5	Entire circuit	3 Miles
	668D5	12.47	2 Miles	1 1/2 Miles
	668D6	34.5	Entire circuit	Entire circuit
Westbrook	674D1	12.47	1 1/2 Miles	1 Mile
	674D2	12.47	1 1/2 Miles	1 Mile
Western Avenue	675D1	12.47	2 Miles	1 1/2 Miles
	675D2	12.47	2 Miles	1 1/2 Miles
	675D3	12.47	2 Miles	1 1/2 Miles
Bar Mills	678D1	12.47	1/2 Mile	1/2 Mile
Swett Road	682D1	12.47	1/2 Mile	1/2 Mile
	682D2	12.47	1/2 Mile	1/2 Mile
Hinckley Pond	690D1	12.47	2 Miles	1 1/2 Miles
	690D2	12.47	2 Miles	1 1/2 Miles
	690D3	12.47	2 Miles	1 1/2 Miles
Scarborough	693D1	12.47	1 1/2 Miles	1 Mile
	693D2	12.47	1 1/2 Miles	1 Mile
Redbrook	696D1	34.5	N/A	N/A
	696D2	34.5	N/A	N/A
	696D3	34.5	Entire Circuit	Entire Circuit

Circuits Requiring Current Limiting Fuses
Rockland/Belfast Service Centers

Substation	Circuit	Voltage (kV	Required CLF Coverage, Distance From Substation CSP'S	Conventional
Belfast 115	874D1	12.47	1/2 Mile	n/r
Belfast West Side	803D4	12.47	1 Mile	n/r
	803D5	12.47	1 Mile	n/r
	803D6	34.5	8 Miles	2 1/2 Miles
Bucksport	806D2	34.5	5 Miles	n/r
Lincolnville	800D1	34.5	Entire 34.5 kV Portion	n/r
Camden	214D1	12.47	1 Mile	n/r
	214D2	12.47	1 Mile	n/r
	214D3	12.47	1 Mile	n/r
	214D4	12.47	1 Mile	n/r
Meadow Rd	270D1	12.47	1/2 Mile	n/r
Park Street	239D5	12.47	2 Miles	1 Mile
	239D6	12.47	1 1/2 Miles	1 Mile
	239D7	12.47	1 1/2 Miles	1 Mile
	239D8	12.47	Entire Circuit	1 Mile
	239D9	12.47	Entire Circuit	1 Mile
Thomaston Creek	246D1	34.5	Entire 34.5 kV Portion	2 Miles

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2	Added 668D6 & 682D2; reordered 659D13		11/25/08

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PAGE	DESCRIPTION	MACRO
341-2	TRANSFORMER LEAD SIZE FOR SINGLE PHASE TRANSFORMERS	

TRANSFORMER LEAD SIZES FOR SINGLE PHASE TRANSFORMERS
(Based on 150 % of the transformer rating)

NOMINAL TRANSFORMER VOLTAGE

TRANSFORMER KVA RATING	120/240 V *		2400 V	7200 V	20,000V
	COPPER	ALUMINUM	COPPER	COPPER	COPPER
3 - 15	#4 WP**	#2 WP**	#2 WP**	#2 WP**	#2 WP**
25	#2 WP	1/0 WP	#2 WP	#2 WP	#2 WP
50	4/0 WP	336.4 KCM WP	#2 WP	#2 WP	#2 WP
75	500 KCM WP	336.4 KCM WP	#2 WP	#2 WP	#2 WP
100	500 KCM WP	2-336.4 KCM WP	#2 WP	#2 WP	#2 WP
167	2-500 KCM WP	2-336.4 KCM WP	#2 WP	#2 WP	#2 WP
250			#2 WP	#2 WP	#2 WP
333			2/0 WP	#2 WP	#2 WP
500			4/0 WP	#2 WP	#2 WP

* For cases requiring 2 or more sets of leads per phase, use compression or clamp type lugs to ottach leads to the transformer.

** WP is used to indicate covered wire

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DRAWN	REC	CS
DATE	08/23/01	05/07/02

DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/30/94

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DATE	06/23/98

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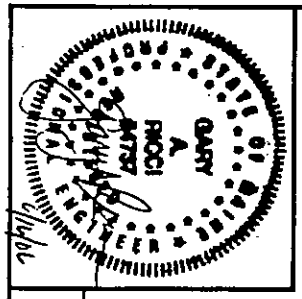
	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	06/13/06	



MACRO

DESCRIPTION
MINIMUM TRANSFORMER LEAD SIZES FOR THREE PHASE TRANSFORMERS AND BANKS

PAGE
341 - 3

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MINIMUM TRANSFORMER LEAD SIZES FOR THREE PHASE TRANSFORMERS

(Based on 150% of the transformer or bank rating)

TRANSFORMER BANK OR 3Ø TRANSFORMER KVA RATING	120/208 V ** 240 V COPPER	120/208 V ** 240 V ALUMINUM	277/480 V** 480 V COPPER	277/480 V** 480 V ALUMINUM	2400/4160 V. COPPER	2400/4160 V. ALUMINUM	7200/12470 V. 20000/34500 V.* COPPER	7200/12470 V. 20000/34500 V.* ALUMINUM
9	#4	N/A	#4	N/A	#4	1/0	#4	1/0
15	#4	N/A	#4	N/A	#4	1/0	#4	1/0
30	#4	N/A	#4	N/A	#4	1/0	#4	1/0
45	#2 WP	1/0	#4	N/A	#4	1/0	#4	1/0
75	4/0 WP	336.4 MCM	#4	1/0	#4	1/0	#4	1/0
112½	300 MCM	336.4 MCM	1/0 WP	1/0	#4	1/0	#4	1/0
150	500 MCM WP	2-336.4 MCM	2/0 WP	336.4 MCM	#4	1/0	#4	1/0
225	2-350 MCM WP	2-336.4 MCM	250 MCM WP	336.4 MCM	#4	1/0	#4	1/0
300	2-500 MCM WP	3-336.4 MCM	500 MCM WP	2-336.4 MCM	#4	1/0	#4	1/0
500	***	***	2-300 MCM WP	2-336.4 MCM	#2 WP	1/0	#4	1/0
750	***	***	2-500 MCM WP	3-336.4 MCM	#2 WP	1/0	#4	1/0
1000	***	***	***	***	1/0 WP	1/0	#4	1/0
1500	***	***	***	***	4/0 WP	1/0	#4	1/0

* Use #4 bare stranded soft-drawn copper. Do not use conductors with weatherproofing.

** For cases requiring 2 sets of leads or more, use compression or clamp type lugs to attach leads to the transformer.
Transformers rated 167 KVA or more come with spades on the low voltage side. These spades facilitate the attachment of the lugs.
For cases where multiple sets of leads are required and no spades exist, use the 4 hole transformer flag lug (MID*600011886S).

*** Refer to Distribution Engineer.

THREE PHASE TRANSFORMERS

Three phase transformers are built using various combinations of cores and coils in a single tank and include:

1. Three single phase core and coil units, which may be connected in any of the ways three single phase transformers are connected.
2. Two single phase core and coil units with special taps so that a T-T connection can be used.
3. Three coils on a single core with multiple legs for mounting the coils.

Due to the various characteristics of three phase transformers, no attempt should be made to parallel three phase transformers with three phase banks of single phase transformers or other three phase transformers.

Three phase transformers should not be energized on a single phase basis for any longer than necessary to operate switches or cutouts. Moderate single phase loads may be carried on three phase units if all three phases are energized.

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Kent B. Poole
5/10/99

MACRO	DESCRIPTION THREE PHASE TRANSFORMER BANK CONNECTIONS GENERAL	PAGE 342-1

NO.	REVISION	DATE	CK.
1	1st para, 3rd from last line add "other"	07/01/08	

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THREE PHASE TRANSFORMER CONNECTIONS

The transformer connections in this section show additive polarity terminal markings. The NEMA standards for new transformers at this writing state that all single phase transformers with high voltage windings of 8660 volts or less and rated 200 kVA or less shall be additive polarity. All others are to be subtractive polarity. The connections shown may be used on transformers of either polarity; however, the important consideration is the instance where one transformer is of odd polarity with respect to the other transformers in the bank. In this case, the leads on the odd unit must be reversed, either on the high side or the low side but never on both.

Conventional transformers, two bushing transformers, and transformers of the same impedance must be used in certain banks. This is explained in the discussion of the various banks. All transformers in a bank should be of the same voltage ratio and taps should be at the same position.

Protected transformers shall not be used in three phase transformer banks due to the configuration of the secondary breaker connections on the protected transformer.

Page 342-2 lists the transformer connections that may be used to obtain various customer service voltages from different primary lines. In many cases there may be a choice, depending upon the available transformers, type of customer load, and other load factors which are explained on the pages with the connection diagrams.

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PAGE	DESCRIPTION	MACRO
342-2	CHART OF THREE PHASE TRANSFORMER BANK CONNECTIONS	

THREE PHASE TRANSFORMER CONNECTIONS

CONNECTION DIAGRAM INDEX NUMBER REFERENCE

Customer Service Voltage	20/34.5 kV Grd. Wye	Distribution Line Voltage 7200/12470 Grd Wye & 2400/4160 Grd Wye
120/208 volt 4 wire wye	*2, 14	*2, 8, 14
120/240 volt 4 wire Delta	7	*5, 7, 11, 13
240 volt 3 wire	*3, 6	*4, 6, 10, 12
277/480 volt 4 wire wye	2	*2, 8
480 volt 3 wire	*3, 6	*3, +4, +6, 9, 10, 12
600 volt 3 wire	3	*3, 4, 6
480 volt 2Ø 4 wire	1	15

* Preferred connections.
+ Use 4 or 6 an overhead banks if 480 volt transformers are available.
NOTE: See Distribution Engineer for any distribution line voltages not listed above.

CONNECTION DIAGRAM INDEX

1. Not available at this time
2. Wye-Wye bank for four wire services; see page 342-6 series
3. Wye-Wye bank for three wire services; see page 342-7 series
4. Wye-Delta bank with three wire secondary; see page 342-8 series
5. Wye-Delta bank with four wire secondary; see page 342-9 series
6. Open Wye-Open Delta with three wire secondary; see page 342-10 series
7. Open Wye-Open Delta with four wire secondary; see page 342-11 series
8. Delta-Wye bank for four wire service; see page 342-12 series
9. Delta-Wye bank for three wire service; see page 342-13 series
10. Delta-Delta bank with three wire secondary; see page 342-14 series
11. Delta-Delta bank with four wire secondary; see page 342-15 series
12. Open Delta-Open Delta with three wire secondary; see page 342-16 series.
13. Open Delta-Open Delta with four wire secondary; see page 342-17 series
14. Open Wye-Wye bank with 120/208 volt secondary; see page 342-18 series
15. Wye-2 bank with four wire secondary; see page 342-19

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MACRO	DESCRIPTION THREE PHASE TRANSFORMER BANK CONNECTIONS CHECK LIST NOTES	PAGE 342-3

Check List notes:

Each of the three phase transformer bank connection diagrams has a check list. The following explanations should be helpful in checking the banks:

1. Conventional transformers: Protected type transformers must not be used on banks with a delta connection because the load will automatically shift to the remaining transformers and overload them if one transformer trips out on overload. On 4 wire delta secondaries if the transformer with the center tap grounded trips out the neutral will be floating with damage resulting to the customer's 120 volt loads. If the check list specifies conventional transformers, protected transformers must not be used.

Conventional or protected: Either type of transformer may be used in Wye - 2 phase banks as each transformer acts independently as a single phase transformer and the loss of one transformer has no effect on the other.

2. Two primary bushings each: If both ends of the primary winding must be insulated, two primary bushings are required on each transformer.

One or two primary bushings each: If one end of the primary winding is to be grounded, a single bushing transformer may be used, since one end of the primary winding is connected internally to the tank. The tank then serves as the other terminal and when grounded completes the circuit. Therefore, the H1, bushing should always be connected to a phase wire, to facilitate repair should a single bushing transformer only be available.

3. Primary neutral insulated: When it is specified that the primary neutral be insulated, the primary neutral on the transformer bank must not be grounded and it must not be connected to the system neutral. On wye-delta banks if the primary neutral is grounded, the bank will act as a grounding bank and may burn out a transformer winding during phase to ground faults or primary system load unbalance.

Primary neutral grounded: When it is specified that the primary neutral be grounded, the primary neutral on the transformer bank must be connected to the system neutral and grounded. On wye-wye banks and open wye-open delta banks the primary neutral must be grounded in order to control the voltage on the primary windings. 20/34.5 kV distribution class transformers are built so that they must be operated with one end of the primary winding grounded to prevent ferroresonance and other overvoltage problems. For this reason 20/34.5 kV distribution class transformers must not be used with the primary neutral insulated.

NO.	REVISION	DATE	CK.
11	Corrected text	07/01/08	

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PAGE	DESCRIPTION	MACRO
342-4	THREE PHASE TRANSFORMER BANK CONNECTIONS CHECK LIST NOTES	

4. Primary windings rated phase to neutral voltage: when transformers are connected in wye on the high side, whether the neutral is grounded or insulated, the primary windings must be rated for phase to neutral voltage. Nameplate and primary winding voltages are as follows:

34,500 Grd Y/19,920	19,920 volts with 1 bushing
12,000	12,000 volts with 2 bushings
12,470 Grd Y/7200	7200 volts with 1 bushing
7200/12470 Grd Y	7200 volts with 2 bushings
7200/12470 Y	7200 volts with 2 bushings
7200	7200 volts with 2 bushings
4160/7200 Y	4160 volts with 2 bushings
4160	4160 volts with 2 bushings
2400/4160 Y	2400 volts with 2 bushings
2400	2400 volts with 2 bushings

DUALS

2400 x 7200	2400 and 7200 with 2 bushings
4160 Grd Y/2400 x 12470 Grd Y/7200	2400 and 7200 with 1 bushing
12470 Grd Y/7200 x 34,500 Grd Y/19,920	7200 and 19,920 with 1 bushing

Primary windings rated phase to phase voltage: When transformers are connected in delta on the primary side, the primary windings must be rated for the phase to phase voltage of the system, and the transformer must have two primary bushings.

5. Secondary neutral grounded: When it is specified that the secondary neutral must be grounded, the secondary neutral on the transformer bank shall be connected to the primary system neutral and be grounded.

Secondary neutral insulated: When it is specified that the secondary neutral be insulated, the secondary must not have any grounds anywhere. The neutral bus on the bank must be the same size as the phase wires and supported by insulators if too heavy to be supported by the secondary bushings alone. For safety of personnel, the tank and service neutral must always be solidly grounded.

6. Secondary windings rated phase to neutral voltage: When the transformer secondary windings are connected in wye, the secondary winding must be rated for phase to neutral voltage. Service and secondary winding voltages are as follows:

Service voltage	Secondary winding voltage rating
120/208	120
277/480	277
240	138.5 (19.9 only)
480	277
600	346

Secondary windings rated phase to phase voltage: When transformers are connected in delta on the secondary side, the secondary windings shall be rated 240, 480, or 600 volts respectively for 240, 480, or 600 volt systems.

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1	Separated Notes 7 & 8, moved note 6 to 342-4, corrected text	07/01/08	

7. Do not use to serve 3 wire 3 phase services: 3 wire 3 phase services must not be connected to transformer banks connected for 4 wire services since National Electrical Code Section 250-23 (b) requires that any AC system of 1000 volts or less that is grounded at any point must have the grounded conductor run to each service entrance switch. Customers may run 208 or 480 volt 3 wire loads from 4 wire services.

Do not use to serve 4 wire 3 phase services: 4 wire 3 phase services are required to have a grounded wire. If the secondary neutral is insulated at the bank, it must not be connected to a service wire that is required to be grounded elsewhere.

Do not use on 20/34.5 kV: Transformer banks that require an insulated high voltage neutral cannot be used on 20/34.5 kV since all distribution class 20/34.5 kV transformers must be operated with one end of the high voltage winding grounded.

8. Transformers must be matched: On delta-delta banks a mismatch in transformer characteristics can cause three phase loads to be unequally divided between transformers, or can circulate currents through the bank when no customer load is on the bank. For a bank of transformers to be matched the winding ratio must be the same, the impedances must be within 10% of each other and all transformers must be on the same tap.

To determine the winding ratio, divide the primary voltage as given on the nameplate by the secondary voltage.

If the impedances are not all the same, check the impedances by subtracting the lowest impedance from the highest. This difference should not be more than 1/10th of the lowest impedance in the bank.

Where matched transformers are not specified in the check list, transformers should match as nearly as practical to maintain balanced voltages on the customer's service.

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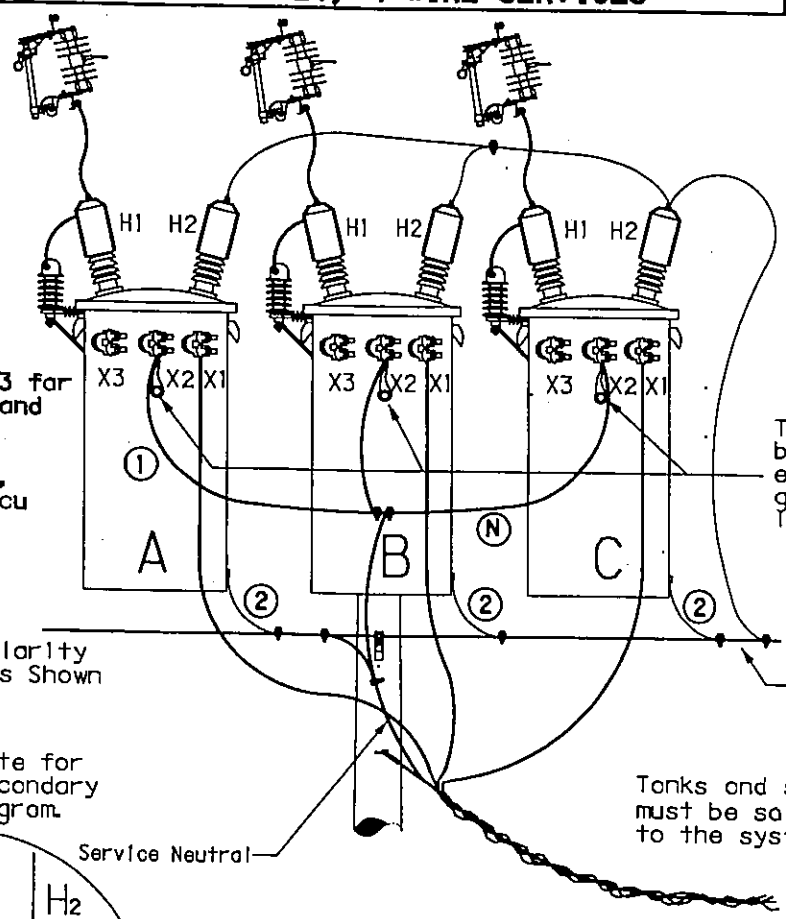
MACRO	DESCRIPTION	PAGE
	GRND WYE - GRND WYE BANK FOR 120/208 VOLT, 4 WIRE SERVICES	342-6

NO.	REVISION	DATE	CK.
1	Chngd note 8 to note 5, chgnd neut conn	08/14/08	

REC

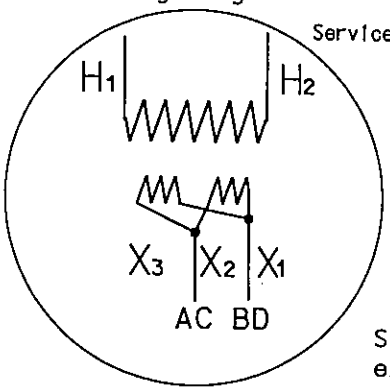


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.



120/240 Winding

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A-X1B X1B-X1C X1C-X1A	208	X1A-N X1B-N X1C-N	120	120/240

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral grounded
   The neutral bus on the bank must be the same size as the phase wires.
6. Secondary windings rated phase to neutral voltage
7. Do not use to serve 3 wire 3 phase services.

This connection shown may be used to supply 120/208 volt 4 wire wye services from 4 wire wye primary systems, with the coils connected in parallel. The connection from neutral bus to service neutral must be as large as the service neutral.

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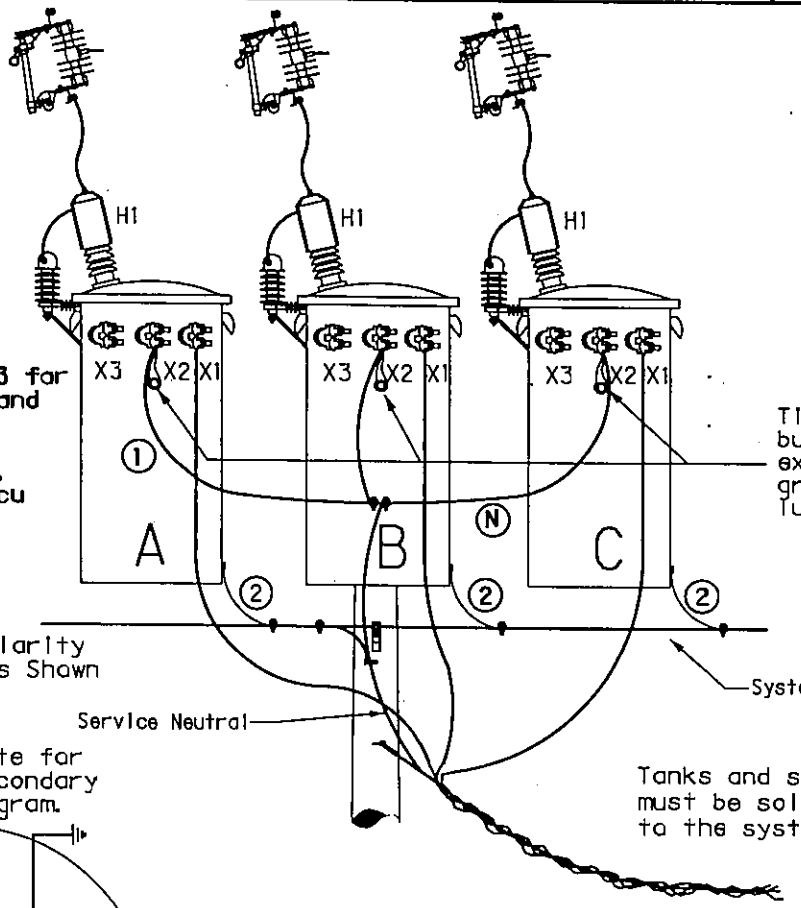
PAGE	DESCRIPTION	MACRO
342-6.1	GRND WYE - GRND WYE BANK FOR 120/208 VOLT, 4 WIRE SERVICES	

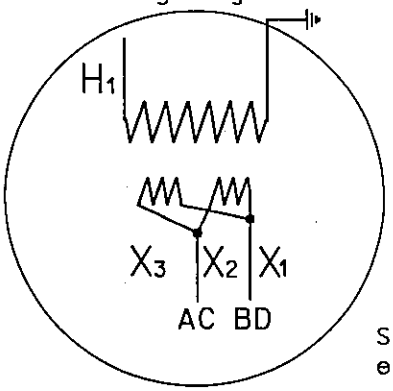


① Refer to 341-3 for minimum lead and neutral size

② Banding cable, typically #4 cu

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.



120/240 Winding

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A-X1B X1B-X1C X1C-X1A	208	X1A-N X1B-N X1C-N	120	120/240

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral grounded
   The neutral bus on the bank must be the same size as the phase wires.
6. Secondary windings rated phase to neutral voltage
7. Do <u>not</u> use to serve 3 wire 3 phase services.

This connection shown may be used to supply 120/208 volt 4 wire wye services from 4 wire wye primary systems, with the coils connected in parallel. The connection from neutral bus to service neutral must be as large as the service neutral.

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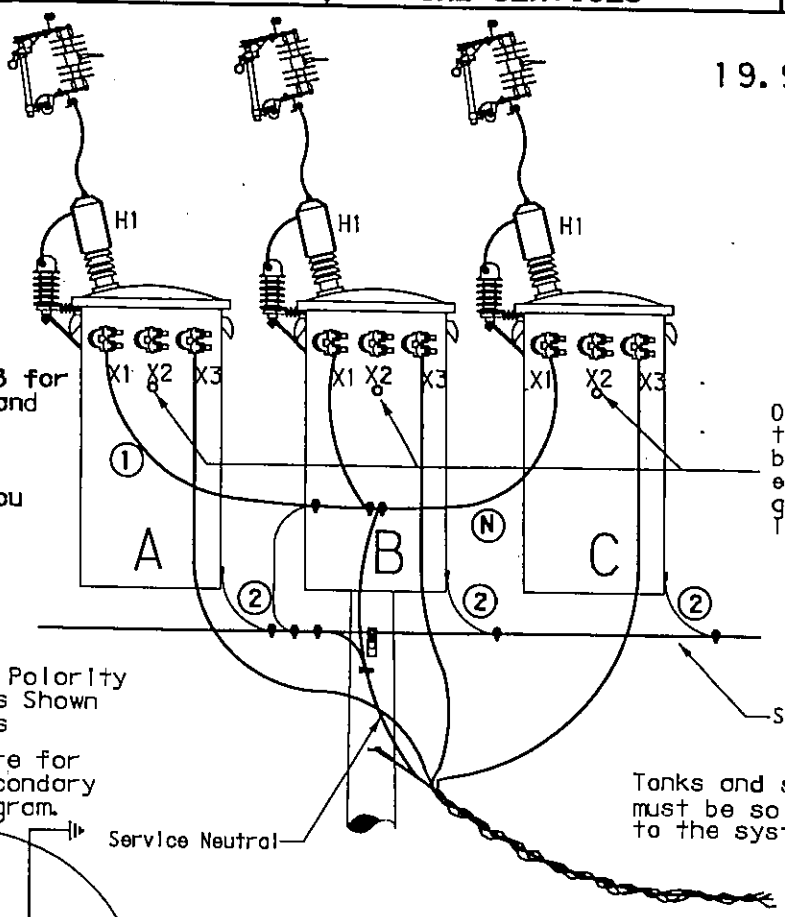
MACRO	DESCRIPTION	PAGE
	GRND WYE - GRND WYE BANK FOR 277/480 VOLT, 4 WIRE SERVICES	342-6.2

NO.	REVISION	DATE	CK.
1	Secondary Voltage in Table chngd X1 to X3	02/28/07	
2	Chngd note 8 to read 5, note 9 to read 6, added grnd	08/28/08	

19.9KV ONLY

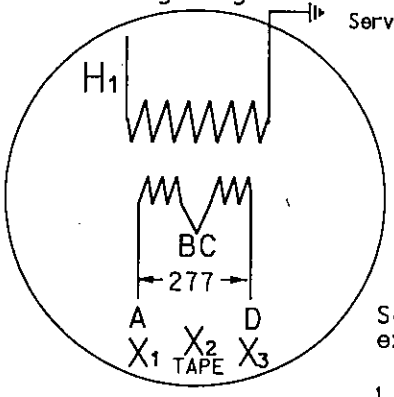


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Subtractive Polarity Transformers Shown ≥19900 volts

See nameplate for specific secondary winding diagram.



139X277 Winding
19.9 KV ONLY

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A-X3B X3B-X3C X3C-X3A	480	X3A-N X3B-N X3C-N	277	139 X 277 19.9 KV ONLY

See check list notes starting on p.342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral grounded
   The neutral bus on the bank must be the same size as the phase wires.
6. Secondary windings rated phase to neutral voltage
   139 X 277 winding available on 19.9 KV only.
7. Do not use to serve 3 wire 3 phase services.

This connection shown may be used to supply 277/480 volt 4 wire wye services from 4 wire wye primary systems, as shown. The connection from neutral bus to service neutral must be as large as the service neutral.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	11/17/06

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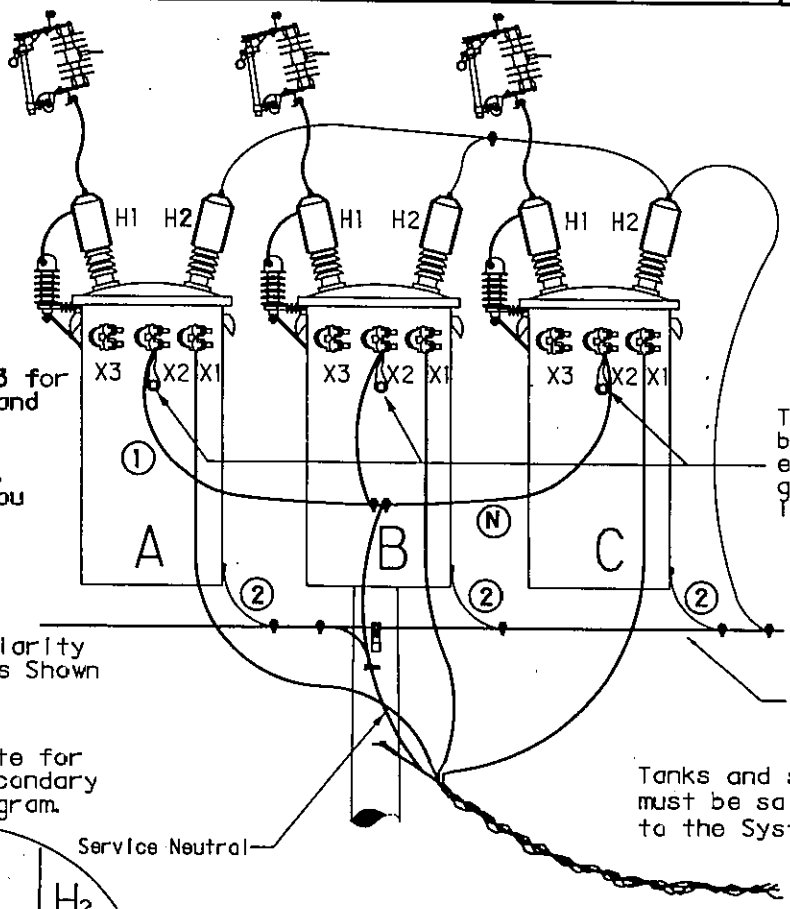
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/28/08
LICENSED
PROFESSIONAL ENGINEER

PAGE	DESCRIPTION	MACRO
342-6.3	GRND WYE - GRND WYE BANK FOR 277/480 VOLT, 4 WIRE SERVICES	

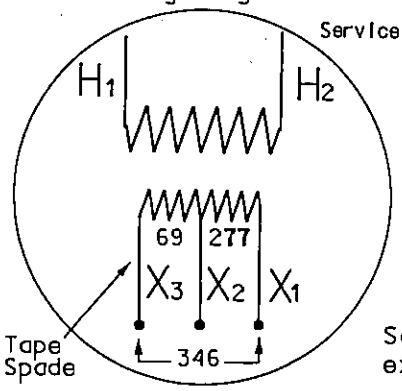


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.



277 X 346 Winding

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A-X1B X1B-X1C X1C-X1A	480	X1A-N X1B-N X1C-N	277	277 X 346

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral grounded
   The neutral bus on the bank must be the same size as the phase wires.
6. Secondary windings rated phase to neutral voltage
7. Do <u>not</u> use to serve 3 wire 3 phase services.

This connection shown may be used to supply 277/480 volt 4 wire wye services from 4 wire wye primary systems, as shown. The connection from neutral bus to service neutral must be as large as the service neutral.

STATE OF MAINE
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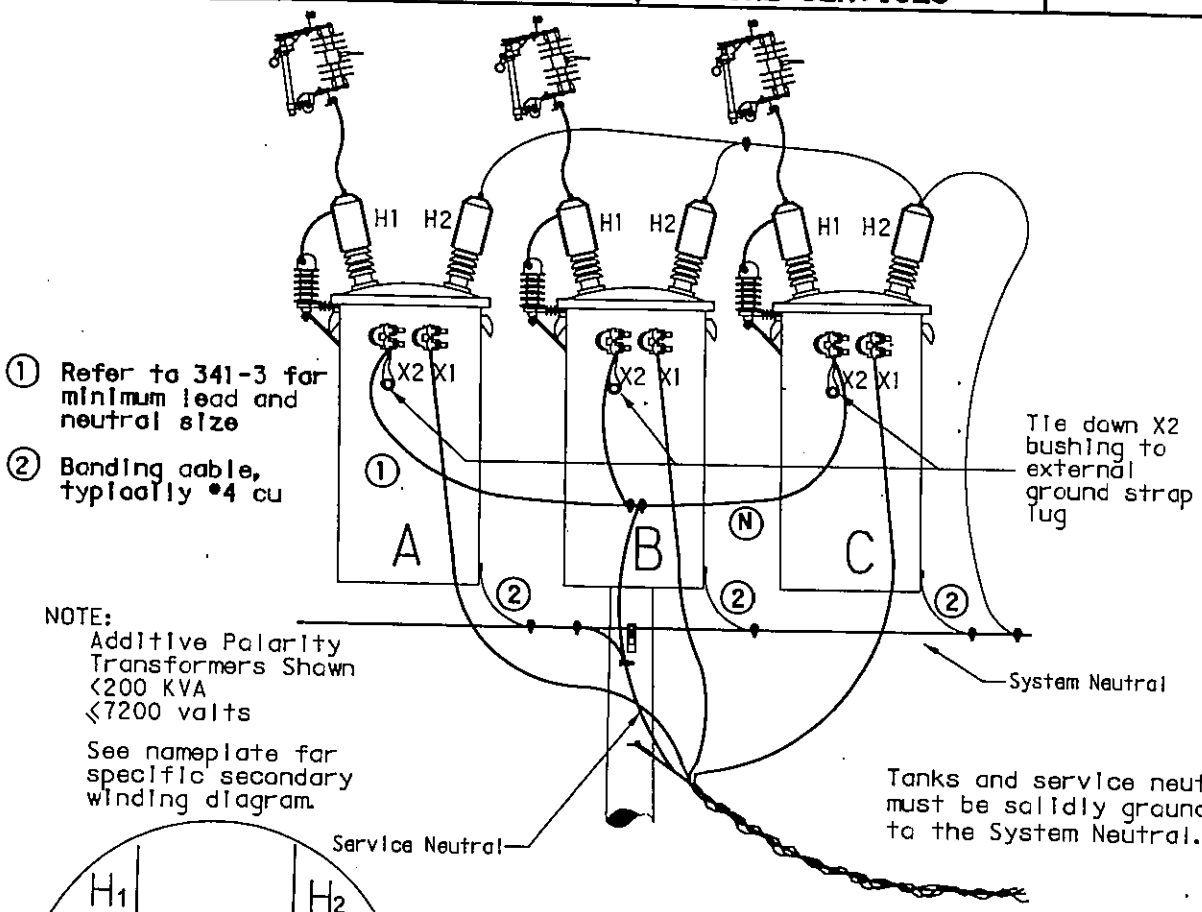
MACRO	DESCRIPTION	PAGE
	GRND WYE - GRND WYE BANK FOR 277/480 VOLT, 4 WIRE SERVICES	342-6.4

NO.	REVISION	DATE	CK.
1	Added Y, dmgd note 6 to 5, corrected text, dmgd neut conn	08/08/08	

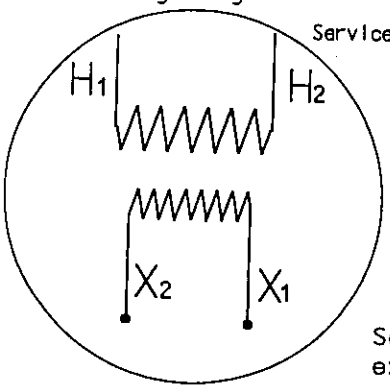


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.



277/480 Y Winding

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A-X1B X1B-X1C X1C-X1A	480	X1A-N X1B-N X1C-N	277	277/480 Y

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral grounded
   The neutral bus on the bank must be the same size as the phase wires.
6. Secondary windings rated phase to neutral voltage
7. Do not use to serve 3 wire 3 phase services.

This connection shown may be used to supply 277/480 volt 4 wire wye services from 4 wire wye primary systems. The connection from neutral bus to service neutral must be as large as the service neutral.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	02/06/06

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STATE OF MAINE
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No. 11440
8/28/08
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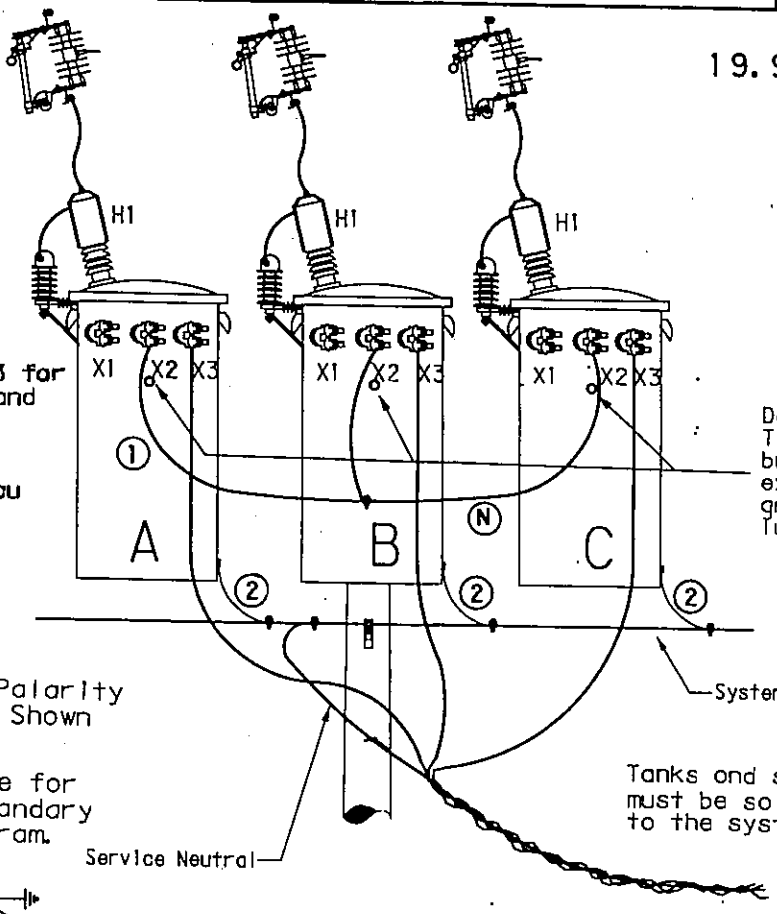
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	GRND WYE - WYE BANK FOR 240 VOLT 3 WIRE SERVICES	342-7

NO.	REVISION	DATE	CK.
1	Chngd secondary side trans to X1, X2, X3	02/28/07	
2	Chgd note 8 to6, corrected text, chgd neut conn	08/14/08	

19.9 KV ONLY

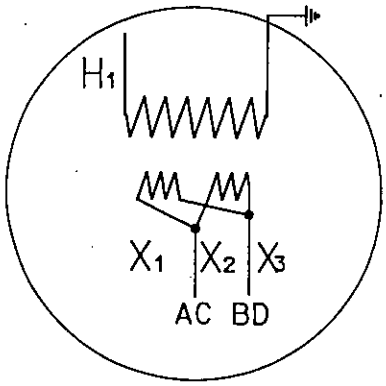


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Subtractive Polarity Transformers Shown ≥19900 volts

See nameplate for specific secondary winding diagram.



139 X 277 Winding
19.9KV ONLY

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X3B X3B/X3C X3C/X3A	240	X3A/N X3B/N X3C/N	N/A	139 X 277 19.9 KV ONLY

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One primary bushing transformer
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral insulated (No grounds anywhere on secondary side).
6. Secondary windings rated as shown
   139 X 277 windings available on 19.9KV only.
7. Do not use to serve 4 wire 3 phase services.

This connection may be used to supply 240, 480, or 600 volt 3 wire services from 4 wire wye primary systems. See specific DCS page.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The primary windings of the transformers used for connection must be rated for primary system phase to neutral voltage. The secondary winding must be connected 138.5 for 240 volts, 277 for 480 volts, or 346 for 600 volt service.

The primary neutral bus on the bank must be the same size as the phase wires.

ORIGINAL	JLH	03/07/06
DESIGNED	REC	
DRAWN		
DATE		

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No. 11440
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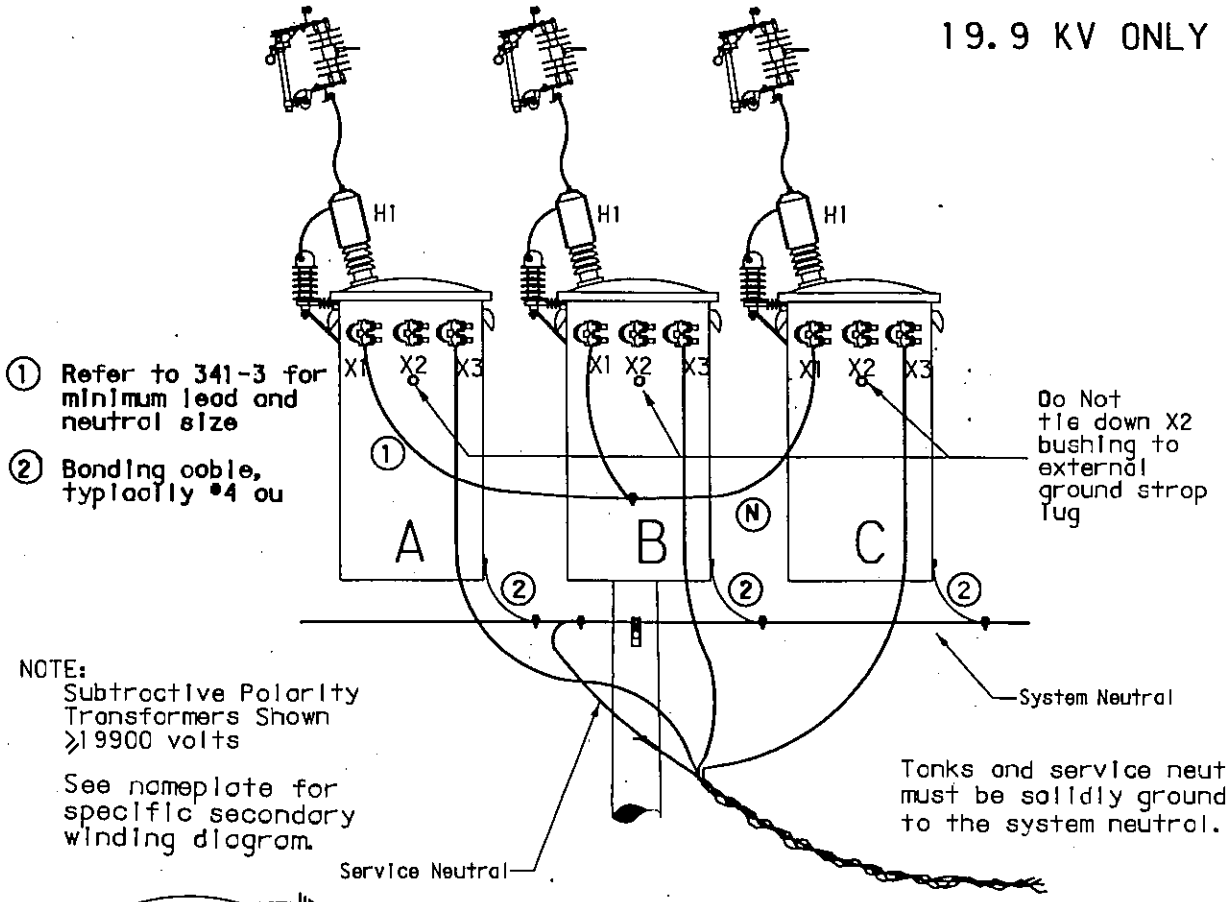
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
342-7.1	GRND WYE - WYE BANK FOR 480 VOLT 3 WIRE SERVICES	

19.9 KV ONLY



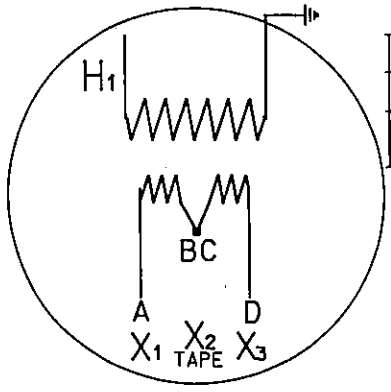
① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Subtractive Polarity Transformers Shown ≥19900 volts

See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.



139 X 277

139 X 277 Winding
19.9 KV ONLY

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B X1B/X1C X1C/X1A	480	X1A/N X1B/N X1C/N	N/A	**139 X 277 19.9 KV ONLY**

See check list notes starting on p.342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One primary bushing transformer
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral insulated (No ground anywhere on secondary side).
6. Secondary windings rated as shown. 139 X 277 winding available on 19.9 KV only.
7. Do not use to serve 4 wire 3 phase services.

This connection may be used to supply 240, 480, or 600 volt 3 wire services from 4 wire wye primary systems. See specific DCS pages.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The secondary windings must be connected 138.5 for 240 volts, 277 for 480 volts, or 346 for 600 volt service.

The primary neutral bus on the bank must be the same size as the phase wires.

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8/28/08
LICENSED PROFESSIONAL ENGINEER

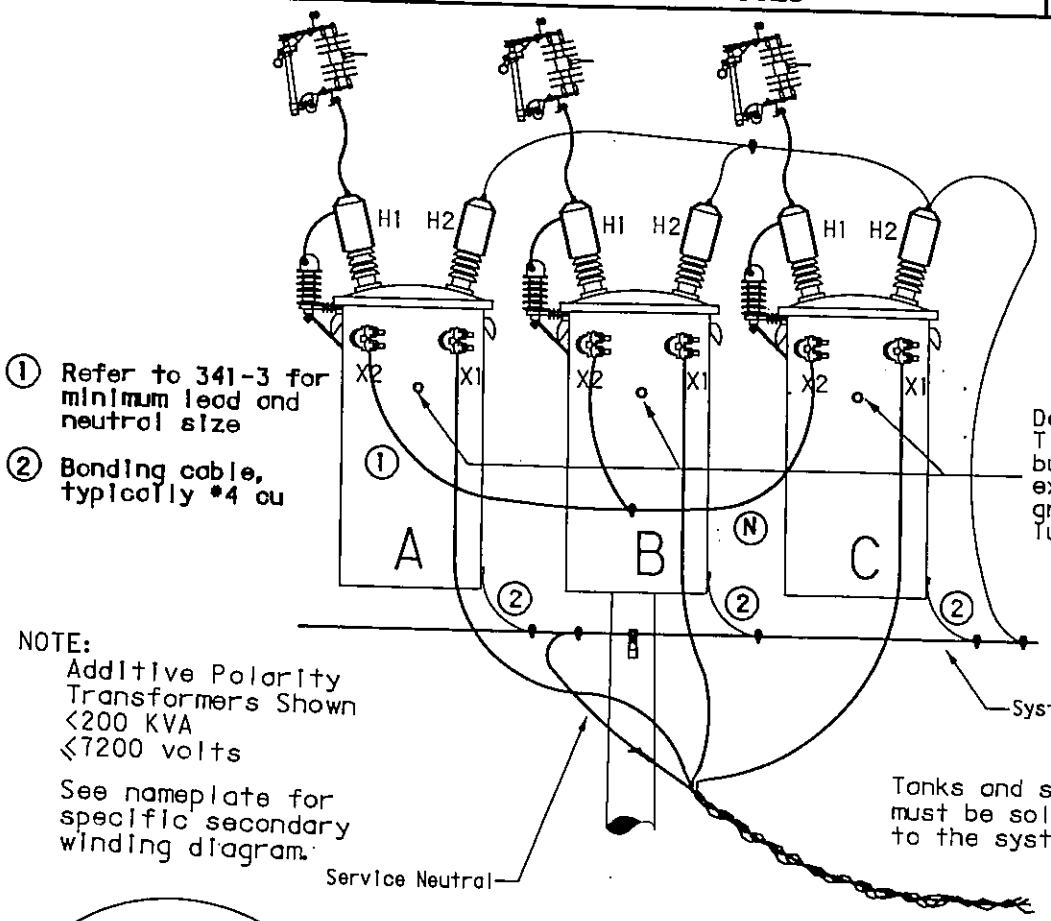
DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

BE REVISED ON THE CADD SYSTEM ONLY

DRAWN	REC
DATE	11/17/06

MACRO	DESCRIPTION	PAGE
	GRND WYE - WYE BANK FOR 480 VOLT 3 WIRE SERVICES	342-7.2

NO.	REVISION	DATE	CK.
1	Added Y, corrected text, chgd neut conn	05/14/08	

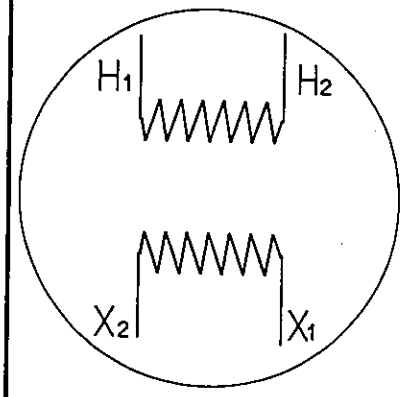


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.



277/480 Y Winding

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B X1B/X1C X1C/X1A	480	X1A/N X1B/N X1C/N	N/A	277/480 Y

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral insulated (No grounds anywhere on secondary side).
6. Secondary windings rated phase to neutral voltage.
7. Do <u>not</u> use to serve 4 wire 3 phase services.

This connection may be used to supply 240, 480, or 600 volt 3 wire services from 4 wire wye primary systems. See specific DCS page.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The secondary winding must be connected 138.5 for 240 volts, 277 for 480 volts, or 346 for 600 volt service.

The neutral bus on the bank must be the same size as the phase wires.

	DRIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	02/06/06

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STATE OF MAINE
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8/28/08
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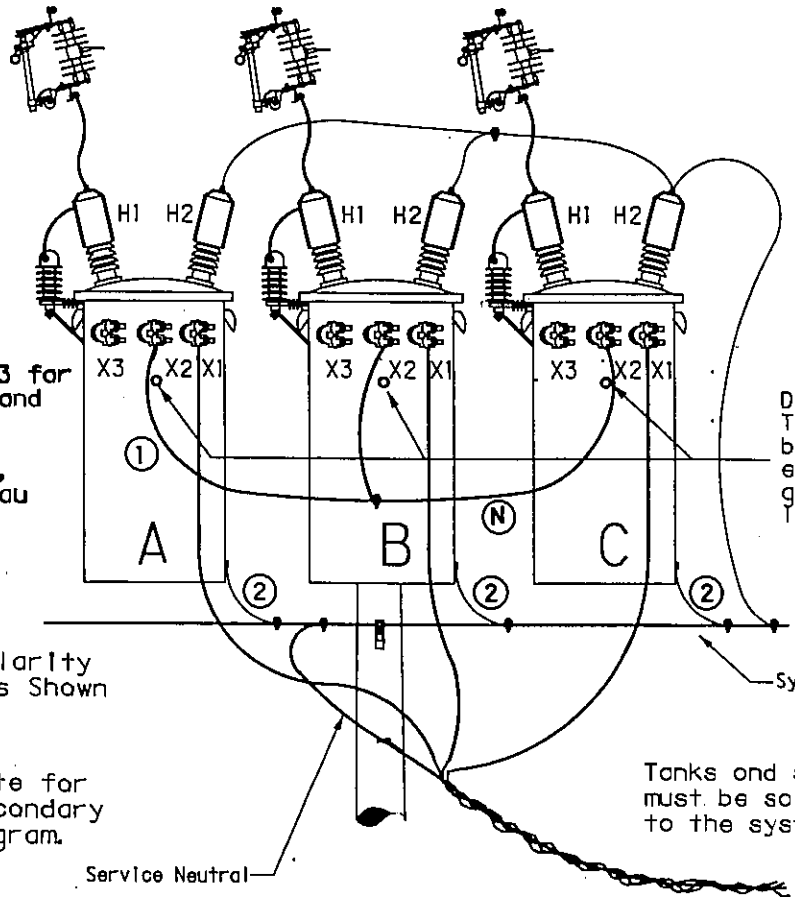
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
342-7.3	GRND WYE - WYE BANK FOR 480 VOLT 3 WIRE SERVICES	



① Refer to 341-3 for minimum lead and neutral size

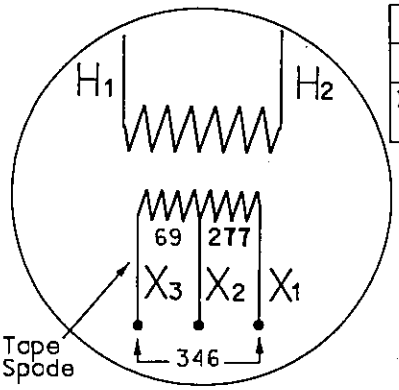
② Banding cable, typically #4 au

Do Not Tie down X2 bushing to external ground strap lug

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.



277 X 346 Winding

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B X1B/X1C X1C/X1A	480	X1A/N X1B/N X1C/N	N/A	277 X 346

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral insulated (No ground anywhere on secondary side).
6. Secondary windings rated phase to neutral voltage
7. Do not use to serve 4 wire 3 phase services.

This connection may be used to supply 240, 480, or 600 volt 3 wire services from 4 wire wye primary systems. See specific DCS page.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The primary windings of the transformers used for connection must be rated for primary system phase to neutral voltage. The secondary winding must be connected 138.5 to 240 volts, 277 for 480 volts, or 346 for 600 volt service.

The neutral bus on the bank must be the same size as the phase wires.

STATE OF MAINE
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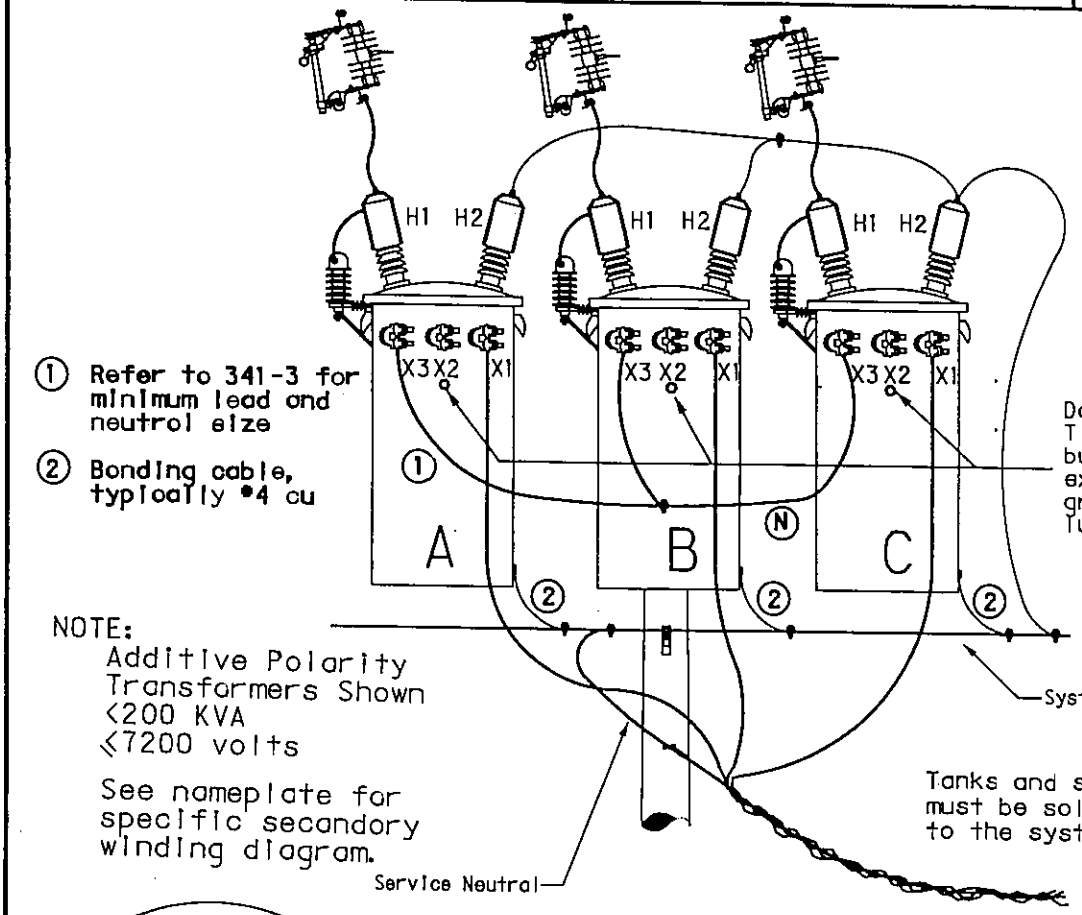
No. 11440
8/28/08
LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	GRND WYE - WYE BANK FOR 600 VOLT 3 WIRE SERVICES	342-7.4

NO.	REVISION	DATE	CK.
1	Corrected text, chgd neut conn	08/14/08	

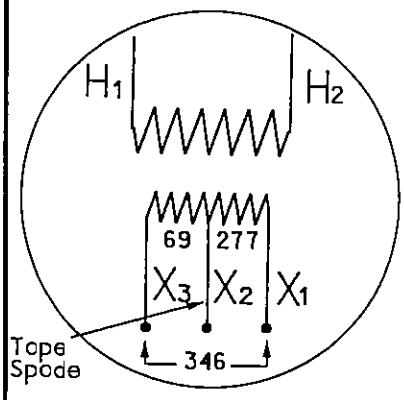


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.



277 X 346

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B X1B/X1C X1C/X1A	600	X1A/N X1B/N X1C/N	N/A	277 X 346

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. One or two primary bushing transformers
3. Primary neutral grounded
4. Primary windings rated phase to neutral voltage
5. Secondary neutral insulated (No grounds anywhere on secondary side).
6. Secondary windings rated phase to neutral voltage.
7. Do not use to serve 4 wire 3 phase services.

This connection may be used to supply 240, 480, or 600 volt 3 wire services from 4 wire wye primary systems. See specific DCS page.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The primary windings of the transformers used for connection must be rated for primary system phase to neutral voltage. The secondary winding must be connected 138.5 for 240 volts, 277 for 480 volts, or 346 for 600 volt service.

The neutral bus on the bank must be the same size as the phase wires.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	11/22/05

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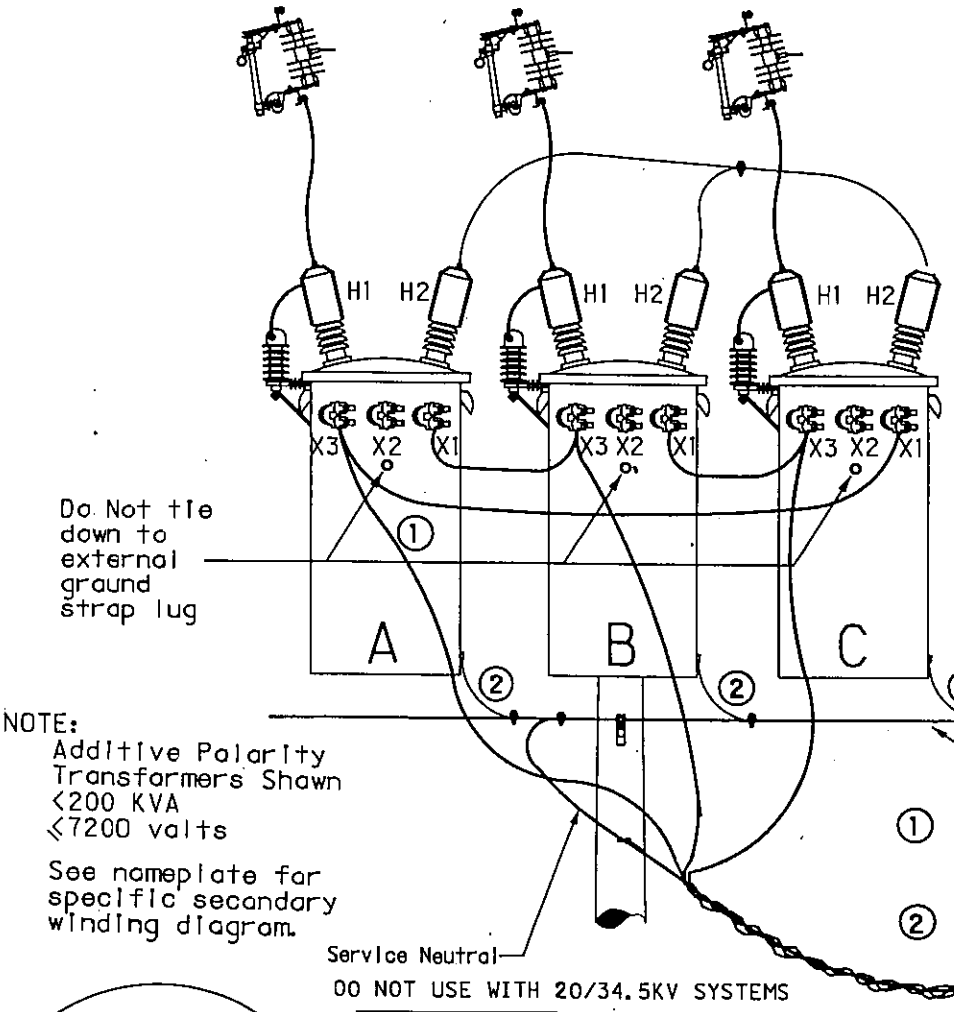
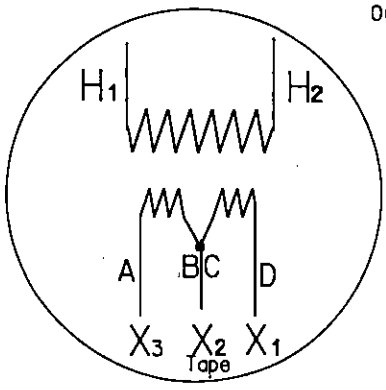
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/28/08
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
342-8	WYE - DELTA BANK WITH 240 VOLT 3 WIRE SECONDARY	





120/240 Winding

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X3B X3B/X3C X3C/X3A	240	X3A/N X3B/N X3C/N	N/A	120/240

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing transformers.
3. Primary neutral insulated.
4. Primary windings rated phase to neutral voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.
7. Do not use on 20/34.5kv.

The wye-delta bank may be used to supply 3 phase 240, 480, or 600 volt power from wye connected 2400/4160 and 7200/12470 overhead primary systems. It should not be used on underground feeds from wye connected primary systems, due to Ferraresonace concerns.

The primary neutral must be insulated for full line voltage, if it is grounded or connected to the primary system neutral the bank will act as a grounding bank and may burn out a transformer winding during phase to ground faults or primary system load unbalance.

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
5/28/08
LICENSED PROFESSIONAL ENGINEER

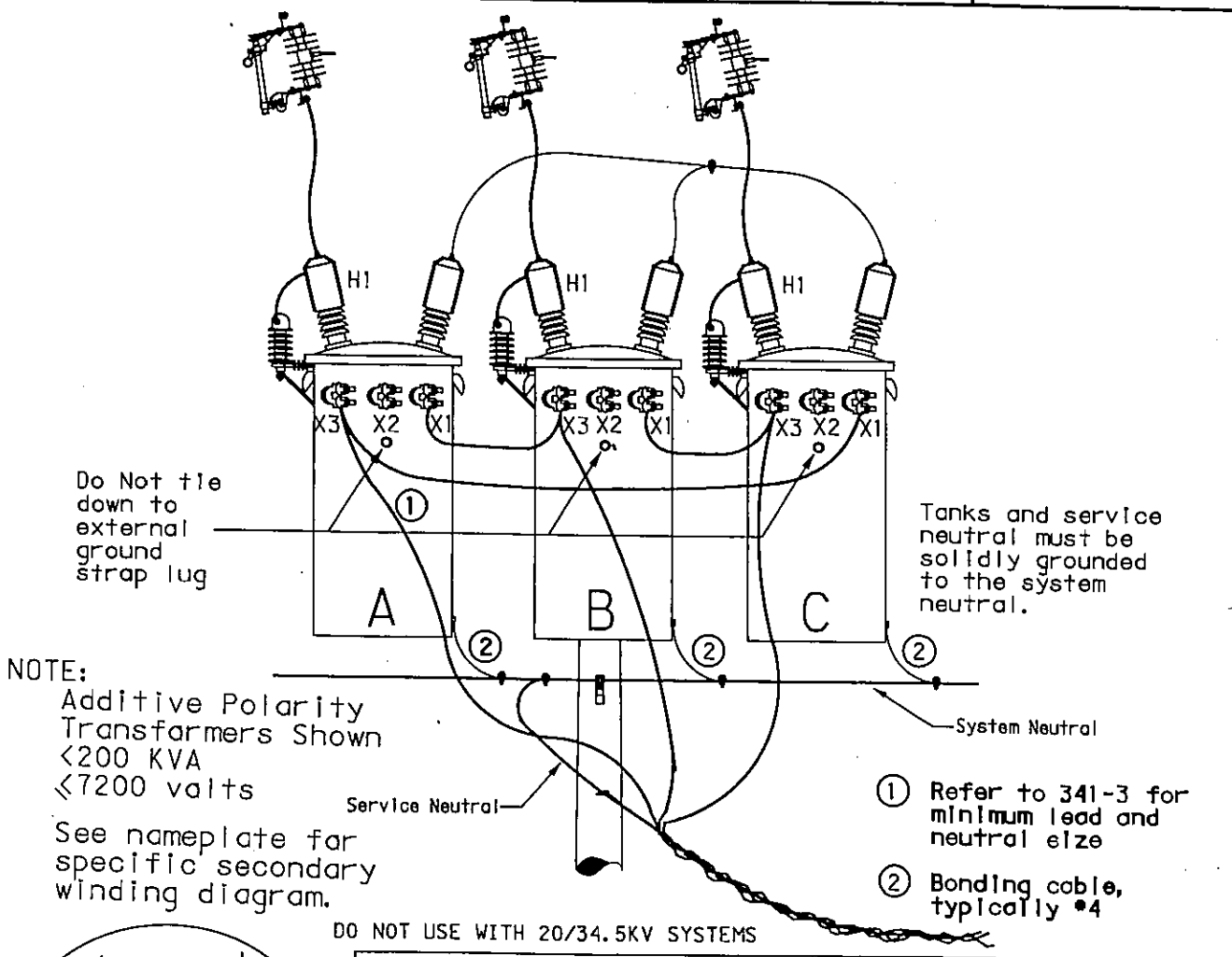
DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

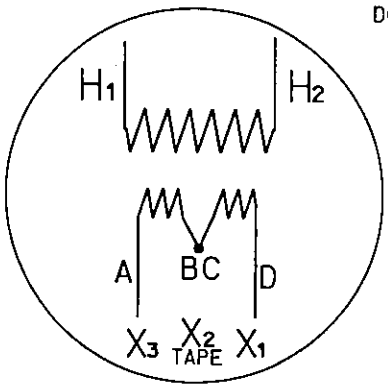
CADD SYSTEM ONLY

DRAWN
DATE

MACRO	DESCRIPTION	PAGE
	WYE - DELTA BANK WITH 480 VOLT 3 WIRE SECONDARY	342-8.1

NO.	REVISION	DATE	CK.
1	corrected text, chgd neut conn	08/28/08	





240 / 480

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X3B X3B/X3C X3C/X3A	480	X3A/N X3B/N X3C/N	N/A	240/480
				600*

*SEE DIST. ENG.

See check list notes starting on p.342-3, 4, & 5 for
1. Conventional transformers.
2. Two primary bushing transformers.
3. Primary neutral insulated.
4. Primary windings rated phase to neutral voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.
7. Do not use on 20/34.5kv.

The wye-delta bank may be used to supply 3 phase 240, 480, or 600 volt power from wye connected 2400/4160 and 7200/12470 overhead primary systems. It should not be used on underground feeds from wye connected primary systems, due to Ferroresonance concerns.

The primary neutral must be insulated for full line voltage. If it is grounded or connected to the primary system neutral the bank will act as a grounding bank and may burn out a transformer winding during phase to ground faults or primary system load unbalance.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	11/17/06

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No. 11440
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DISTRIBUTION CONSTRUCTION STANDARDS

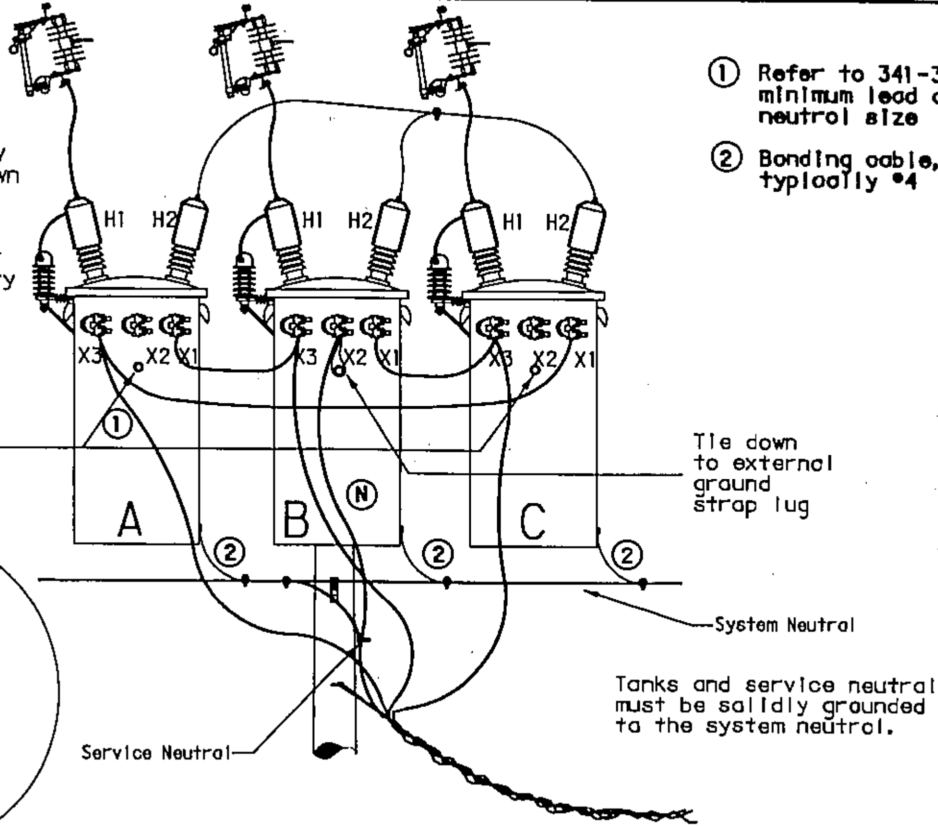
PAGE	DESCRIPTION	MACRO
342-9	WYE - DELTA BANK WITH 120/240 VOLT, 4 WIRE SECONDARY	

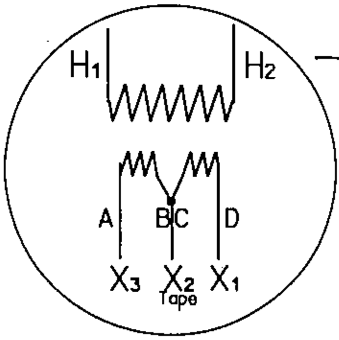
NOTE: •
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

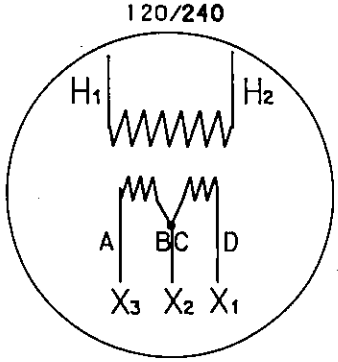
① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4





A + C TRANSFORMER
120/240



B TRANSFORMER
CENTER TAPPED
120/240 VOLT

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A	240	X3A/X2B+X1C/X2B	208	120/240
X3B/X1B	240	X3B/X2B	120	120/240
X3C/X1C	240	X1B/X2B	120	120/240

See check list notes starting on p.342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing transformers.
3. Primary neutral insulated.
4. Primary windings rated phase to neutral voltage.
5. On one transformer only, the secondary center tap is grounded; no secondary ground on the other two.
6. Secondary windings connected 120/240 on transformer with center tap grounded, connected 240 on the other two.
7. Do not use 20/34.5 kv.
   Do not use to serve 3 wire 3 phase services.

This bank is used to supply combination three phase 240 volt and single phase 120/240 volt loads from wye connected 2400/4160 and 7200/12470 overhead primary systems. It should not be used on underground feeds from wye connected primary, due to Ferroresonance concerns.

The transformer with the midpoint grounded will carry 2/3 of the single phase load plus 1/3 of the three phase load. Each of the other two transformers will carry 1/3 of the single phase load plus 1/3 of the three phase load.

The primary neutral must be insulated for full line voltage, if it is grounded or connected to the primary system neutral the bank will act as a grounding bank and may burn out a transformer winding during phase to ground faults or primary system load unbalance.

BE REVISED ON THE CADD SYSTEM ONLY

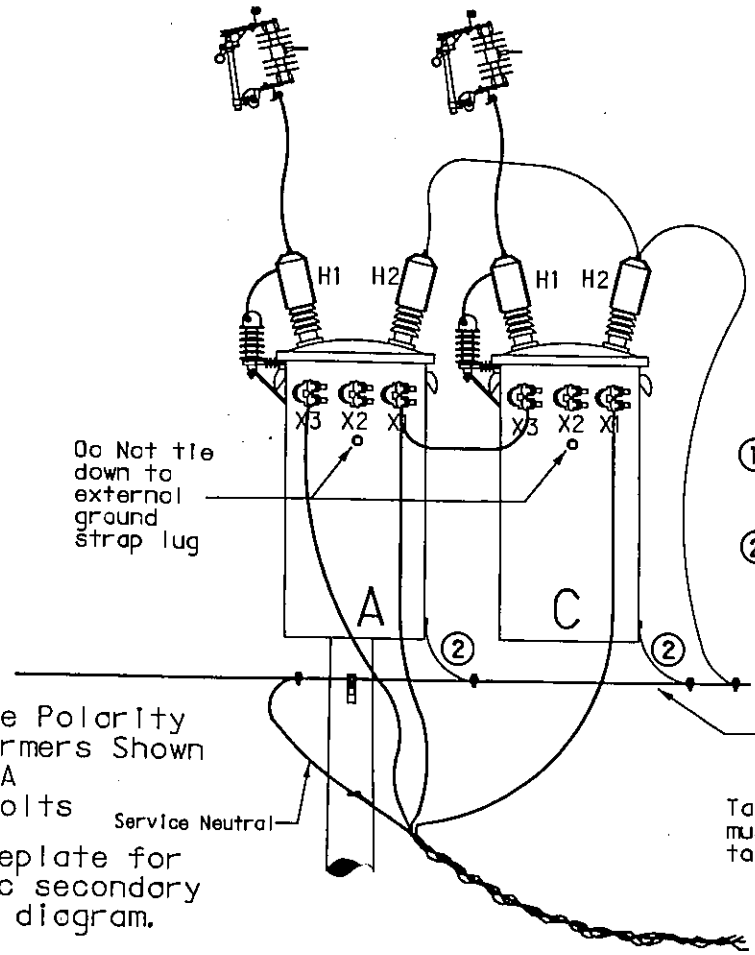
DESIGNED	JLR
DRAWN	REC
DATE	11/17/06

2 | Labelled terminals & neutral, corrected text, engr mod corn | 08/14/08

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/28/08
LICENSED
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	OPEN GRND WYE - OPEN DELTA BANK FOR 240 VOLT, 3 WIRE SECONDARY	342-10

NO.	REVISION	DATE	CK.
1	Correct text, label terminals, chgd neut conn	08/14/08	

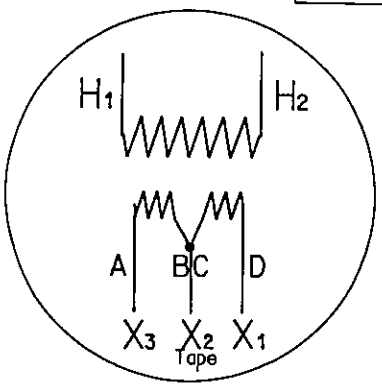


NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A, X1A/X1C, X1C/X3A	240	X3A/N, X1A/N, X3C/N, X1C/N	N/A	120/240
				600 *

* SEE DIST ENG



120/240

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. One or two primary bushing transformers.
3. Primary neutral grounded.
4. Primary windings rated phase to neutral voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.

This connection is a modification of the wye-delta bank with three wire secondary and may be used to supply 3 phase 240, 480, and 600 volt power from 2 phases and the neutral of wye connected primary lines.

The primary neutral must be grounded and connected to the primary system neutral to maintain proper voltages on the transformers. The voltages from X3A to X1C will drop more than the voltages on the other two phases when the bank is loaded. Any single phase loads should not be connected from X3A to X1C.

This connection is for existing services only and is not offered for any new service or increased capacity.

	DESIGNED	DRAWN	DATE
ORIGINAL	JLH	REC	11/17/06

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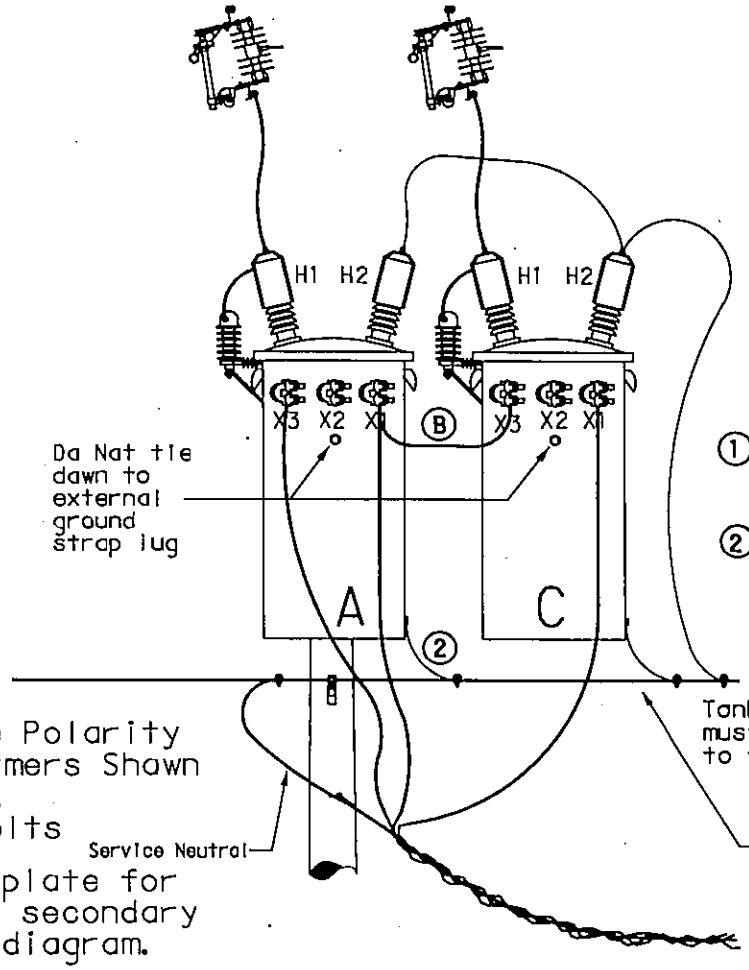
DISTRIBUTION CONSTRUCTION STANDARDS

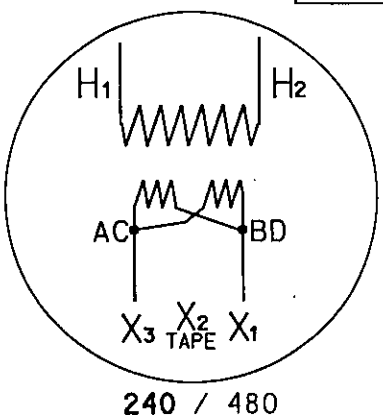
PAGE	DESCRIPTION	MACRO
342-10.1	OPEN GRND WYE - OPEN DELTA BANK FOR 240 VOLT, 3 WIRE SECONDARY	



NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A, X1A/X1C, X1C/X3A	240	X3A/N, X1A/N, X3C/N, X1C/N	N/A	240/480
				600 *

* SEE DIST ENG



240 / 480

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. One or two primary bushing transformers.
3. Primary neutral grounded.
4. Primary windings rated phase to neutral voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.

This connection is a modification of the wye-delta bank with three wire secondary and may be used to supply 3 phase 240, 480, and 600 volt power from 2 phases and the neutral of wye connected primary lines.

The primary neutral must be grounded and connected to the primary system neutral to maintain proper voltages on the transformers. The voltages from X3A to X1C will drop more than the voltages on the other two phases when the bank is loaded. Any single phase loads should not be connected from X3A to X1C.

This connection is for existing services only and is not offered for any new service or increased capacity.

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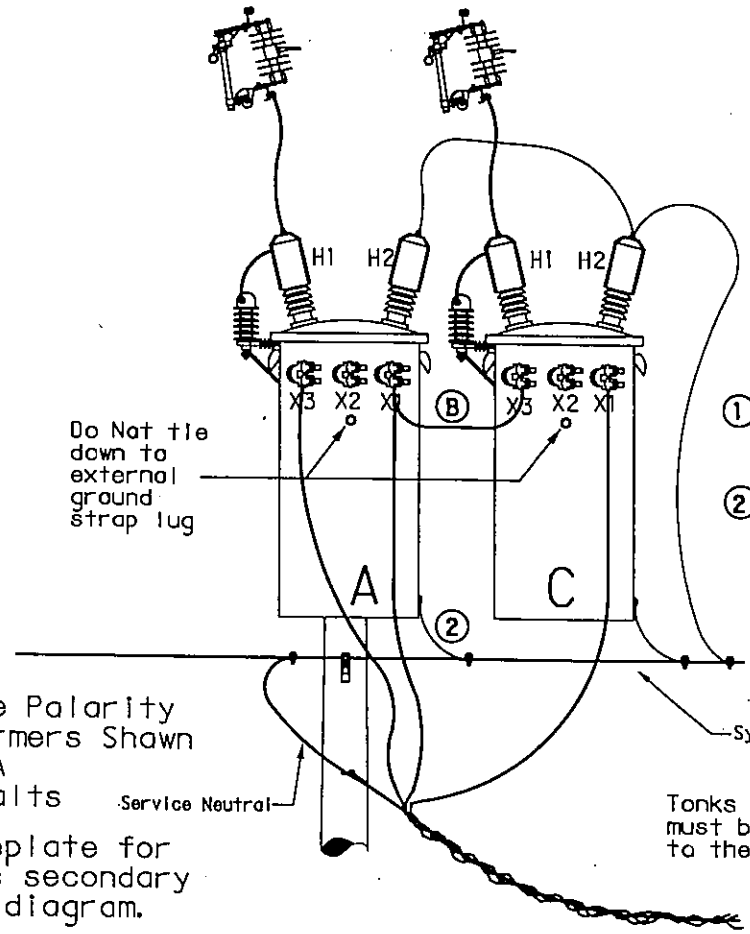
DRAWN	REC
DATE	11/16/06

Energy 1st

MACRO	DESCRIPTION	PAGE
	OPEN GRND WYE - OPEN DELTA BANK FOR 480 VOLT, 3 WIRE SECONDARY	342-10.2

NO.	REVISION	DATE	CK.
1	Corrected spelling	06/16/07	
2	Corrected text, changed last paragraph, chgd neut conn	08/28/08	

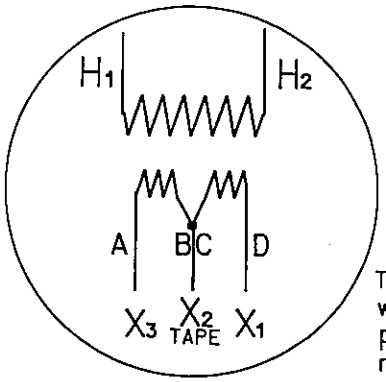


NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A, X1A/X1C, X1C/X3A	480	X3A/N, X1A/N, X3C/N, X1C/N	N/A	240 / 480
				600 *

* SEE DIST ENG



240 / 480 VOLT

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. One or two primary bushing transformers.
3. Primary neutral grounded.
4. Primary windings rated phase to neutral voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.

This connection is a modification of the wye-delta bank with three wire secondary and may be used to supply 3 phase 240, 480, and 600 volt power from 2 phases and the neutral of wye connected primary lines.

The primary neutral must be grounded and connected to the primary system neutral to maintain proper voltages on the transformers. The voltages from X3A to X1C will drop more than the voltages on the other two phases when the bank is loaded. Any single phase loads should not be connected from X3A to X1C.

This connection is for existing services only and is not offered for any new service or increased capacity.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	11/17/06

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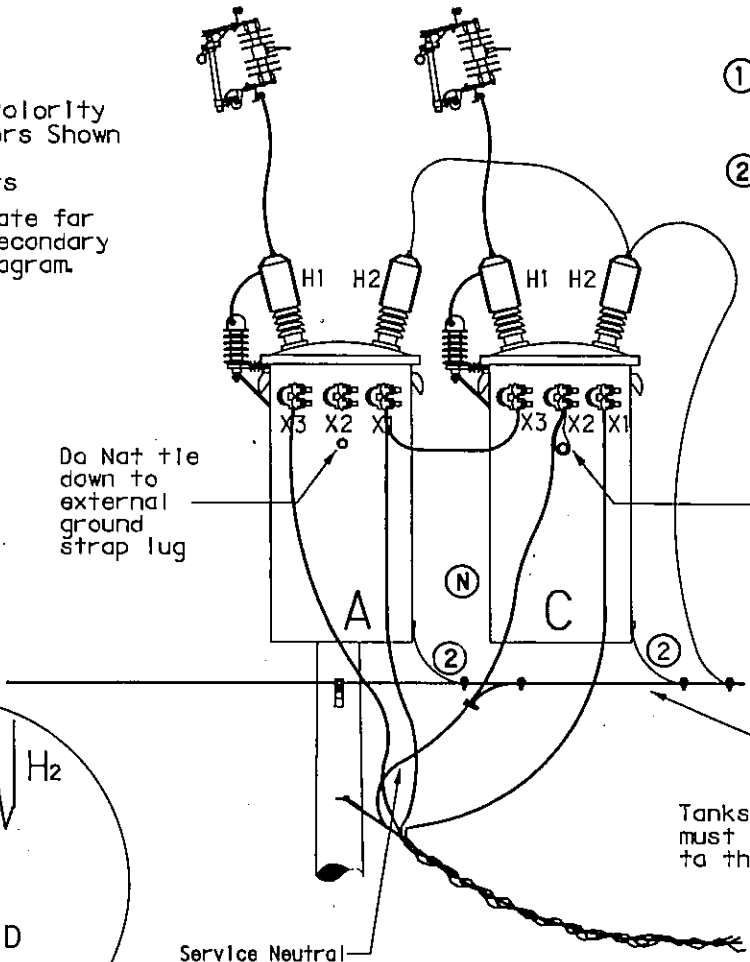
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
342-11	OPEN GRND WYE - OPEN DELTA BANK FOR 120/240 4 WIRE SECONDARY	

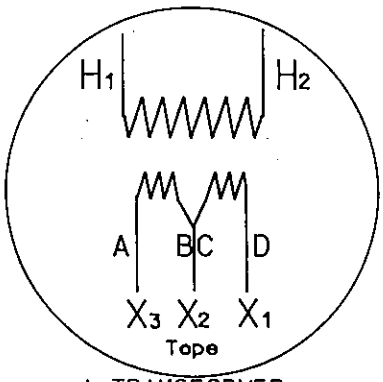
NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

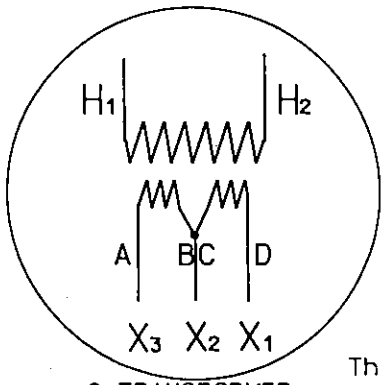


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4



A TRANSFORMER
120/240 VOLT



C TRANSFORMER
120/240 VOLT

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A	240	X3A/X2C	208	120/240
X3C/X1C	240	X1A/X2C	120	120/240
X1A/X3A	240	X1C/X2C	120	120/240

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. One or two primary bushing transformers.
3. Primary neutral grounded.
4. Primary windings rated phase to neutral voltage.
5. On one transformer, the secondary center tap is grounded. No secondary ground on the other.
6. Secondary windings connected 120/240 on transformer with center tap grounded, connected 240 on the other.
7. Do not use to serve 3 wire 3 phase services.

This bank is used to supply combination three phase 240 volt and single phase 120/240 volt loads from 2 phase wires and the neutral of wye connected primary systems.

The transformer with the midpoint grounded will carry all of the single phase load plus 58% of the three phase load. The other tranformer will carry 58% of the three phase load. The tranformer with midpoint grounded may be much larger than the other transformer.

This connection is for existing services only and is not offered for any new service or increased capacity.

STATE OF MAINE
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8/28/08
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DISTRIBUTION CONSTRUCTION STANDARDS

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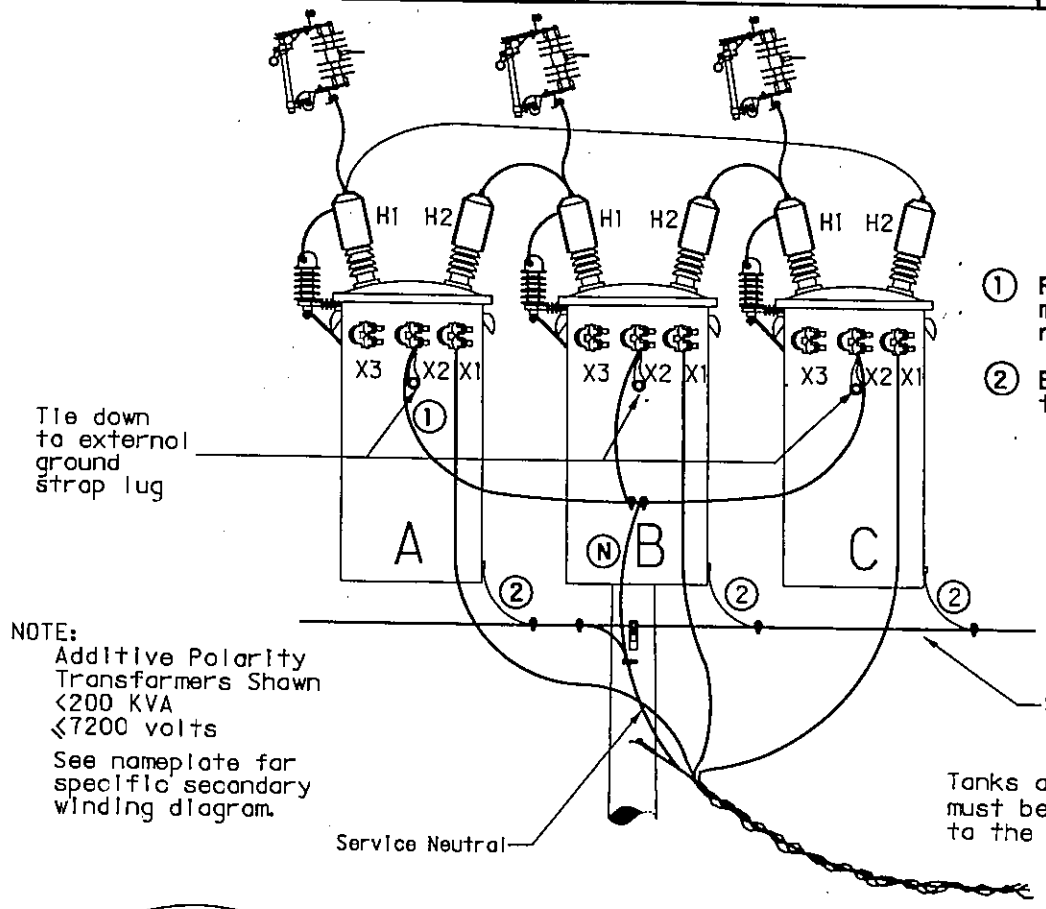
DRAWN	REC
DATE	11/17/06

2	Chngd note 7, corrected text, labelled terminals & quad neutral conn	08/15/08

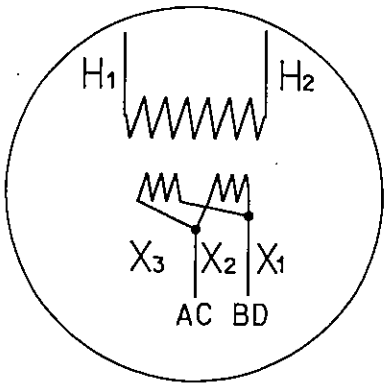
MACRO	DESCRIPTION	PAGE
	DELTA - GRND WYE BANK FOR 120/208 VOLT, 4 WIRE SERVICES	342-12

NO.	REVISION	DATE	CK.
1	Changed note 7, corrected text, label quad neutral conn	08/15/08	



① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu



120/240 VOLT

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A-X1B X1B-X1C X1C-X1A	208	X1A-N X1B-N X1C-N	120	120/240

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. Two primary bushing transformers
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage
5. Secondary neutral grounded
6. Secondary windings rated phase to neutral voltage
7. Do not use to serve 3 wire to 3 phase services.

This connection may be used to supply 120/208 volt 4 wire wye and 277/480 volt, 4 wire wye services from 4 wire wye primary systems. See specific DCS page.

The secondary shown is for 120/208 volt service, with the coils connected in parallel. For 277/480 volt service, the transformers will have 277 volt secondary windings. The neutral bus on the bank must be the same size as the phase wires. The connection from neutral bus to service neutral must be as large as the service neutral.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	11/21/05

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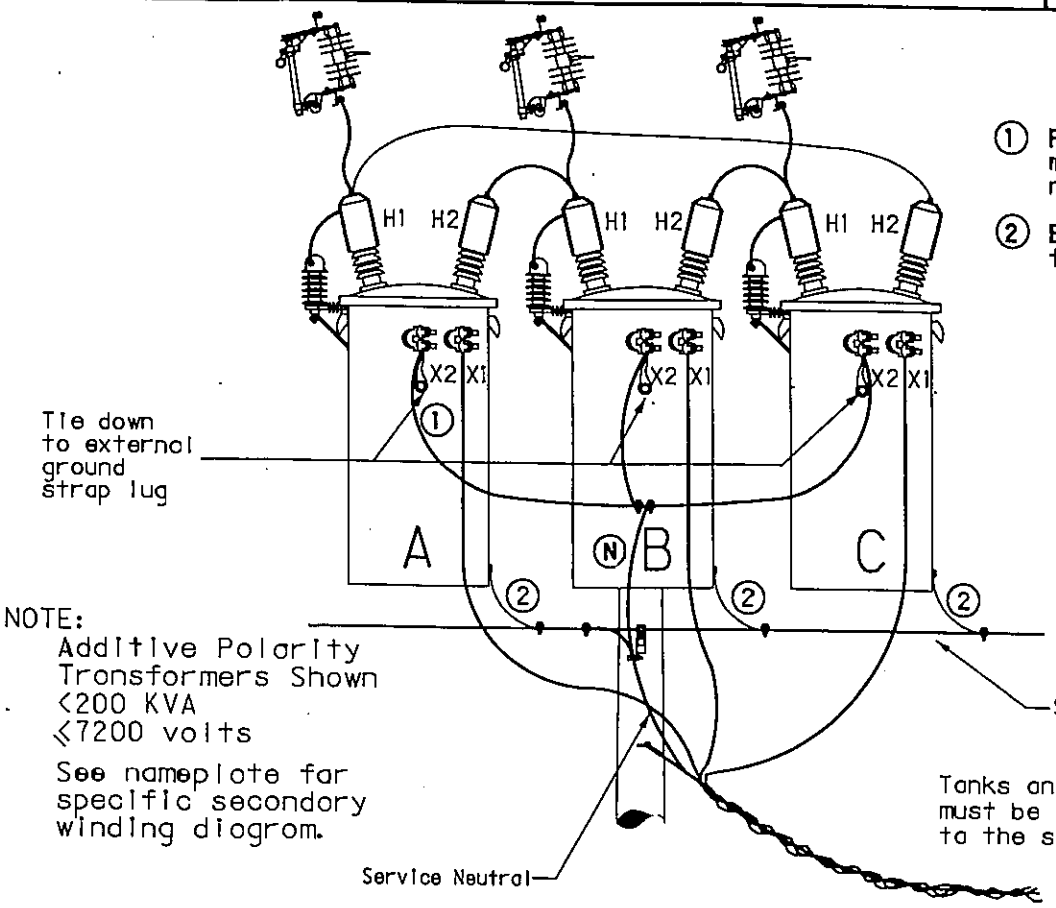
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	DELTA - GRND WYE BANK FOR 277/480 VOLT, 4 WIRE SERVICES	342-12.1

NO.	REVISION	DATE	CK.
1	Chgd note 7, corrected text, label quad neutral conn	08/15/08	



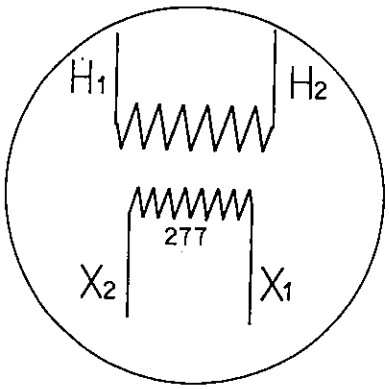
① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4 cu

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.



277/480 Y VOLT

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A-X1B X1B-X1C X1C-X1A	480	X1A-N X1B-N X1C-N	277	277/480 Y

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. Two primary bushing transformers
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage
5. Secondary neutral grounded
6. Secondary windings rated phase to neutral voltage
7. Do not use to serve 3 wire 3 phase services.

This connection may be used to supply 120/208 volt 4 wire wye and 277/480 volt, 4 wire wye services from 4 wire wye primary systems. See specific OCS page.

The secondary shown is for 277/480 volt service. For 120/208 volt service, the transformers will have 120 volt secondary windings. The neutral bus on the bank must be the same size as the phase wires. The connection from neutral bus to service neutral must be as large as the service neutral.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	02/06/06

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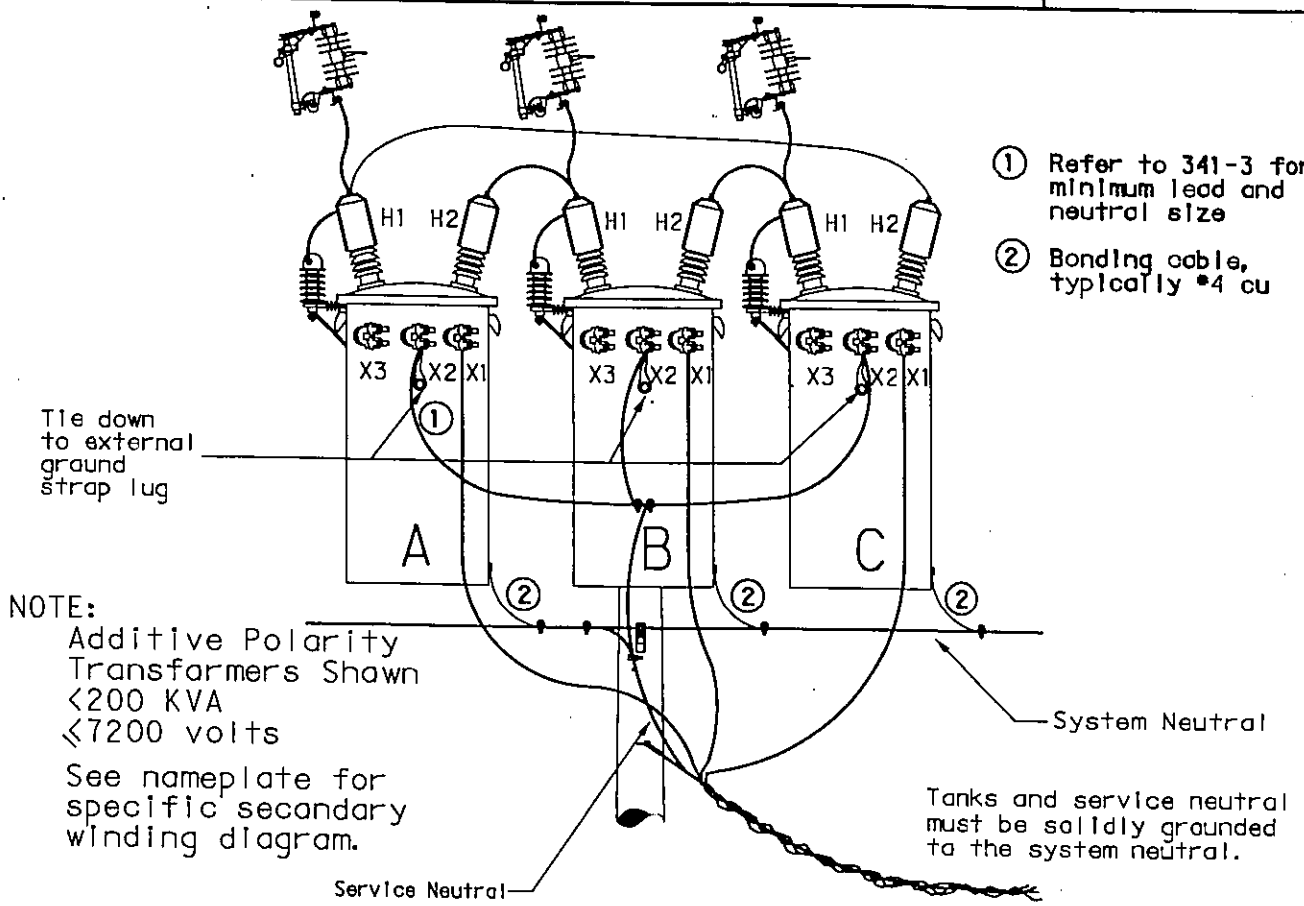
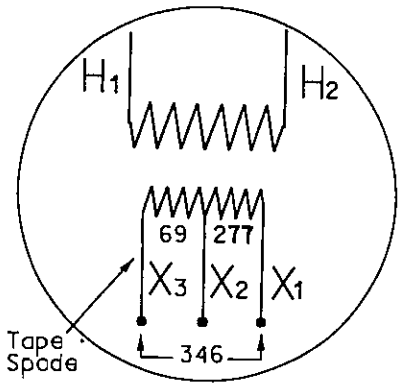
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	DELTA - GRND WYE BANK FOR 277/480 VOLT, 4 WIRE SERVICES	342-12.2

NO.	REVISION	DATE	CK.
1	Chgd note 7, corrected text, labelled quad neutral	08/18/08	





277 X 346 VOLT

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A-X1B X1B-X1C X1C-X1A	480	X1A-N X1B-N X1C-N	277	277 X 346

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers
2. Two primary bushing transformers
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage
5. Secondary neutral grounded
6. Secondary windings rated phase to neutral voltage
7. Do not use to serve 3 wire 3 phase services.

This connection may be used to supply 120/208 volt, 4 wire wye and 277/480 volt, 4wire wye, services from 4 wire wye primary systems. See specific DCS page.

The secondary shown is for 277/480 volt service. For 120/208 volt service, the transformers will have 120 volt secondary windings. The neutral bus on the bank must be the some size as the phase wires. The connection from neutral bus to service neutral must be as large as the service neutral.

ORIGINAL	
DESIGNED	JLH
DRAWN	REC
DATE	11/28/05

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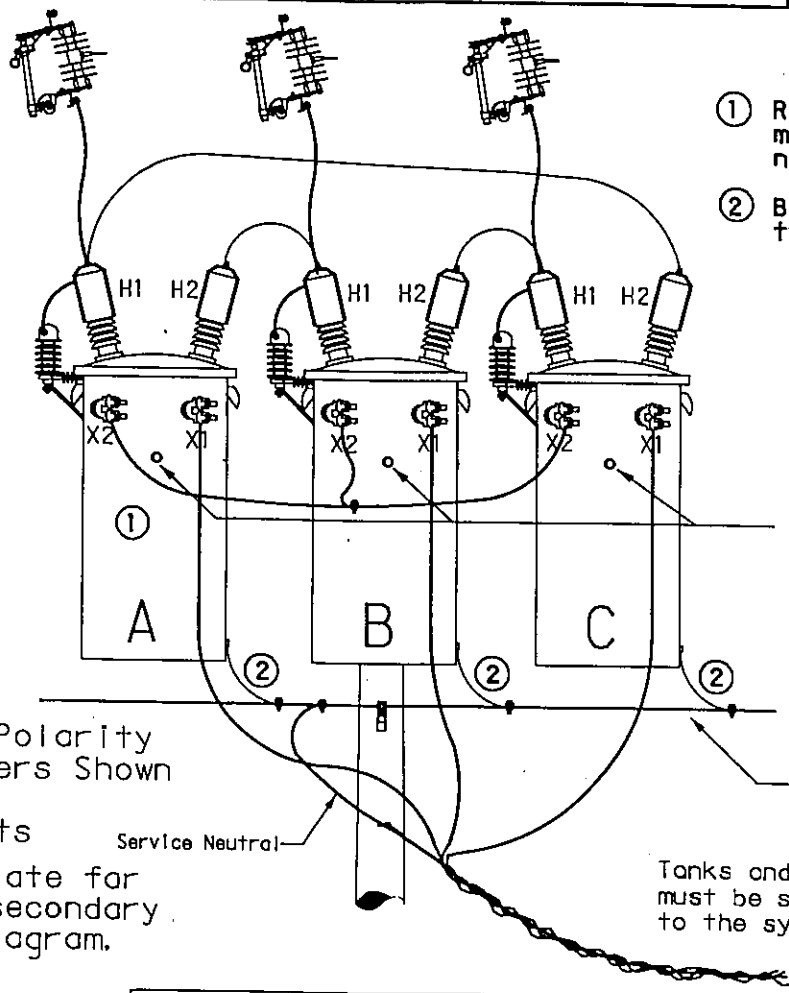
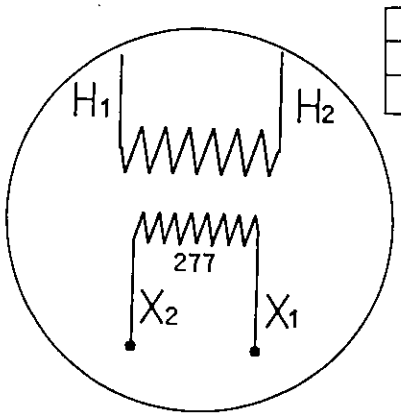
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	DELTA - WYE BANK FOR 480 VOLT THREE WIRE SERVICES	342-13

NO.	REVISION	DATE	CK.
1	Corrected text, label terminals & neut conn	08/18/08	



NOTE:
Additive Polarity Transformers Shown
<200 KVA
<7200 volts
See nameplate for specific secondary winding diagram.



277/480 Y

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B, X1B/X1C, X1C/X1A	480	X3A/N, X3B/N, X3C/N	N/A	277/480 Y

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing transformers.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. Secondary neutral insulated (no grounds anywhere on secondary side).
6. Secondary windings rated phase to neutral voltage.
7. Do not use to serve 4 wire 3 phase services.

This connection may be used to supply 240 volt, 480 volt, or 600 volt, 3 wire services from 3 wire delta or 4 wire wye primary systems. See specific DCS page.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The secondary windings must be rated 138.5 for 240 volt services, 277 for 480 volt service or 346 for 600 volt service.

The neutral bus on the bank must be the same size as the phase wires.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	02/06/06

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STATE OF MAINE
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8/28/09
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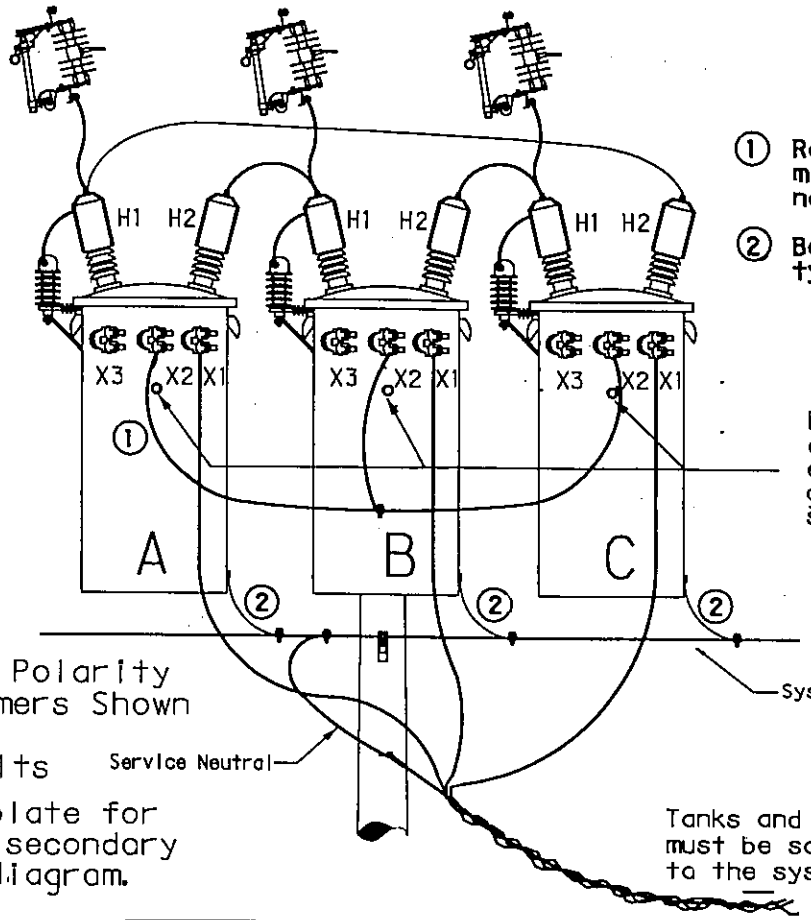
PAGE	DESCRIPTION	MACRO
342-13.1	DELTA - WYE BANK FOR 480 VOLT THREE WIRE SERVICES	



① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4

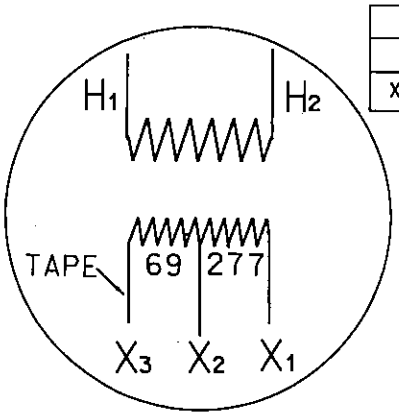
Do Not tie down to external ground strap lug

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B, X1B/X1C, X1C/X1A	480	X3A/N, X3B/N, X3C/N	N/A	277 X 346



277 X 346

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing transformers.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. Secondary neutral insulated (no grounds anywhere on secondary side).
6. Secondary windings rated phase to neutral voltage.
7. Do not use to serve 4 wire 3 phase services.

This connection may be used to supply 240 volt, 480 volt or 600 volt 3 wire services from 3 wire delta or 4 wire wye primary systems. See specific DCS page.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The primary windings of the transformers used for this connection must be rated for primary system phase to phase voltage. The secondary windings must be rated 138.5 for 240 volt service, 277 for 480 volt service or 346 for 600 volt service.

The neutral bus on the bank must be the same size as the phase wires.

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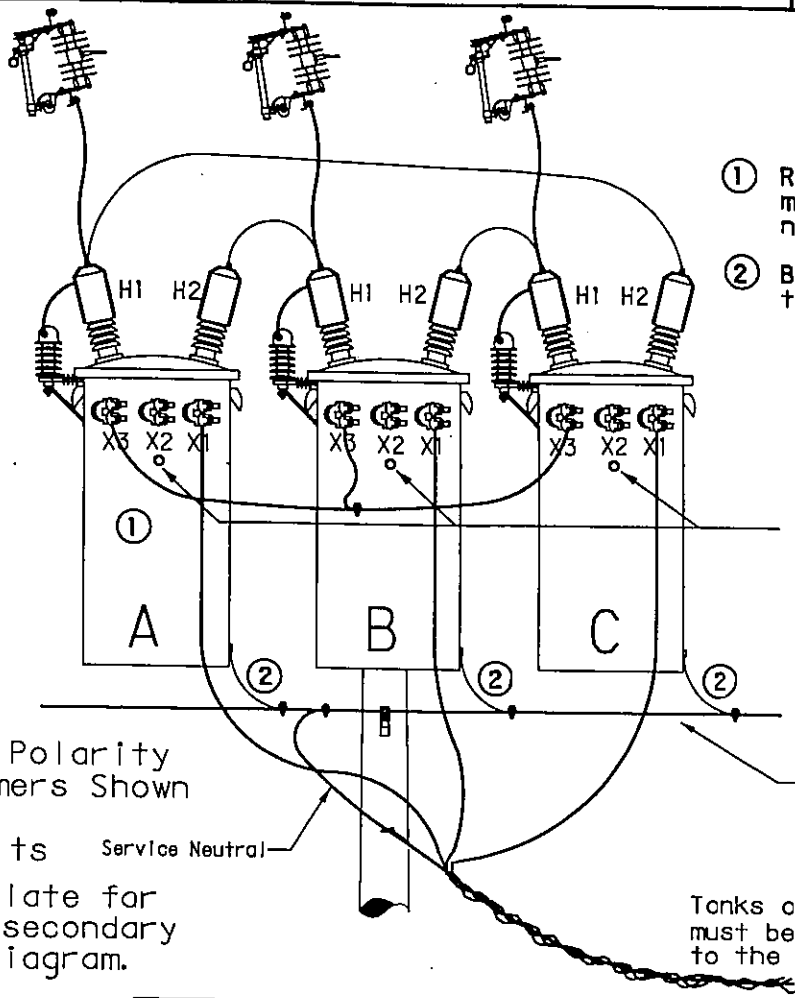
MACRO	DESCRIPTION	PAGE
	DELTA - WYE BANK FOR 600 VOLT THREE WIRE SERVICES	342-13.2

NO.	REVISION	DATE	CK.
1	Corrected text, label terminals, chgd neut conn	07/30/08	



① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4

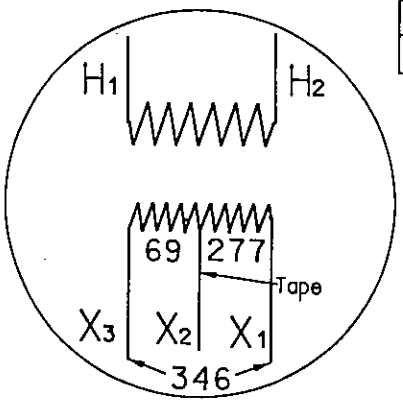
Do Not tie down to external ground strap lug

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts

See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B, X1B/X1C, X1C/X1A	600	X3A/N, X3B/N, X3C/N	N/A	**277 X 346**



277 X **346**

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing transformers.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. Secondary neutral insulated (no grounds anywhere on secondary side).
6. Secondary windings rated phase to neutral voltage.
7. Do not use to serve 4 wire 3 phase services.

This connection may be used to supply 240 volt, 480 volt or 600 volt 3 wire services from 3 wire delta or 4 wire wye primary systems. See specific DCS page.

The secondary neutral with this connection must be insulated for the full secondary voltage, and not connected to any ground or other neutral. The primary windings of the transformers used for this connection must be rated for primary system phase to phase voltage. The secondary windings must be rated 138.5 for 240 volt service, 277 for 480 volt service or 346 for 600 volt service.

The neutral bus on the bank must be the same size as the phase wires.

	ORIGINAL
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DRAWN	REC
DATE	03/01/06

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No. 11440
8/28/08
LICENSED
PROFESSIONAL ENGINEER

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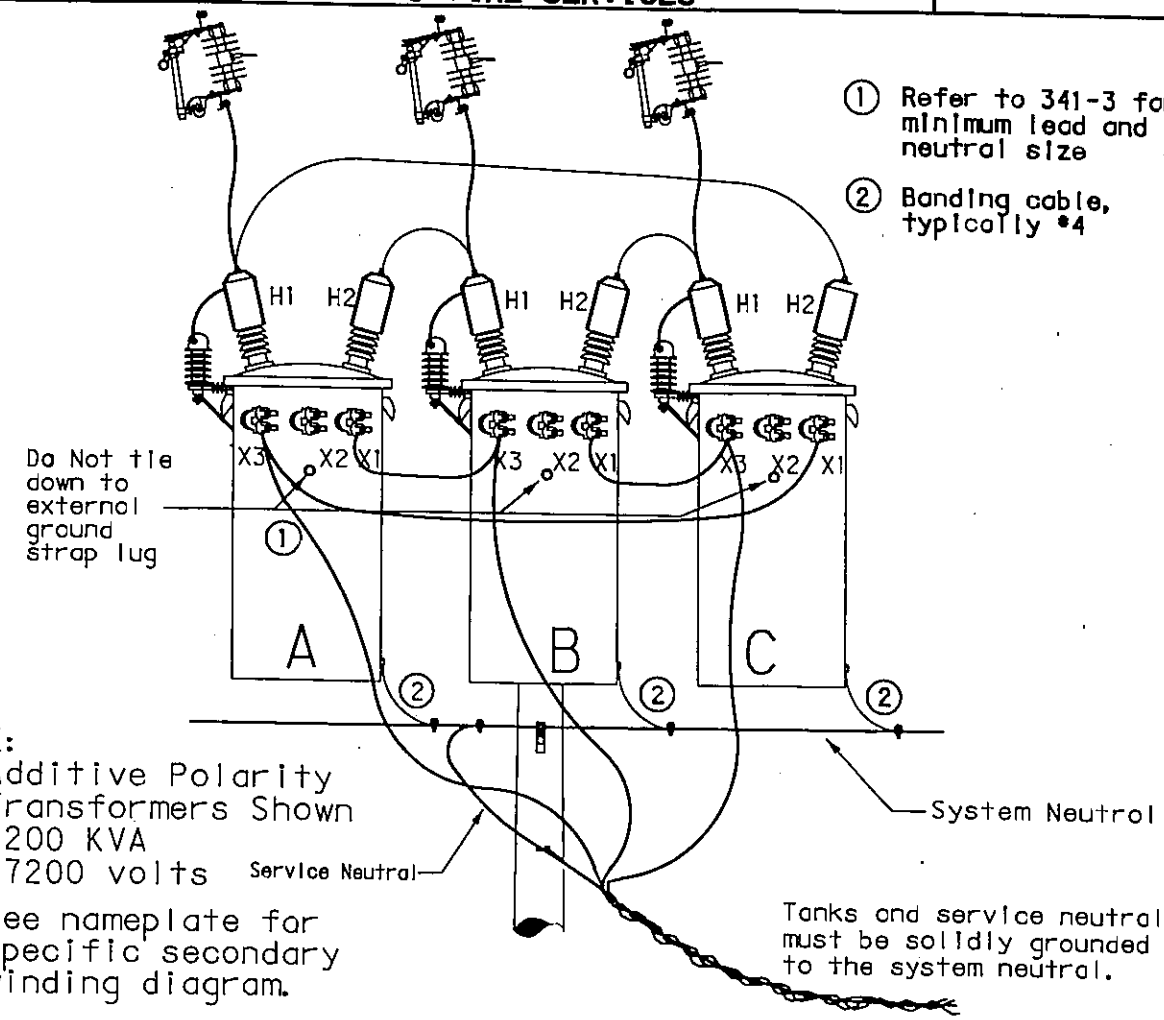
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	DELTA - DELTA BANK FOR 240 VOLT 3 WIRE SERVICES	342-14

NO.	REVISION	DATE	CK.
1	Changed note 7 to 8, corrected text, chgd neut conn	08/19/08	



① Refer to 341-3 for minimum lead and neutral size

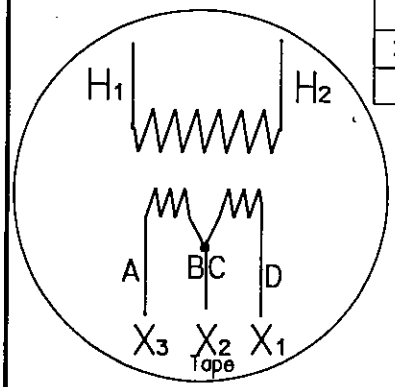
② Banding cable, typically #4

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B, X1B/X1C, X1C/X1A	240	X1A/N, X1B/N, X1C/N	N/A	120/240
				600 *

* SEE OIST ENG



120/240 VOLT

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.
8. Transformers must be matched.

This connection may be used to supply 3 phase 3 wire 240, 480, or 600 volt power from delta or wye connected overhead primary systems. It should not be used on underground feeds from wye connected primary systems. For customer demand of less than 15 KVA, the open delta-open delta bank should be considered.

	DESIGNED	DRAWN	DATE
ORIGINAL	JLH	REC	11/17/06

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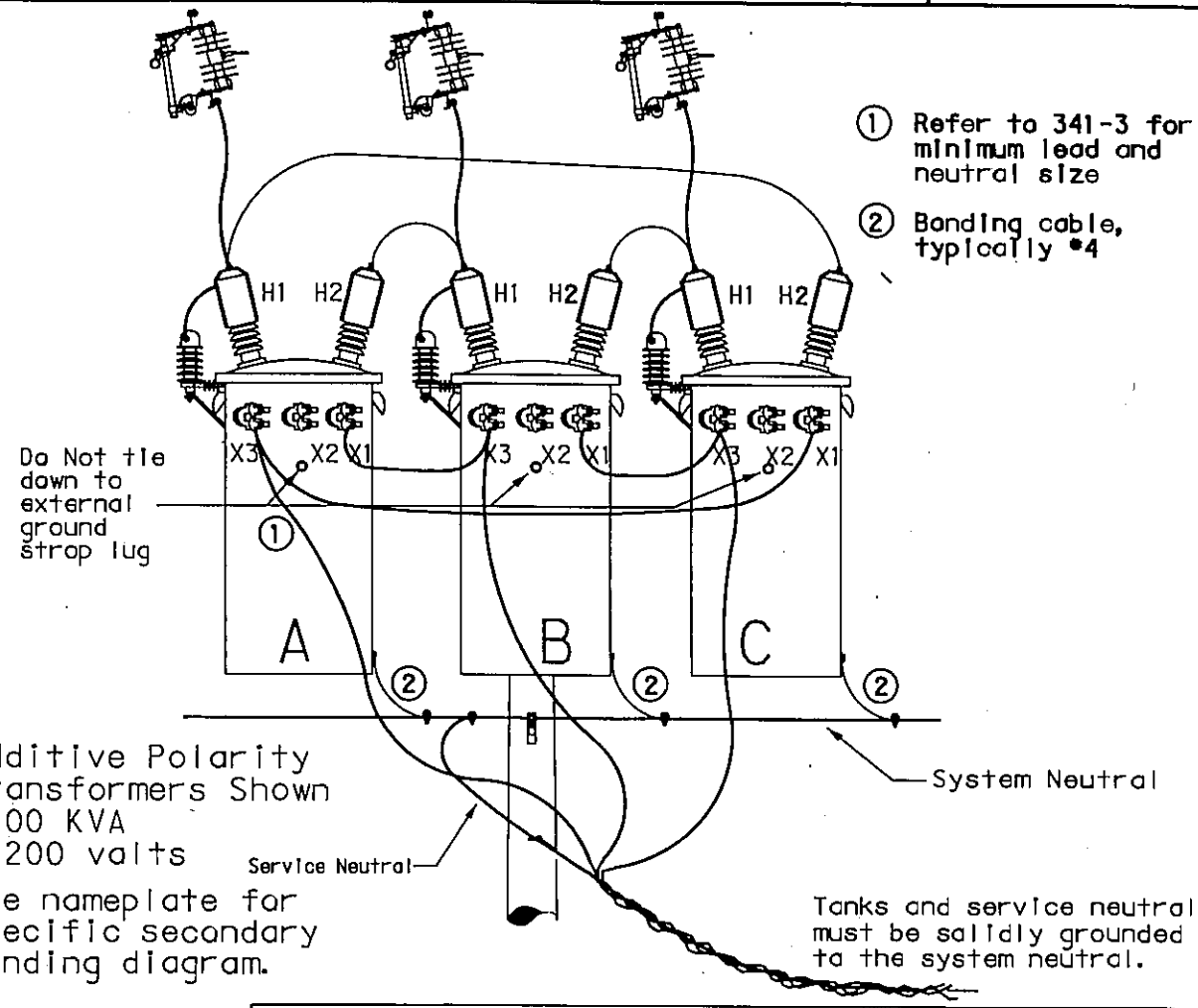
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
342-14.1	DELTA - DELTA BANK FOR 240 VOLT 3 WIRE SERVICES	

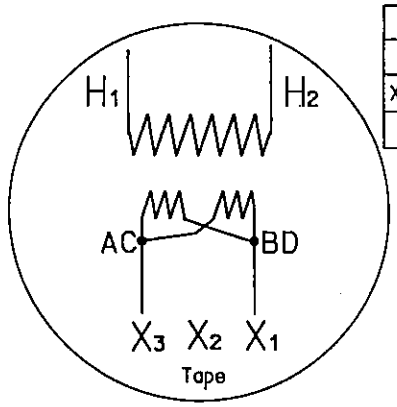


① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.



240 / 480 VOLT

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B, X1B/X1C, X1C/X1A	240	X1A/N, X1B/N, X1C/N	N/A	240 / 480
				600 *

*SEE DIST ENG

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.
8. Transformers must be matched.

This connection may be used to supply 3 phase 3 wire 240, 480, or 600 volt power from delta or wye connected overhead primary systems. It should not be used on underground feeds from wye connected primary systems.

For customer demand of less than 15 KVA, the open delta-open delta bank should be considered.

must be on the same tap.

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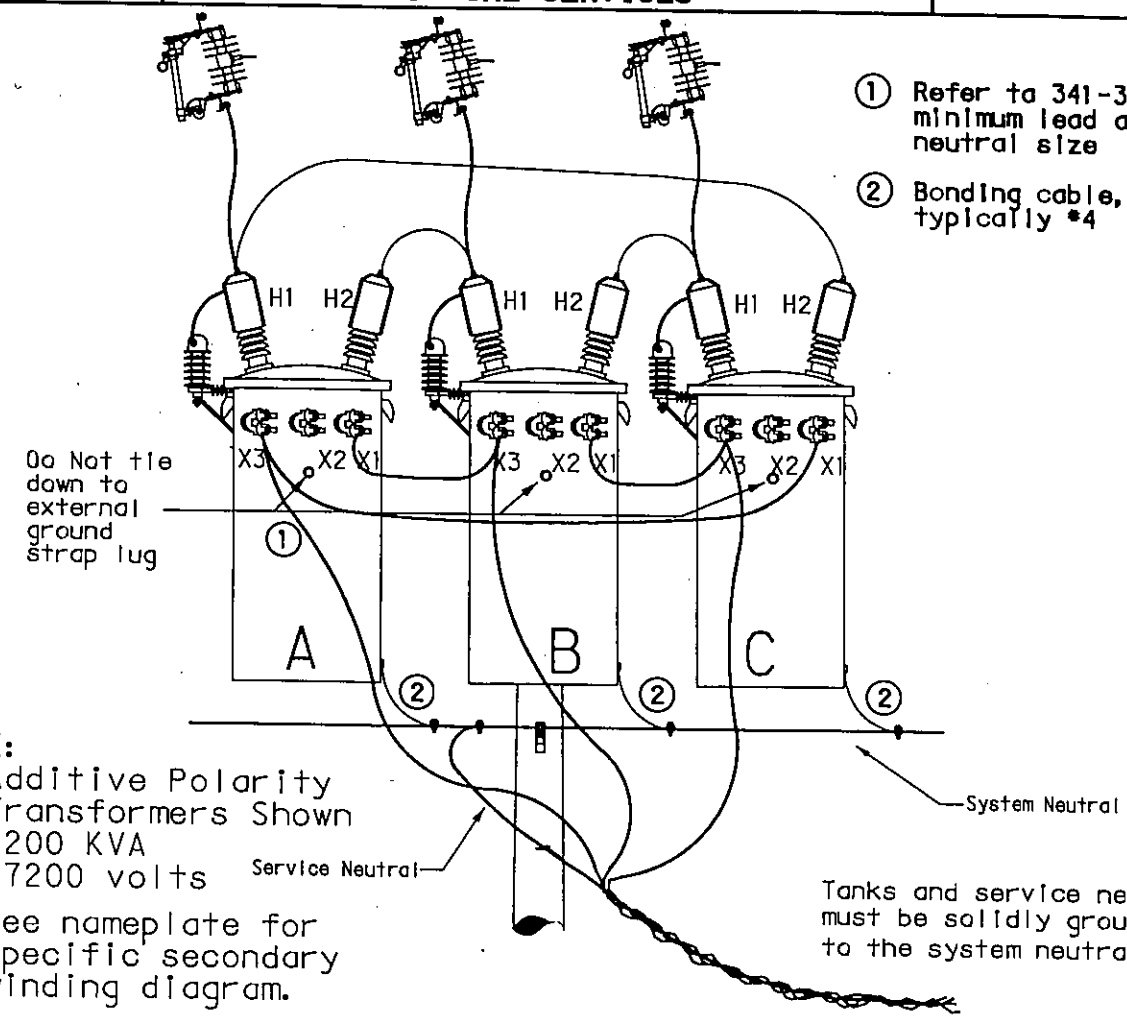
MACRO	DESCRIPTION	PAGE
	DELTA - DELTA BANK FOR 480 VOLT 3 WIRE SERVICES	342-14.2

NO.	REVISION	DATE	CK.
1	Changed note 7 to 8, corrected text, label neut	08/29/08	



① Refer to 341-3 for minimum lead and neutral size

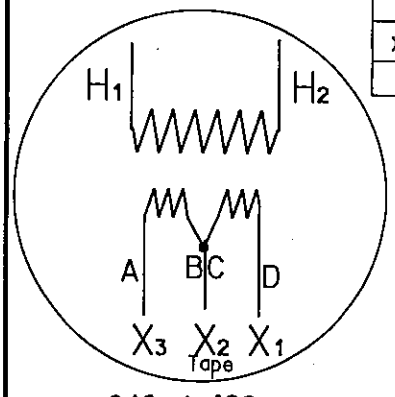
② Bonding cable, typically #4

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

Tanks and service neutral must be solidly grounded to the system neutral.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X1A/X1B, X1B/X1C, X1C/X1A	480	X1A/N, X1B/N, X1C/N	N/A	240 / 480
				600 *

* SEE DIST ENG



240 / 480 VOLT

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.
8. Transformers must be matched.

This connection may be used to supply 3 phase 3 wire 240, 480, or 600 volt power from delta or wye connected overhead primary systems. It should not be used on underground feeds from wye connected primary systems.

For customer demand of less than 15 KVA, the open delta-open delta bank should be considered.

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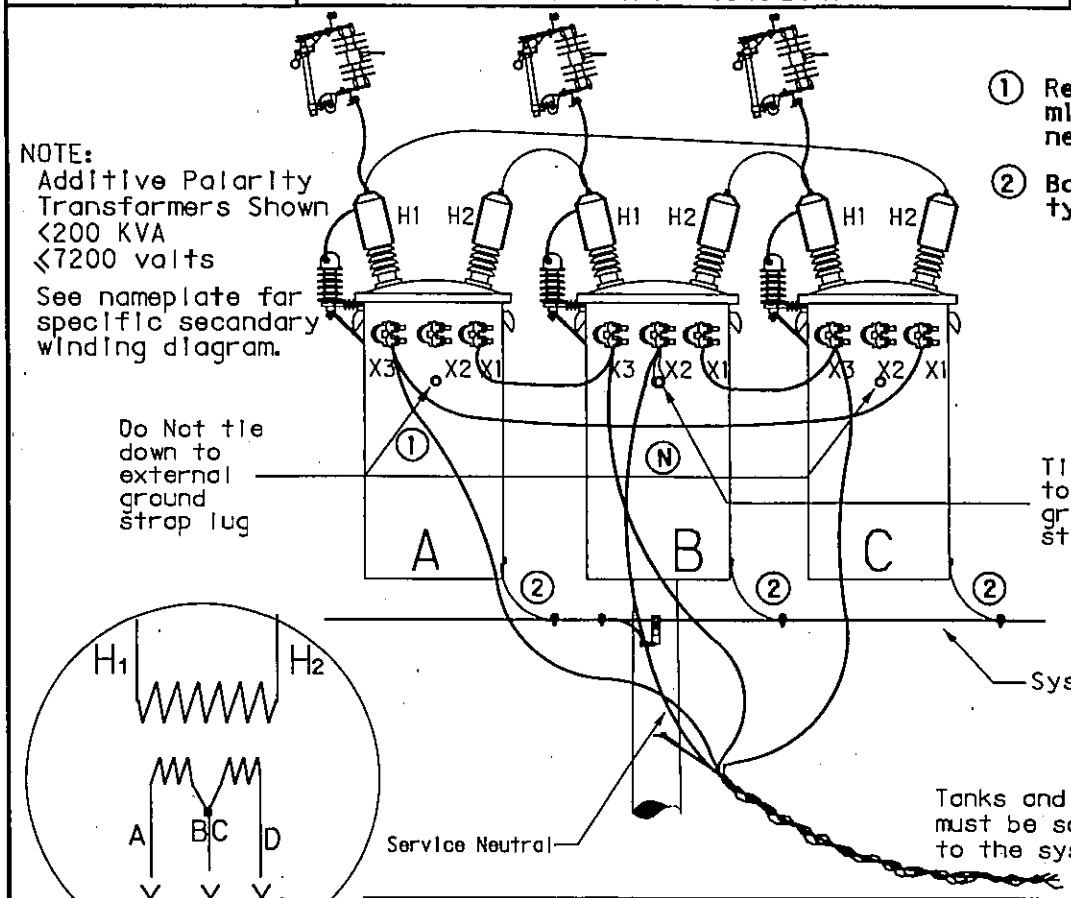
DISTRIBUTION CONSTRUCTION STANDARDS

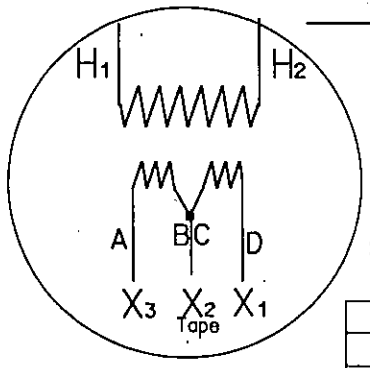
PAGE	DESCRIPTION	MACRO
342-15	DELTA - DELTA BANK FOR 120/240 VOLT, 4 WIRE SECONDARY	



NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

① Refer to 341-3 for minimum lead and neutral size

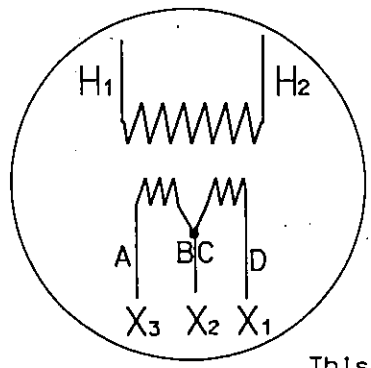
② Bonding cable, typically #4



A + C TRANSFORMERS
120/240 VOLT

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X3B, X3B/X3C, X3C/X3A	240	X3A/X2B, X1C/X2B	208	120/240
X3A/X3B, X3B/X3C, X3C/X3A	240	X1A/X2B, X3B/X2B, X1B/X2B, X3C/X2B	120	120/240
X3A/X3B, X3B/X3C, X3C/X3A	240	X1A/X2B, X3B/X2B, X1B/X2B, X3C/X2B	120	120/240

See check list notes starting on p.342-3, 4, & 5 for explanations.



B TRANSFORMERS
120/240 VOLT

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. On one transformer only, the secondary center tap is grounded: no secondary grounds on the other two.
6. Secondary windings rated 120/240 on transformers with center tap grounded, 240 on the other two.
7. Do not use to serve 3 wire 3 phase services.
8. Transformers must be matched.

This bank is used to supply combination 3 phase 240 volt and single phase 120/240 volt loads from delta or wye connected overhead primary systems. It should not be used on underground feeds from wye connected primary systems.

If the single phase load equals one half or more of the three phase load or the total demand is less than 15 KVA, the open delta-open delta bank should be considered.

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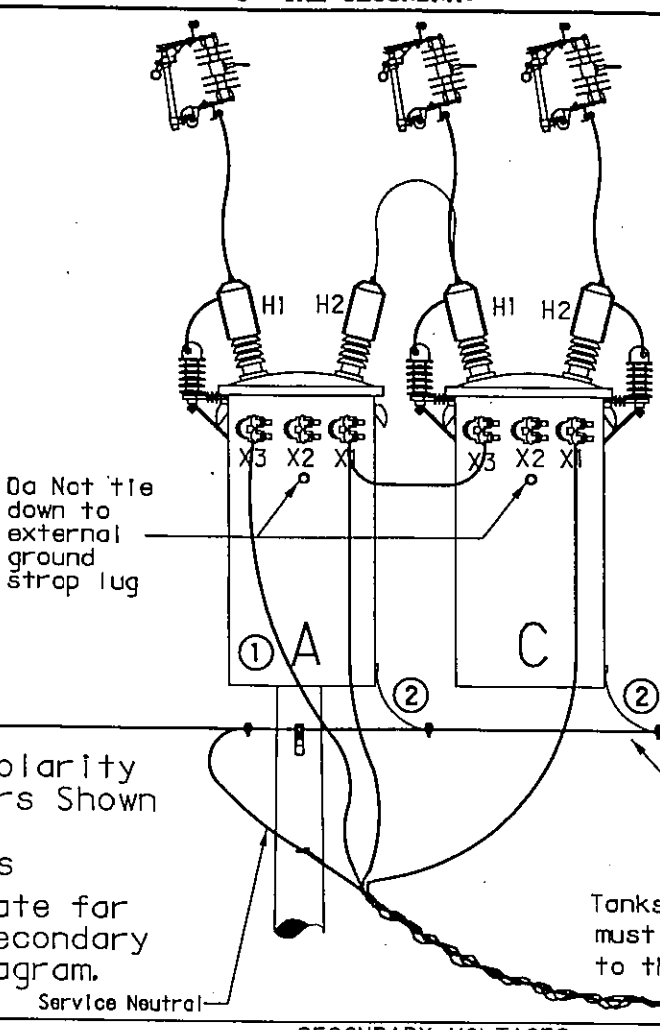
2	Changed note 7, corrected text, chgd neut conn	08/19/08

MACRO	DESCRIPTION	PAGE
	OPEN DELTA - OPEN DELTA BANK FOR 240 VOLT, 3 WIRE SECONDARY	342-16

NO.	REVISION	DATE	CK.
1	Corrected text, label neutrals	08/19/08	



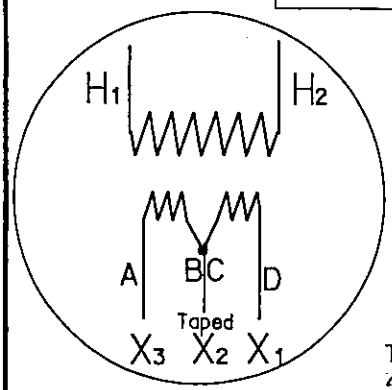
① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A, X1A/X1C, X1C/X3A	240	X3A/N, X1A/N, X3C/N, X1C/N	N/A	120/240
				600 *

* SEE DIST ENG



120/240 VOLT

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.

This connection may be used to supply 3 phase 3 wire 240, 480, or 600 volt power from delta or wye connected overhead primary systems. It should not be used on underground feeds from wye connected primary systems, due to ferroresonance concerns.

Approval must be obtained from the Distribution Field Engineer before serving motors over 10 HP, as voltage and current inbalance will need to be evaluated.

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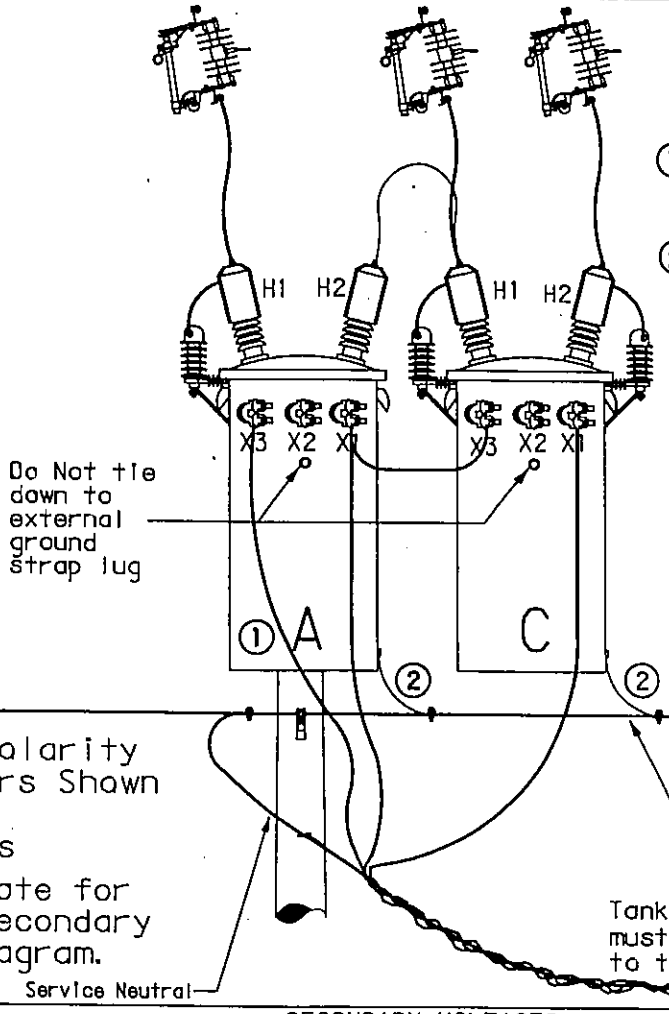
MACRO	DESCRIPTION	PAGE
	OPEN DELTA - OPEN DELTA BANK FOR 240 VOLT, 3 WIRE SECONDARY	342-16.1

NO.	REVISION	DATE	CK.
1	Corrected text, label neutral	08/19/08	



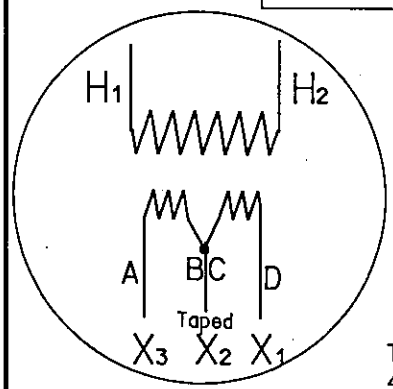
① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A, X1A/X1C, X1C/X3A	240	X3A/N, X1A/N, X3C/N, X1C/N	N/A	120/240
				600 *

* SEE DIST ENG



120/240 VOLT

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.

This connection may be used to supply 3 phase 3 wire 240, 480, or 600 volt power from delta or wye connected overhead primary systems. It should not be used on underground feeds from wye connected primary systems, due to ferroresonance concerns.

Approval must be obtained from the Distribution Field Engineer before serving motors over 10 HP, as voltage and current inbalance will need to be evaluated.

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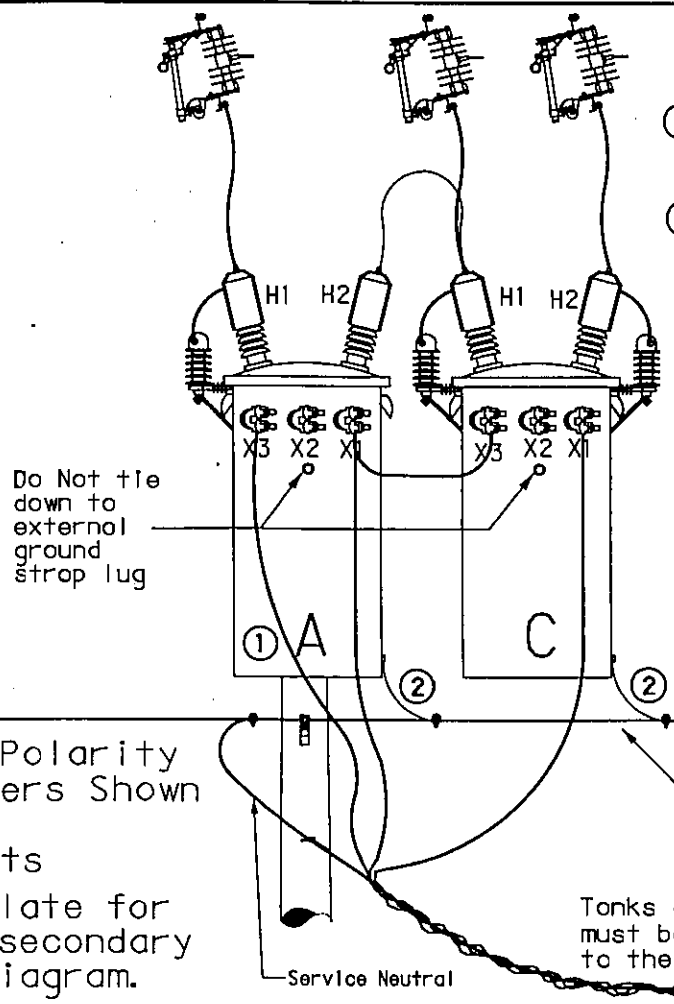
PAGE	DESCRIPTION	MACRO
342-16.2	OPEN DELTA - OPEN DELTA BANK FOR 480 VOLT, 3 WIRE SECONDARY	



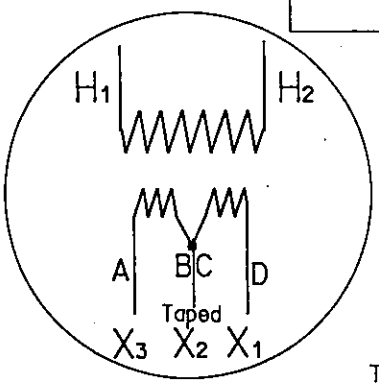
① Refer to 341-3 for minimum lead and neutral size

② Banding cable, typically #4

NOTE:
Additive Polarity Transformers Shown
<200 KVA
≤7200 volts
See nameplate for specific secondary winding diagram.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A, X1A/X1C, X1C/X3A	480	X3A/N, X1A/N, X3C/N, X1C/N	N/A	240 / 480
				600 *

* SEE DIST ENG



240 / 480 VOLT

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. No grounds anywhere on secondary side.
6. Secondary windings rated phase to phase voltage.

This connection may be used to supply 3 phase 3 wire 240, 480, or 600 volt power from delta or wye connected overhead primary systems. It should not be used on underground feeds from wye connected primary systems, due to ferroresonance concerns.

Approval must be obtained from the Distribution Field Engineer before serving motors over 10 HP, as voltage and current inbalance will need to be evaluated.

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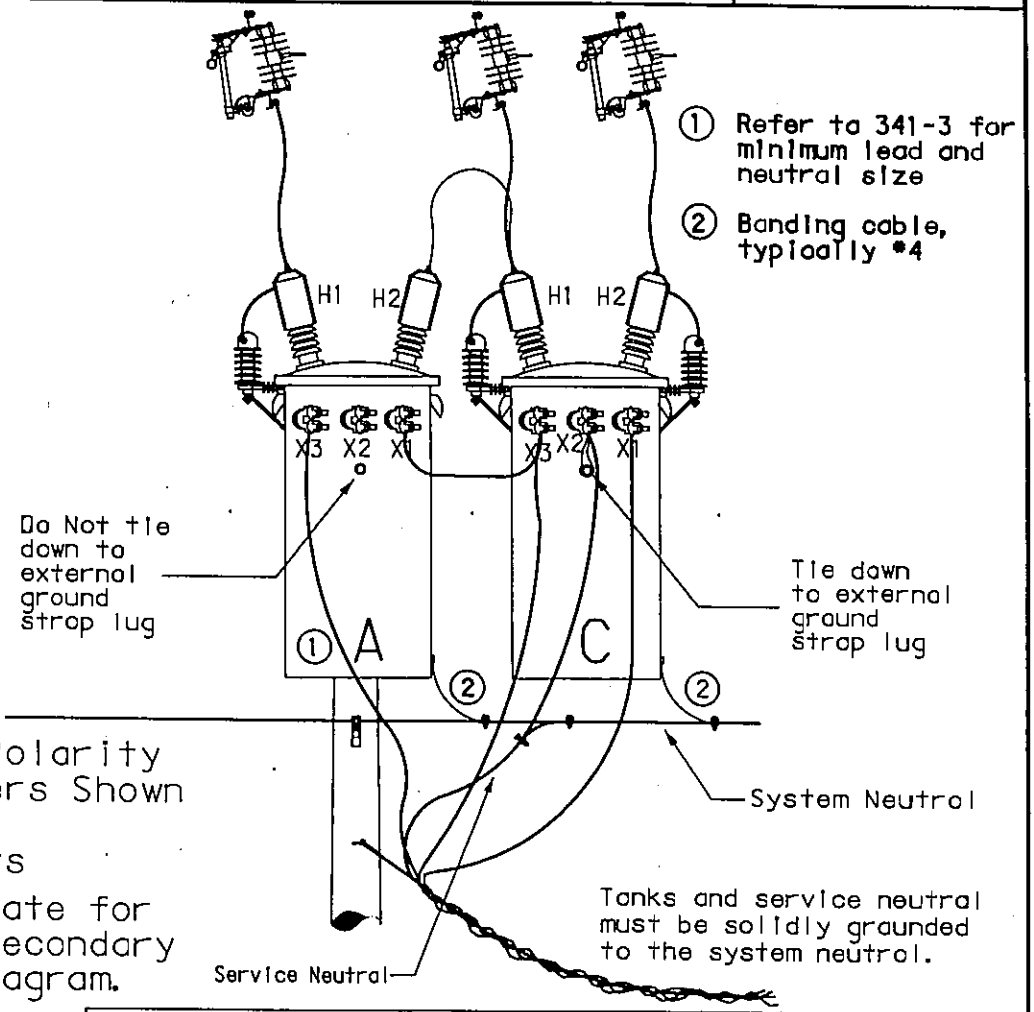
DRAWN
DATE

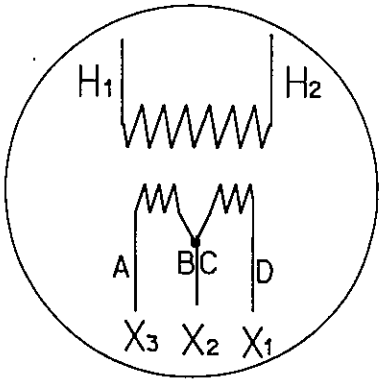
MACRO	DESCRIPTION	PAGE
	OPEN DELTA - OPEN DELTA BANK WITH 120/240 VOLT, 4 WIRE SECONDARY	342-17

NO.	REVISION	DATE	CK.
1	Changed note 7, corrected text, ohgd neut conn	08/19/08	



NOTE:
Additive Polarity Transformers Shown
<200 KVA
<7200 volts
See nameplate for specific secondary winding diagram.

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X3A/X1A, X3C/X1C, X1C/X3A	240	X3C/X2C, X1C/X2C	120	120/240
X3A/X1A, X3C/X1C, X1C/X3A	240	X3A/X2C	208	120/240



C TRANSFORMER
CENTER TAPPED
120/240 VOLT

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. Two primary bushing each.
3. No primary neutral on bank.
4. Primary windings rated phase to phase voltage.
5. On one transformer, the secondary center tap is grounded: no secondary grounds on the other.
6. Secondary windings rated 120/240 on the transformer with center tap grounded on C transformers, 240 on the A transformer.
7. Do not use to serve 3 wire 3 phase services.

This bank is used to supply combination three phase 240 volt and single phase 120/240 volt loads from delta or wye connected primary systems. It should not be used on underground feeds from wye connected primary systems.

Approval must be obtained from the Distribution Field Engineer before serving motors over 10 HP or 3 phase demands over 15 KVA.

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	11/17/06

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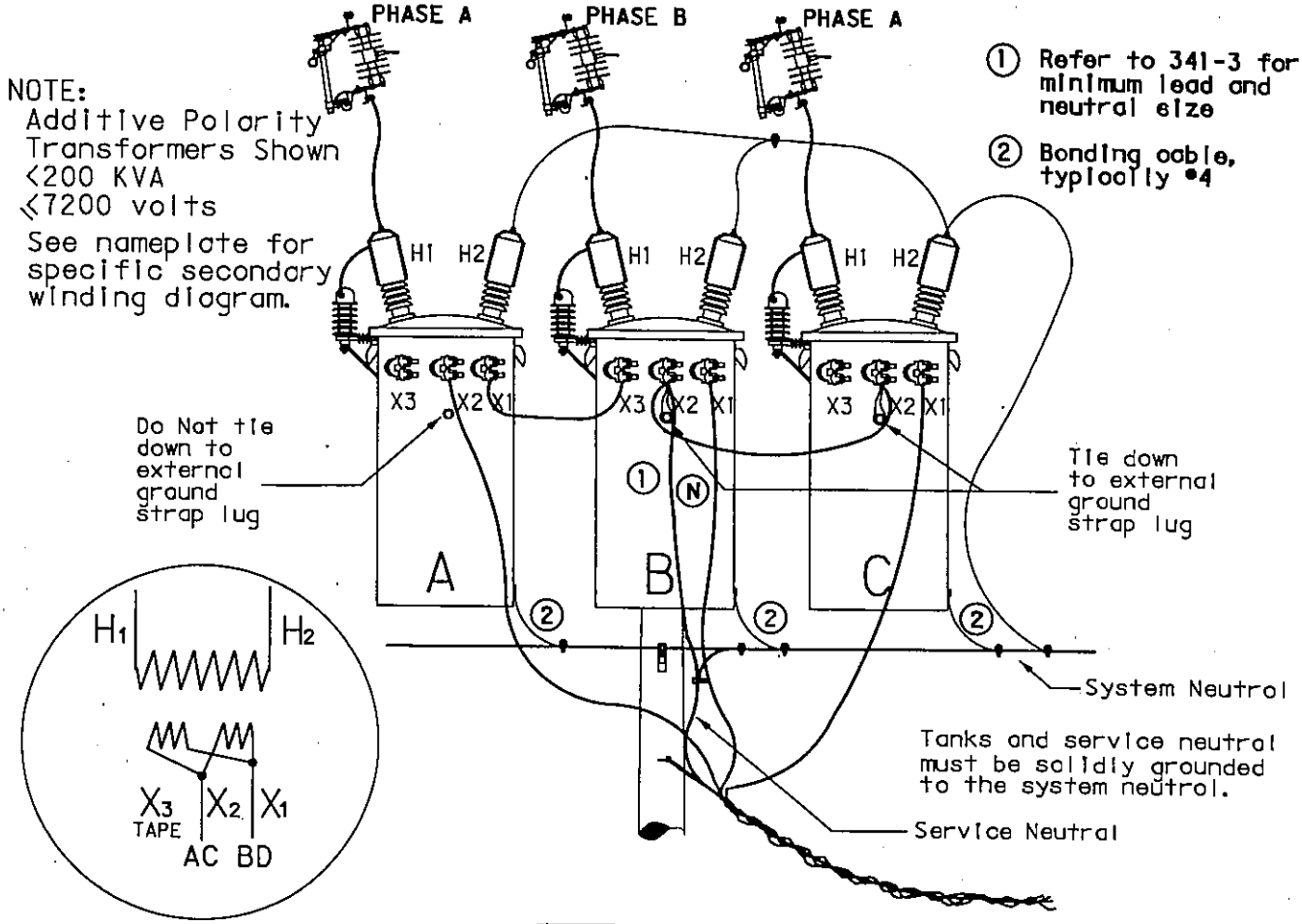
PAGE	DESCRIPTION	MACRO
342-18	OPEN WYE - WYE BANK WITH 120/208 VOLT, 4 WIRE SECONDARY	

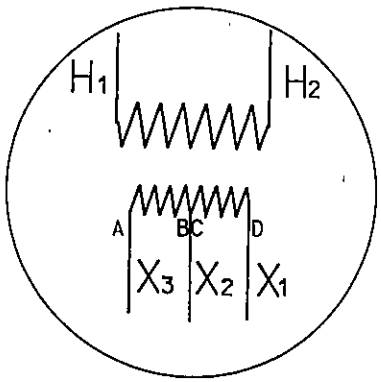


NOTE:
Additive Polarity Transformers Shown
<200 KVA
<7200 volts
See nameplate for specific secondary winding diagram.

① Refer to 341-3 for minimum lead and neutral size

② Bonding cable, typically #4

A + C TRANSFORMER
120/240 VOLT
NO GROUND ON
A TRANSFORMER



B TRANSFORMER
120/240 VOLT
CENTER TAPED

SECONDARY VOLTAGES				NAMEPLATE SECONDARY WINDINGS
PHASE TO PHASE		PHASE TO NEUTRAL		
X2A/X1B	208	X2A/X1A	120	120/240
X1B/X1C	208	X2B/X1B	120	120/240
X1C/X2A	208	X1C/X2C	120	120/240

See check list notes starting on p. 342-3, 4, & 5 for explanations.

1. Conventional transformers.
2. One or two primary bushings each.
3. Primary neutral grounded.
4. Primary windings rated phase to ground voltage.
5. Two transformers should have secondary taps to the neutral grounded as shown: The left hand, or A transformer must not have any secondary grounds.
6. The center transformer secondary winding must be rated 120/240 volts, the two outside transformer secondaries must be connected for 120 volts. The center transformer will carry 2/3rds of the total demand. The outside transformers will each carry 1/3rd of the total demand.

This bank is used to supply 120/208 volt 4 wire services from two phase and the neutral of wye connected primary systems.

This connection is for existing services only and is not offered for any new service or increased capacity.

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/28/08
LICENSED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

CADD SYSTEM ONLY

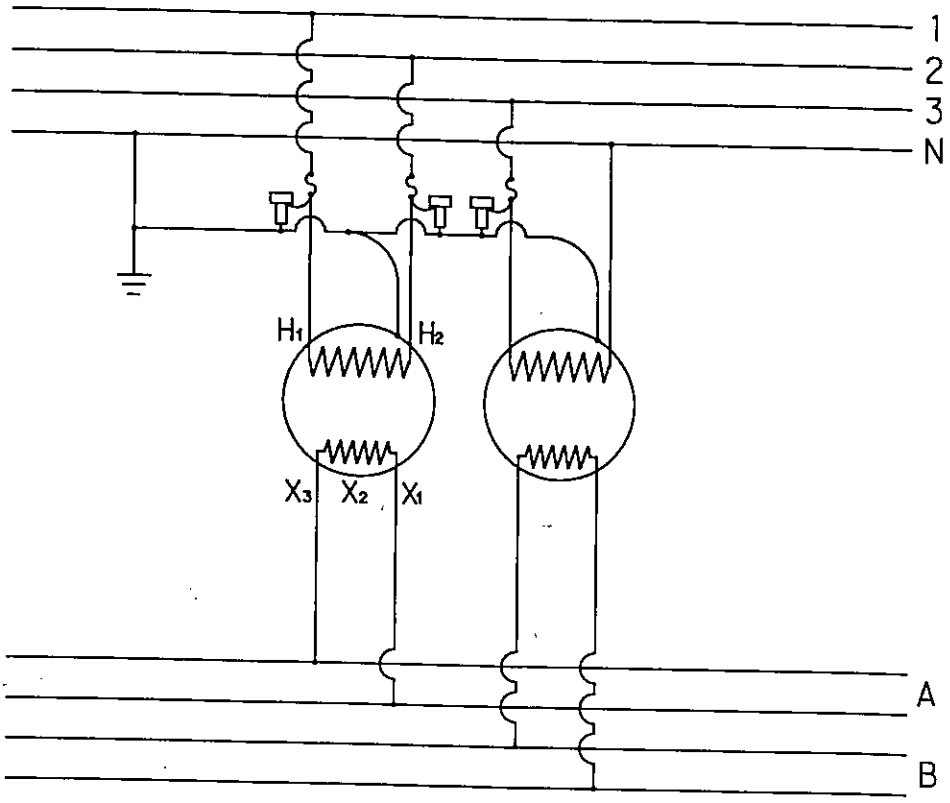
DRAWN	REC
DATE	02/24/06

Ene East

2	Changed note 1 to 6, changed last para. stgd neut conn	08/28/08

MACRO	DESCRIPTION	PAGE
	WYE-2 Ø BANK WITH FOUR WIRE SECONDARY	342-19

NO.	REVISION	DATE	CK.
1	Bolded last paragraph	07/09/08	



WYE-2 PHASE BANK with 4 wire secondary

Check List: See check list notes on p. 342-3, 4 & 5 for explanation:

	Transformer A	Transformer B
1.	Conventional or protected	Conventional or protected
2.	Two bushing	One or two bushing
3.	No primary neutral	Primary neutral grounded
4.	Phase to phase primary	Phase to neutral primary voltage
5.	No grounds on secondary side and no connection between secondaries	
6.	480 volt secondary	480 volt secandary

This bank is to furnish 2Ø four wire power from 2400/4160 or 7200/12470 primary systems. To maintain the proper 90° phase relationship between A and B, one transformer must be connected between two phases and the other transformer connected between the third phase and neutral.

This connection is for existing services only in the Lewiston-Auburn area, and is not offered for any new services or increased capacity.

	ORIGINAL
DESIGNED	RCS
DRAWN	RCE
DATE	12/01/75

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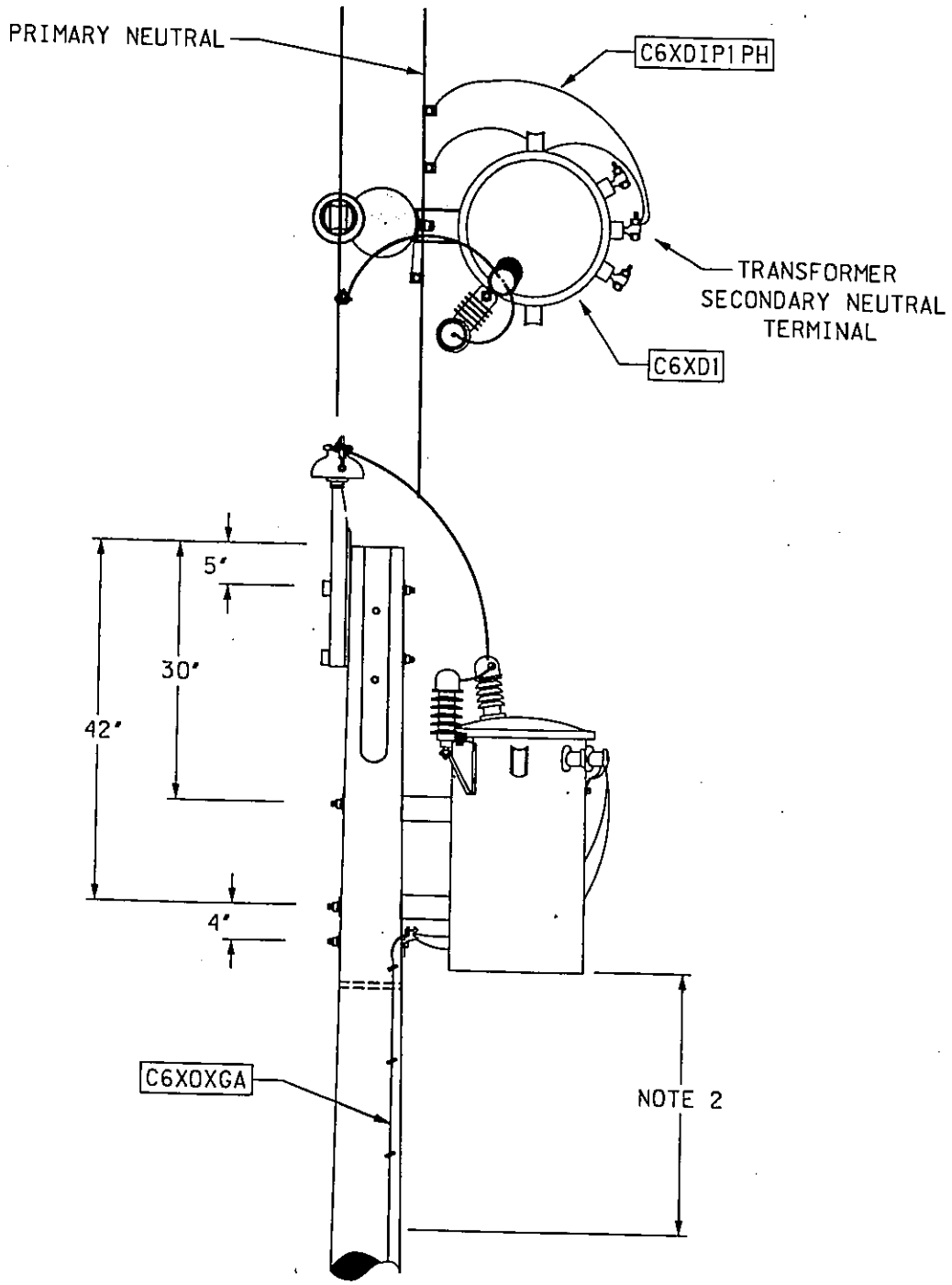
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/26/08
LICENSED PROFESSIONAL ENGINEER

CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX1	1 PH XFMR TO 50KVA ON POLE TOP STRUCTURE	343-1B

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	08/24/01		



NOTE

1 This Installation to be used for completely self protected transformers only.

2 The bottom of ony graunded equipment case shall not be located less than 30 Inches obove the highest cammunication attachment.

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/6/93

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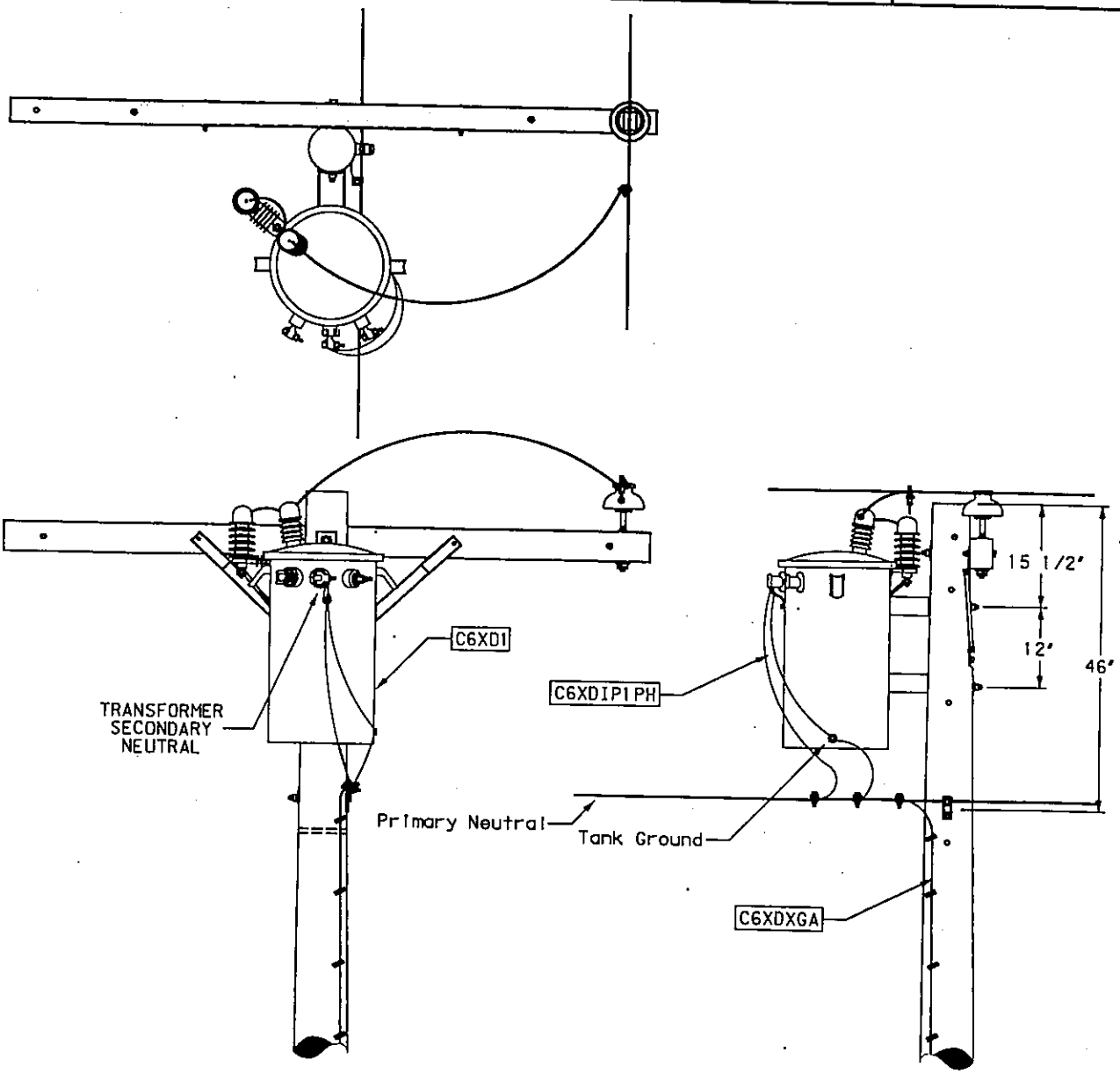
STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
343-1C	1 PH XFMR TO 50KVA ON SX STRUCTURE	C6MX1



NOTES:

1. This installation to be used for completely self protected transformers only.
2. This installation is to be used to avoid changing out a pole.
3. This installation shall be used when 30 in. fiber glass pole top can not be used.
4. The transformer may be mounted on either the face or the back of the pole.
5. Interconnect primary neutral, transformer secondary neutral, and tank ground, as shown. Pole ground must connect directly to primary neutral with its own connector.

DESIGNED	GRG	CS	CS
DRAWN		REC	REC
DATE	11/21/94	08/24/01	01/25/06

DESIGNED	GRG
DRAWN	
DATE	6/14/93

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STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
C6MX1	1 PH XFMR TO 50KVA ON SS STRUCTURE	343-1D

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	10/26/01	12/26/02	01/25/06

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	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/17/93

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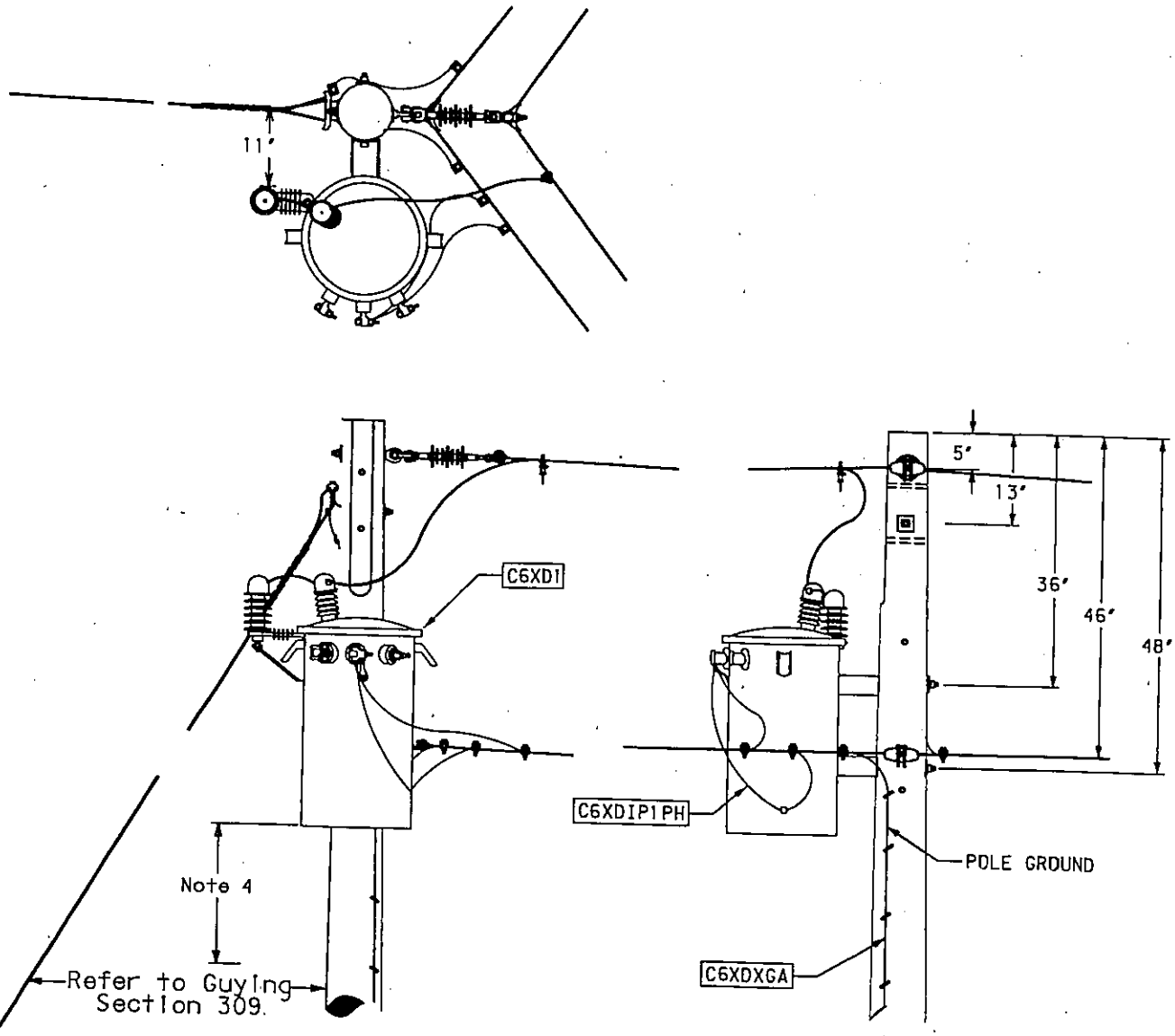


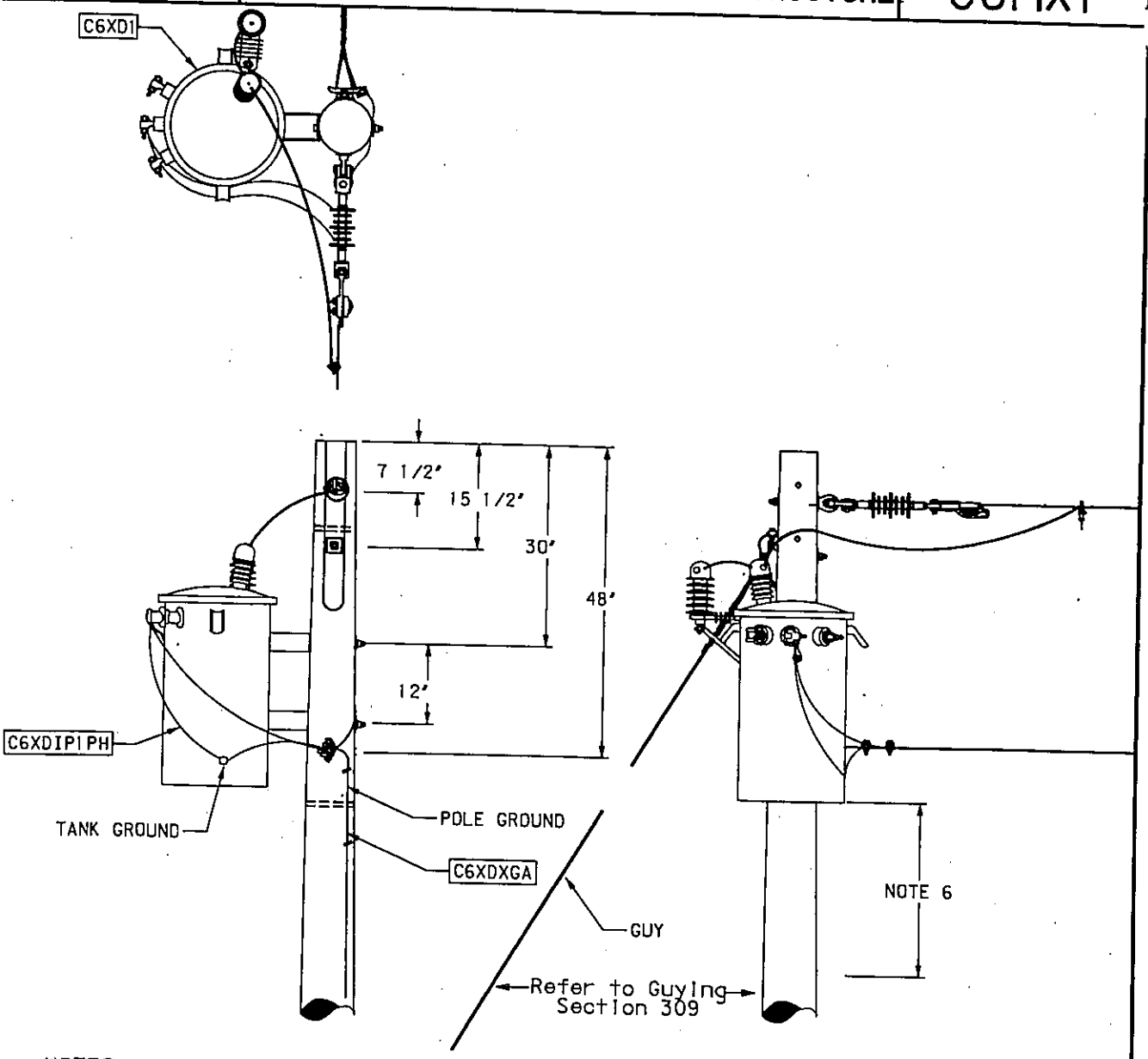
NOTES:

1. This installation to be used for completely self protected transformers only.
2. This installation shall be used on all 7200 volt and 20kv single phase lines where semi-strain corners (corners of 26' to 50') exist.
3. Transformer may be mounted on either side of the pole or may be quarter mounted away from the neutral.
4. Interconnect primary neutral, transformer secondary neutral, and tank ground, as shown above. Pole ground must connect directly to primary neutral with its own connector.
5. The bottom of any grounded equipment case shall not be located less than 30 inches above highest communication attachment.

STATE OF MAINE GARY A. RICCI 14737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO. | DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
343-1E	1PH XFMR TO 50KVA DEADEND STRUCTURE	C6MX1



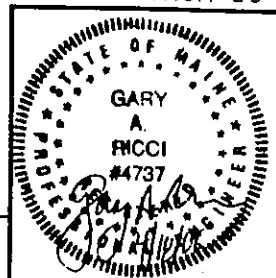
NOTES:

1. This installation shall be used for completely self protected transformers only.
2. This installation shall be used on all 7200 volt and 20kv single phase lines where deadends exist.
3. The transformer may be mounted on either side of the pole or may be quarter mounted away from guys and service taps.
4. The top mounting bracket of the transformer must be located above the neutral.
5. Interconnect primary neutral, transformer secondary neutral, and tank ground, as shown above. Pole ground must connect directly to primary neutral.
6. The bottom of any grounded equipment case shall not be located less than 30 inches above the highest communication attachment.

DESIGNED	CS	CS
DRAWN	REC	REC
DATE	08/24/01	01/25/06

DESIGNED	GRG
DRAWN	
DATE	4/1/93

THIS DRAWING SHALL NOT BE REVISED ON THE CADD SYSTEM ONLY



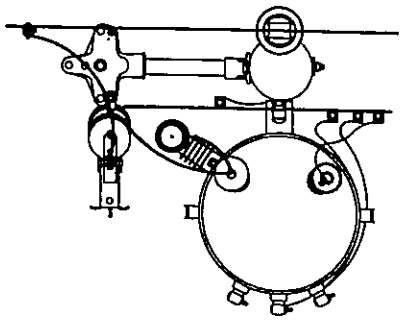
DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

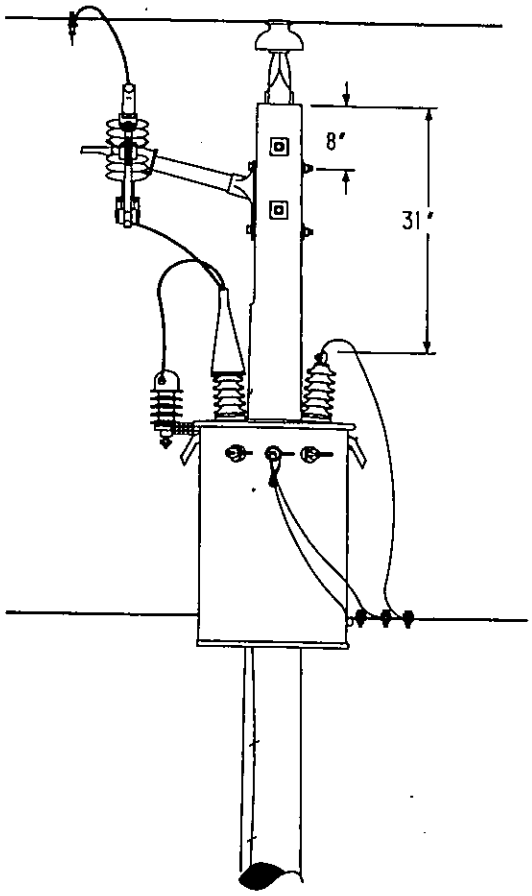
THIS SHEET LEFT BLANK INTENTIONALLY

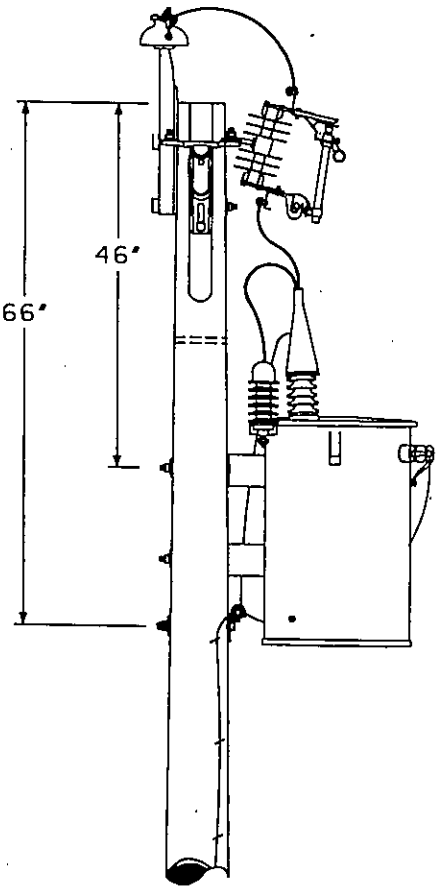
CU Number	*Quantity - CU/Mat'l*		*Description*	*Material ID*
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDEMB	1		EQUIPMENT MOUNTING BRACKET, 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
		1	BKT EQUIP MTG 18 IN	6000620140
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT	1		OHXMR ARRESTOR MOUNTING KIT GENERIC	
C6XDXCO	1		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX1PT50CON	1 PH XFMR 2 BUSHING CONV TO 50KVA POLE TOP	343-2B

NO.	REVISION	DATE	CK.
1	Chgd ground connections to trans	05/18/09	







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	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	12/23/08

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/23/09
LICENSED
PROFESSIONAL ENGINEER

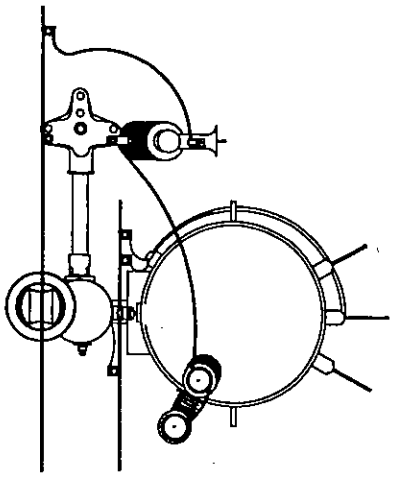
CENTRAL MAINE POWER CO.

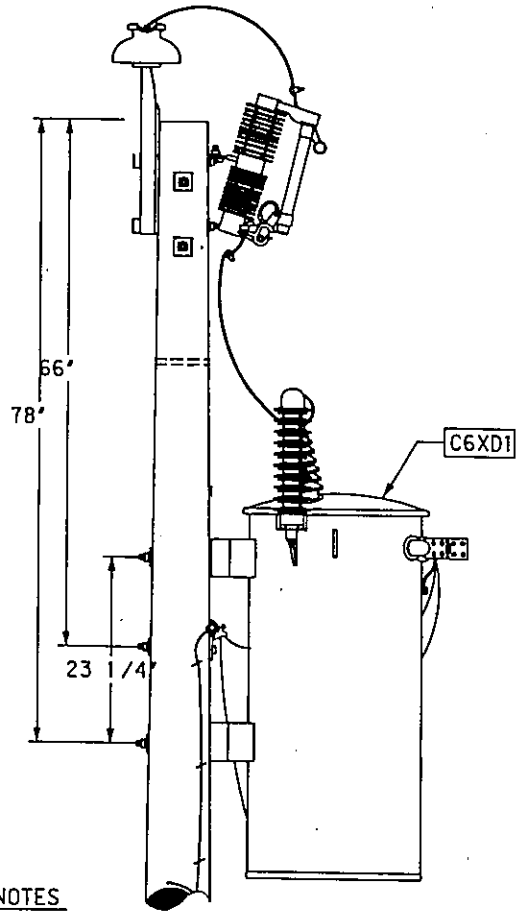
DISTRIBUTION CONSTRUCTION STANDARDS

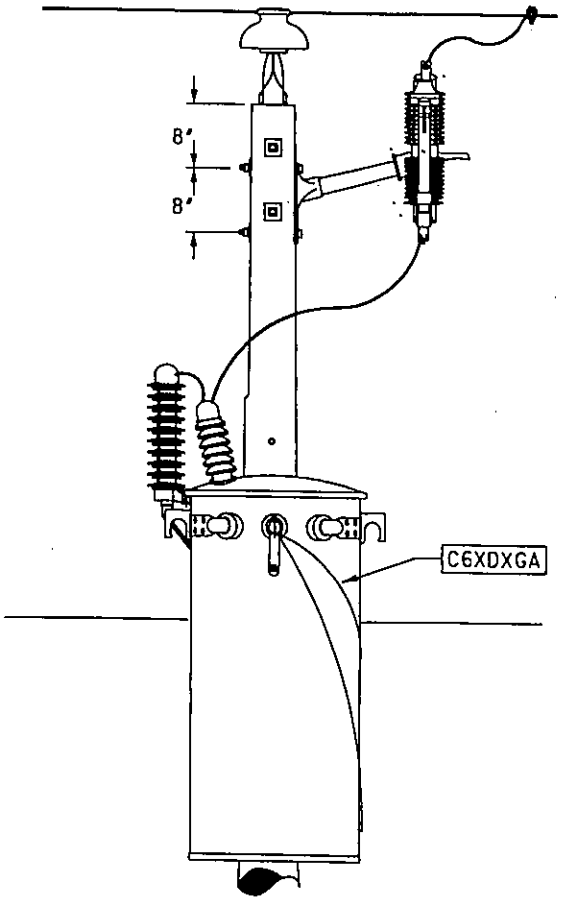
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6XC1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDEMB	1		EQUIPMENT MOUNTING BRACKET, 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
		1	BKT EQUIP MTG 18 IN	6000620140
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT	1		OHXMR ARRESTOR MOUNTING KIT GENERIC	
C6XDXCO	1		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX1PT167	1 PH XFMR 100 - 167KVA INST. ON P/T	343-3B

NO.	REVISION	DATE	CK.
1	Show equip bracket bolts	08/27/08	
2	Chgd page # from 343-2B to 343-3B	05/15/09	







NOTES

1. This installation to be used for conventional transformers.
2. This installation shall be used on all 7200 volt and 19.9kv single phase lines for transformers rated for 100 and 167KVA. (NOTE: This installation is not to be used for primary voltage step-downs.)
3. The bottom of any grounded equipment case shall not be located less than 30 inches above the highest communication attachment.

	ORIGINAL
DESIGNED	GRG
DRAWN	5/28/93
DATE	

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/8/09
LICENSED
PROFESSIONAL ENGINEER

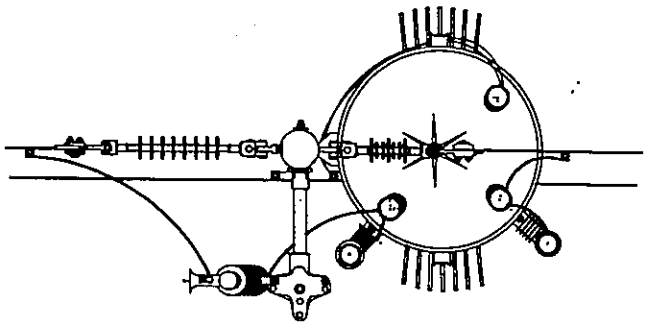
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDDE	2		DEADEND CONO GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	1		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	6000027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	1		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE ALLOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	6000027208X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	2		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PD	1		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDEMB	1		EQUIPMENT MOUNTING BRACKET, 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	6000027208X
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
		1	BKT EQUIP MTG 18 IN	6000620140
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE DR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	6000027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT15	1		OHXMR, ARRESTOR MOUNTING KIT 10KV	
		1	CMP Conv Transformer arrester kit 15 KV	6000491412
C6XDLAMKIT27	1		OHXMR, ARRESTOR MOUNTING KIT 27KV	
		1	CMP Conv Transformer arrester kit 35 KV	6000491435
C6XDTW	20		XFORMER TAP WIRE GENERIC (SELECT FROM CU	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6XDXCO	1		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	8000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

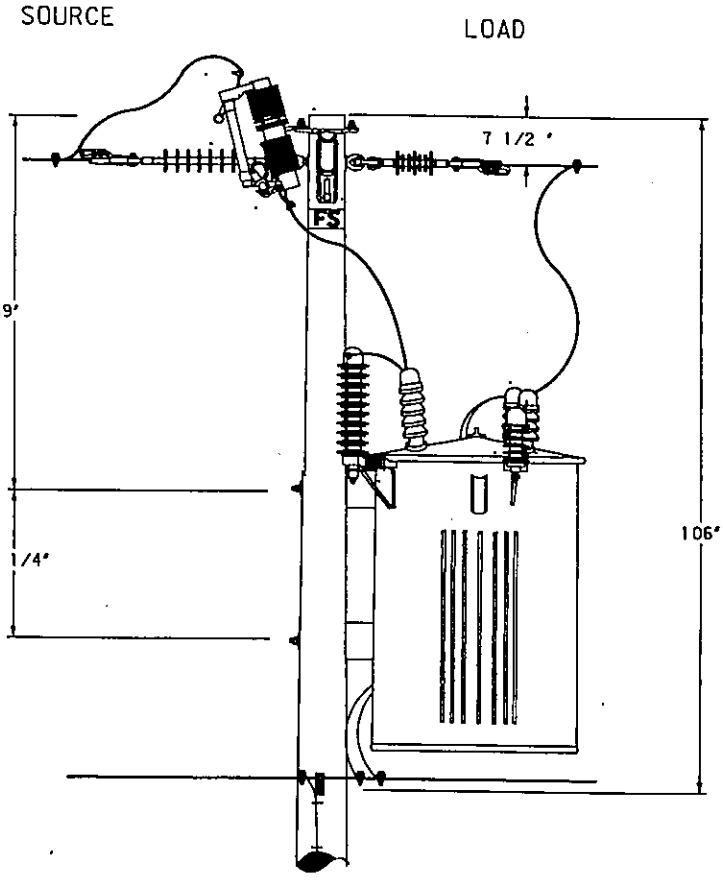
MACRO	DESCRIPTION	PAGE
C6MX1SD34DDECO	1 PH STEPDOWN DBL D/E INST 34KV WITH CUTOUT	343-4B

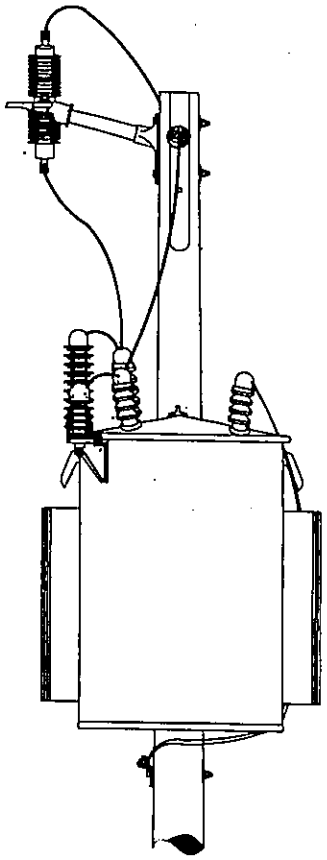
NO.	REVISION	DATE	CK.
1	Chgd page # from 343-3B to 343-4B	06/25/09	



NOTE:

When installing step down transformers on existing poles the cutouts may be placed on preceding pole, if necessary, to provide adequote spacing for transformer position.





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	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	06/18/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/25/09
LICENSED
PROFESSIONAL ENGINEER

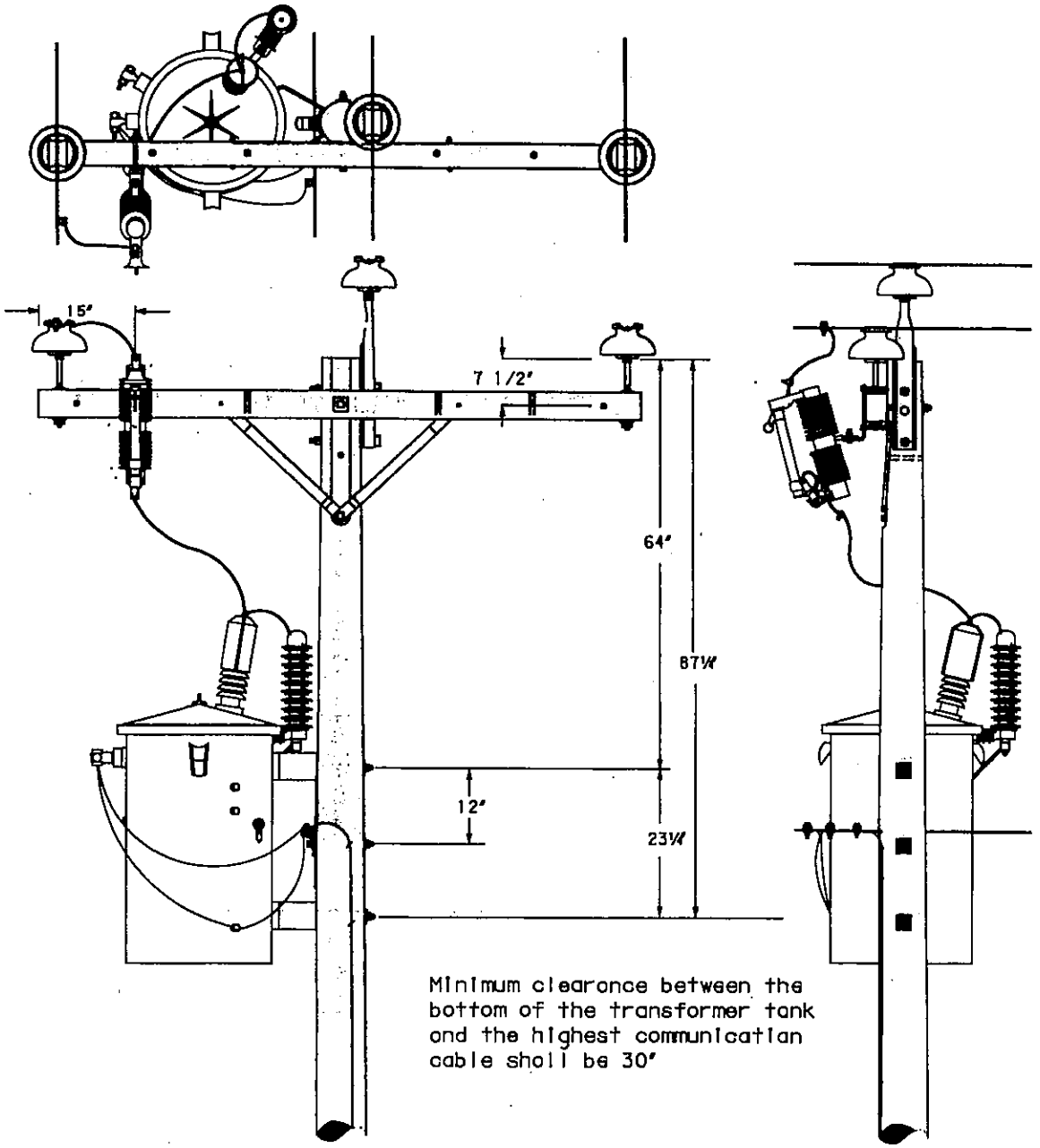
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT	1		OHXMR ARRESTOR MOUNTING KIT GENERIC	
C6XDXAMB	1		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6XDXCO	1		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX1SX167	1 PH XFMR 100 OR 167KVA CONV ON 3 PH SX	343-5B

NO.	REVISION	DATE	CK.
1	Chgd page # from 343-4B to 343-5B	05/15/09	



Minimum clearance between the bottom of the transformer tank and the highest communication cable shall be 30"

NOTES

1. This installation shall be used for the mounting of single phase transformers (100 and 167KVA) on all 3 phase 7200/12470 or 20/34.5 KV lines.
2. Transformers should be mounted on the street side of the pole or may be quarter mounted if neutral taps or guys interfere with the installation.
3. Tap mounting bracket of transformer must be located above the neutral.

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

EnergyEast

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
7/10/09
LICENSED
PROFESSIONAL ENGINEER

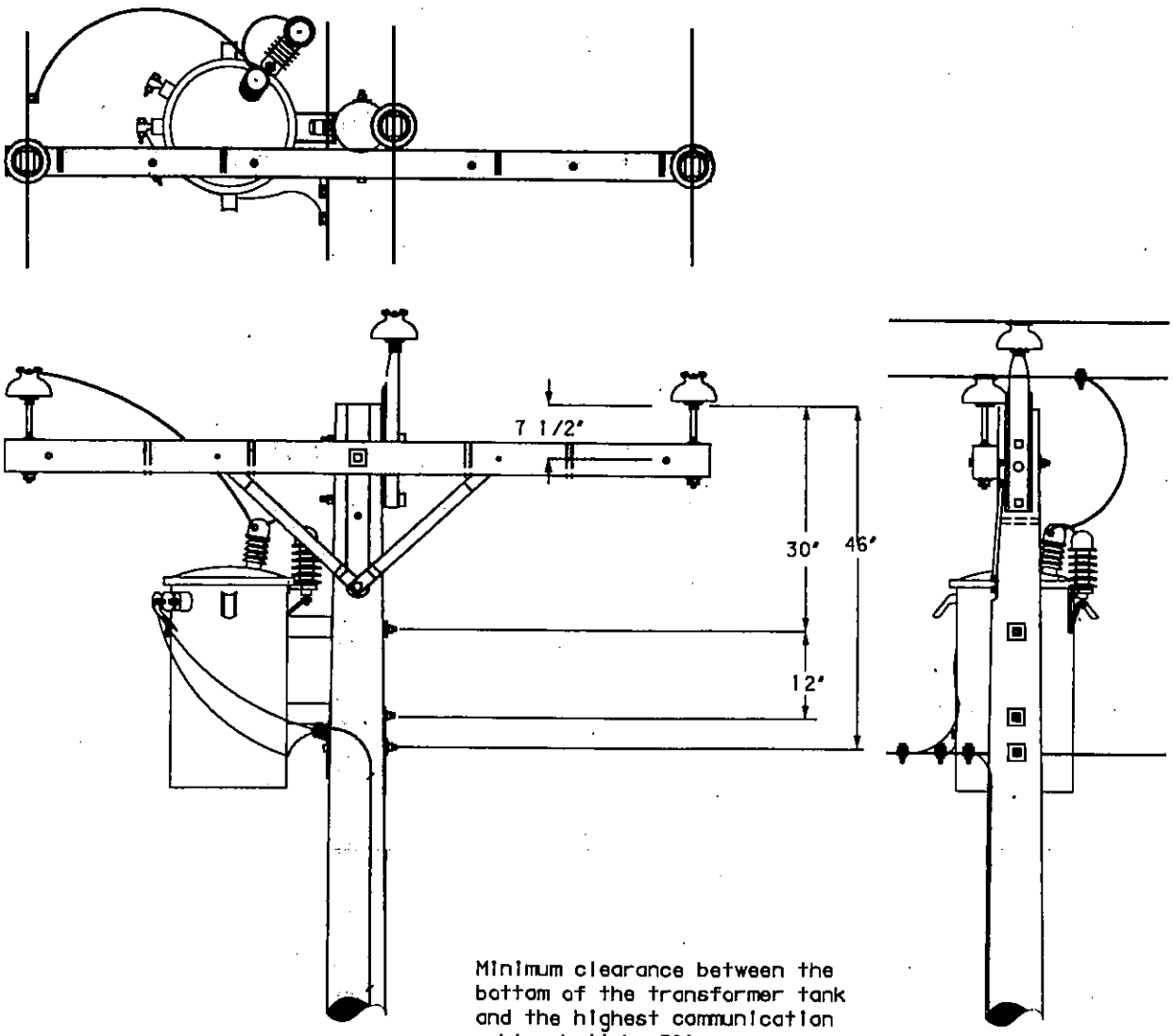
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Descriptlon*	*Material ID*
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX1SX5012	1 PH XFMR 10-50KVA ON 3 PH SX 12KV	343-6B

NO.	REVISION	DATE	CK.
1	Chgd page # from 343-5B to 343-6B	06/18/09	



Minimum clearance between the bottom of the transformer tank and the highest communication cable shall be 30"

NOTES

1. This installation shall be used for the mounting of single phase transformers (10 to 50 KVA) on all 3 phase 7200/12470 volt lines.
2. Transformers should be mounted on the street side of the pole but may be quarter mounted if neutral taps or guys interfere with the installation.
3. Top mounting bracket of transformer must be located above the neutral.

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
7/10/09
LICENSED
PROFESSIONAL ENGINEER

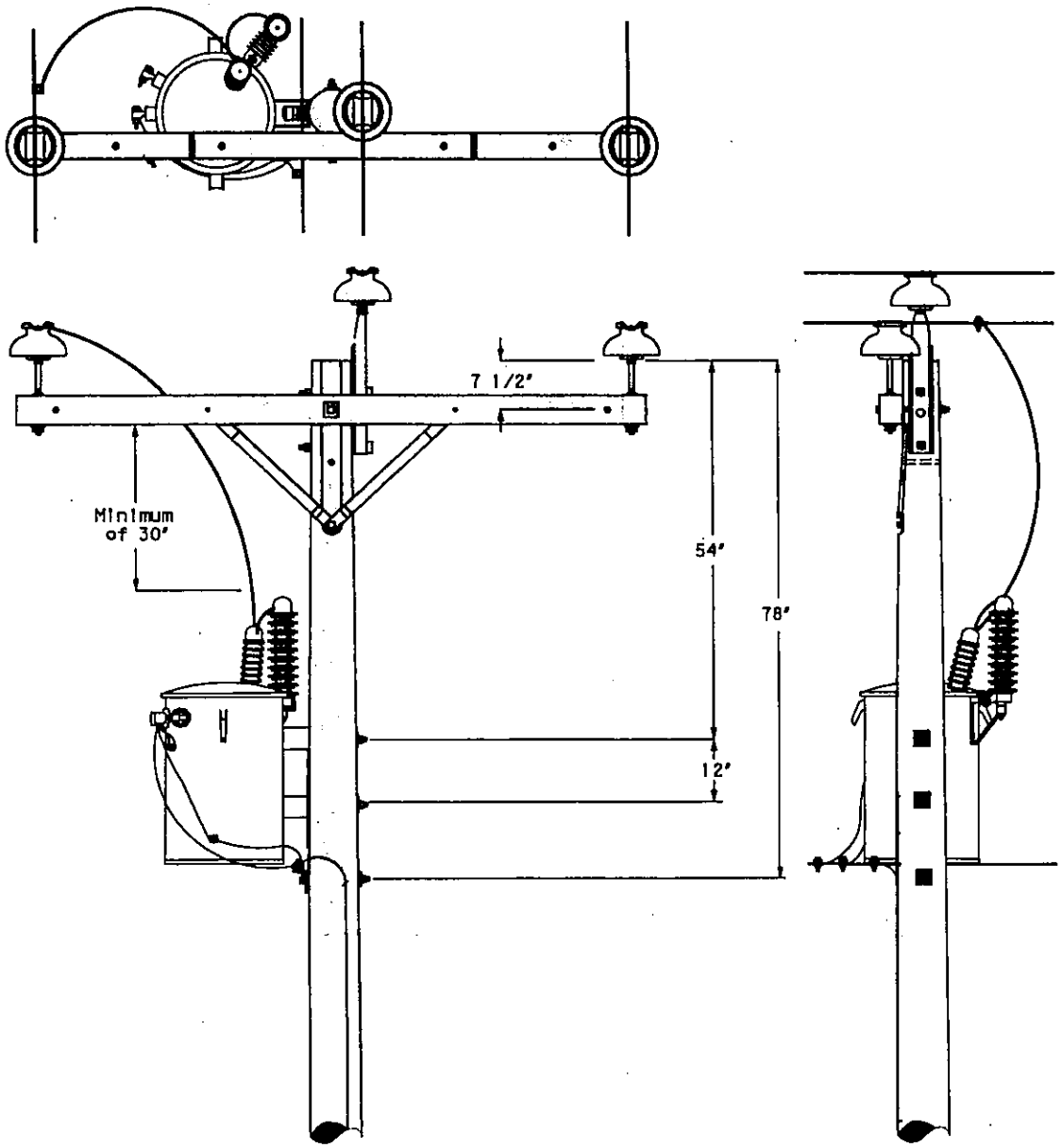
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Mat*		*Description*	*Material ID*
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX1SX5034	1 PH XFMR 10 TO 50 KVA ON 3 PH SX 34KV	343-7B

NO.	REVISION	DATE	CK.
1	Chgd page # from 343-6B to 343-7B	06/15/09	



NOTES

1. This installation shall be used for the mounting of single phase transformers (up to 50 KVA) on 3 phase 20/34.5 KV lines.
2. Transformers should be mounted on the street side of the pole or may be quarter mounted if neutral taps or guys interfere with the installation.
3. Top mounting bracket of transformer must be located above the neutral.

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
7/10/09
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Mati		Description	Material ID
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	3		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDXA10	2		XARM, 6PINB, 10 FT	
		1	XARM 6 PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 26 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		6	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6XD1	3		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIPCM	1		OHXMR, INSTALLATION PKG, CLUSTER MOUNT	
		21	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	B LAG GALV FET 1/2 X 4	6000272540
		6	WILDLIFE PROTECTOR	60003126XX
		20	WIRE NO. 4 CU GROUND BARE STRANDED S D	751162
C6XDLAMKIT27	3		OHXMR ARRESTOR MOUNTING KIT 27KV	
		1	CMP Conv Transformer arrester kit 35 KV	6000491435
C6XDO	1		OHXMR MOUNTS & PLATES GENERIC (SELECT FR	
		1	OHXMR MOUNTS & PLATES (SELECT FROM CUCT)	600067056X
C6XDXAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6XDXCO	3		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751162

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	ORIGINAL
DESIGNED	GRG
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DATE	9/21/93

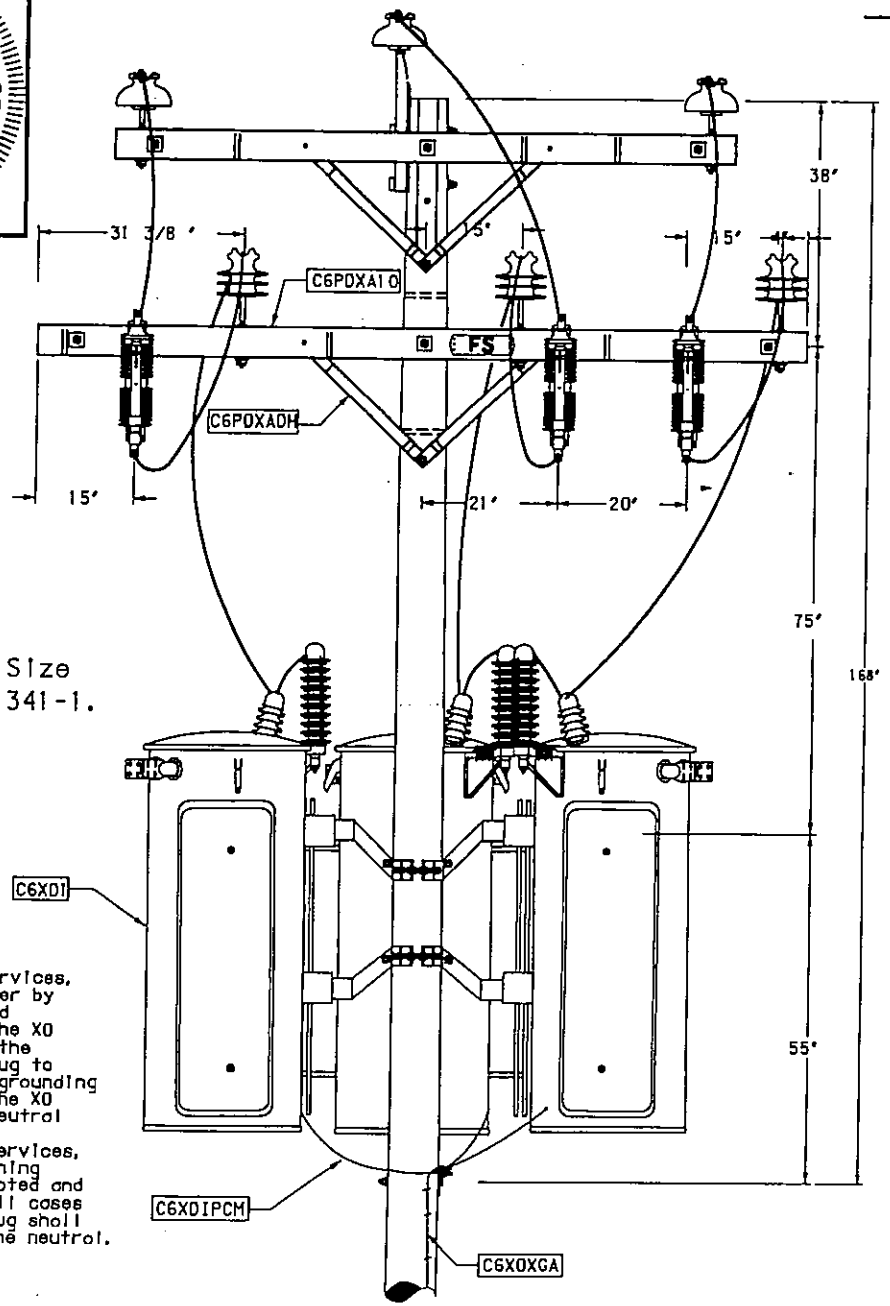
EnergyEast

NO.	REVISION	DATE	CK.
1	Chgd page # from 343-7B to 343-8B	05/15/09	

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
LICENSED
6/23/09
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

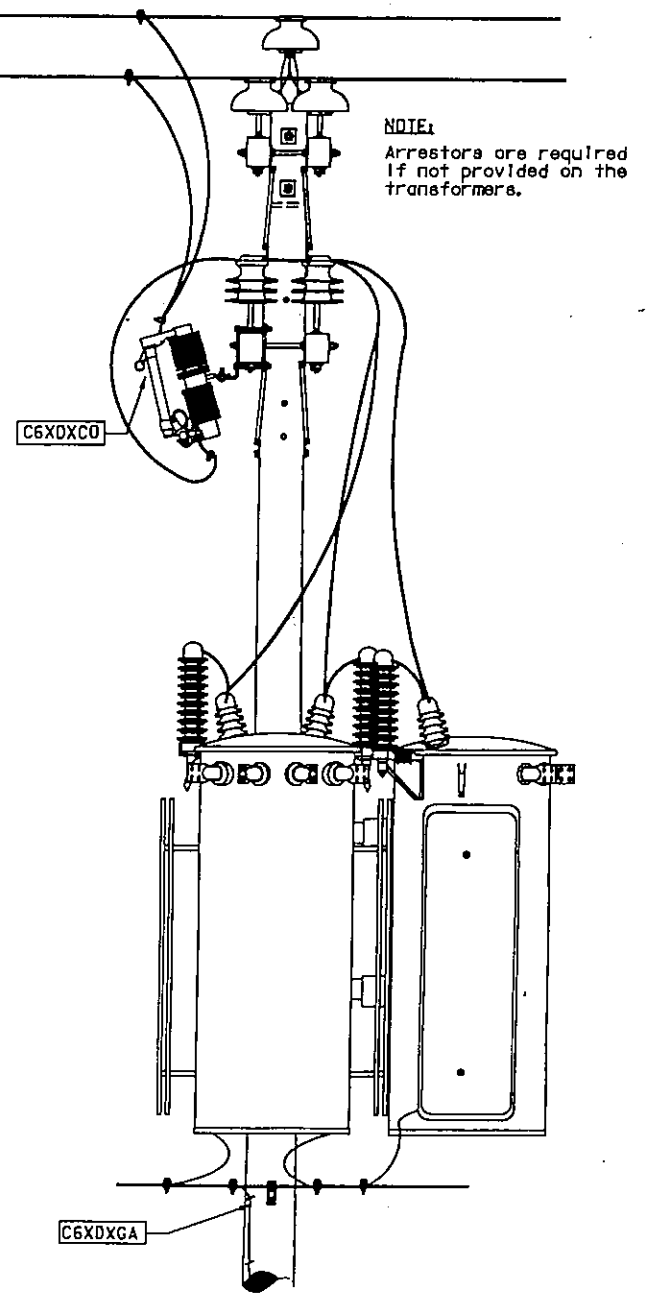


For Fuse Size
See Page 341-1.

NOTE:

For four wire services, ground transformer by installing ground conductor from the XO bushing through the tank grounding lug to the neutral and grounding conductor from the XO bushing to the neutral

For three wire services, leave the XO bushing completely insulated and ungrounded. In all cases tank grounding lug shall be grounded to the neutral.



NOTE:
Arrestors are required if not provided on the transformers.

MACRO
C6MX3P34K167CM

DESCRIPTION
3PH 34KV CLUSTER MOUNT UP TO 3-167KVA

PAGE
343-8B

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDPC	3		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6XD1	3		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIPCM	1		OHXMR, INSTALLATION PKG, CLUSTER MOUNT	
		21	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	B LAG GALV FET 1/2 X 4	6000272540
		6	WILDLIFE PROTECTOR	60003128XX
		20	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT15	3		OHXMR ARRESTOR MOUNTING KIT 10KV	
		1	CMP Conv Transformer arrester kit 15 KV	6000491412
C6XDD	1		OHXMR MOUNTS & PLATES GENERIC (SELECT FR	
		1	DHXMR MOUNTS & PLATES (SELECT FROM CUCT)	600067056X
C6XDXAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6XDXCO	3		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FRDM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

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DESIGNED	GRG
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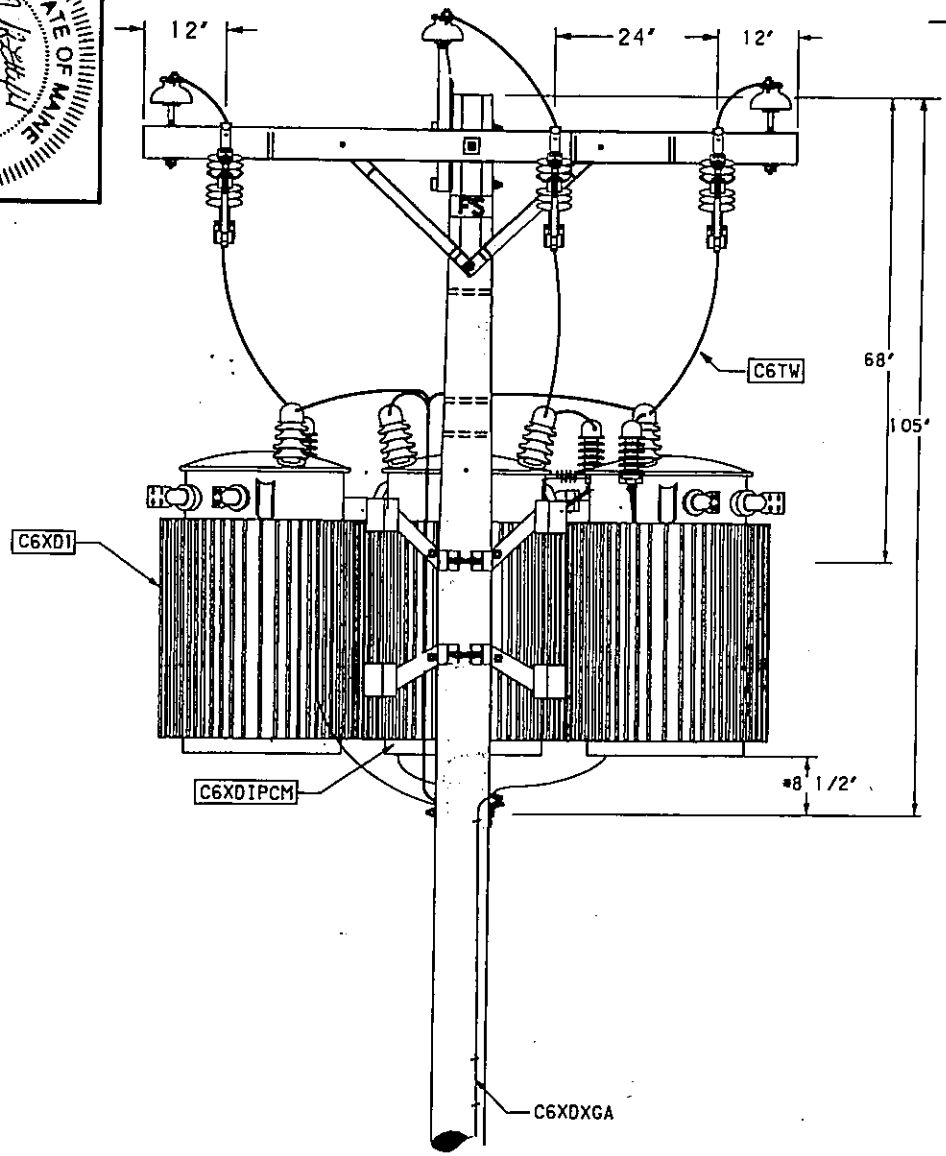
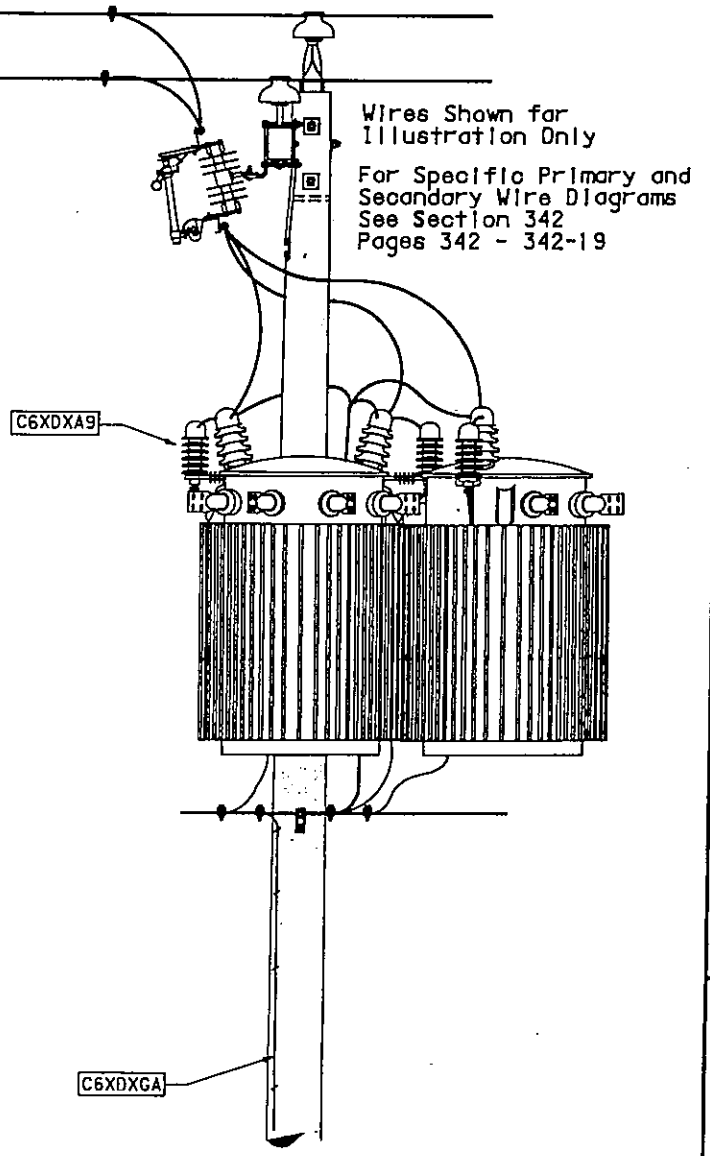
DATE	9/16/93

EnergyEast

NO.	REVISION	DATE	CK.
1	Chgd space top pole to neut, page * from 343-7.18 to 343-98	06/25/09	

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/25/01
LICENSED
PROFESSIONAL ENGINEER





Wires Shown for Illustration Only

For Specific Primary and Secondary Wire Diagrams See Section 342 Pages 342 - 342-19

* Bottom of transformer to neutral shall be no less than 6 inches.

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO C6MX3SX167CM2

DESCRIPTION 3PH TO 167KVA CLUSTER MT ON SX 12KV

PAGE 343-9B

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6XD3	1		THREE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIP3PH	1		OHXMR, INSTALLATION PKG, 3 PHASE	
		6	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 3/4 IN. ALL SIZES	60002721XX
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		6	WILDLIFE PROTECTOR	60003128XX
		12	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT15	3		OHXMR ARRESTOR MOUNTING KIT 10KV	
		1	CMP Conv Transformer arrester kit 15 KV	6000491412
C6XDXAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6XDXCO	3		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

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DRAWN	GRG
DATE	9/27/93

EnergyEast

NO.	REVISION	DATE	CK.
1	Chgd page # from 343-9B to 343-10B	05/15/09	

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/3/94
LICENSED
PROFESSIONAL ENGINEER

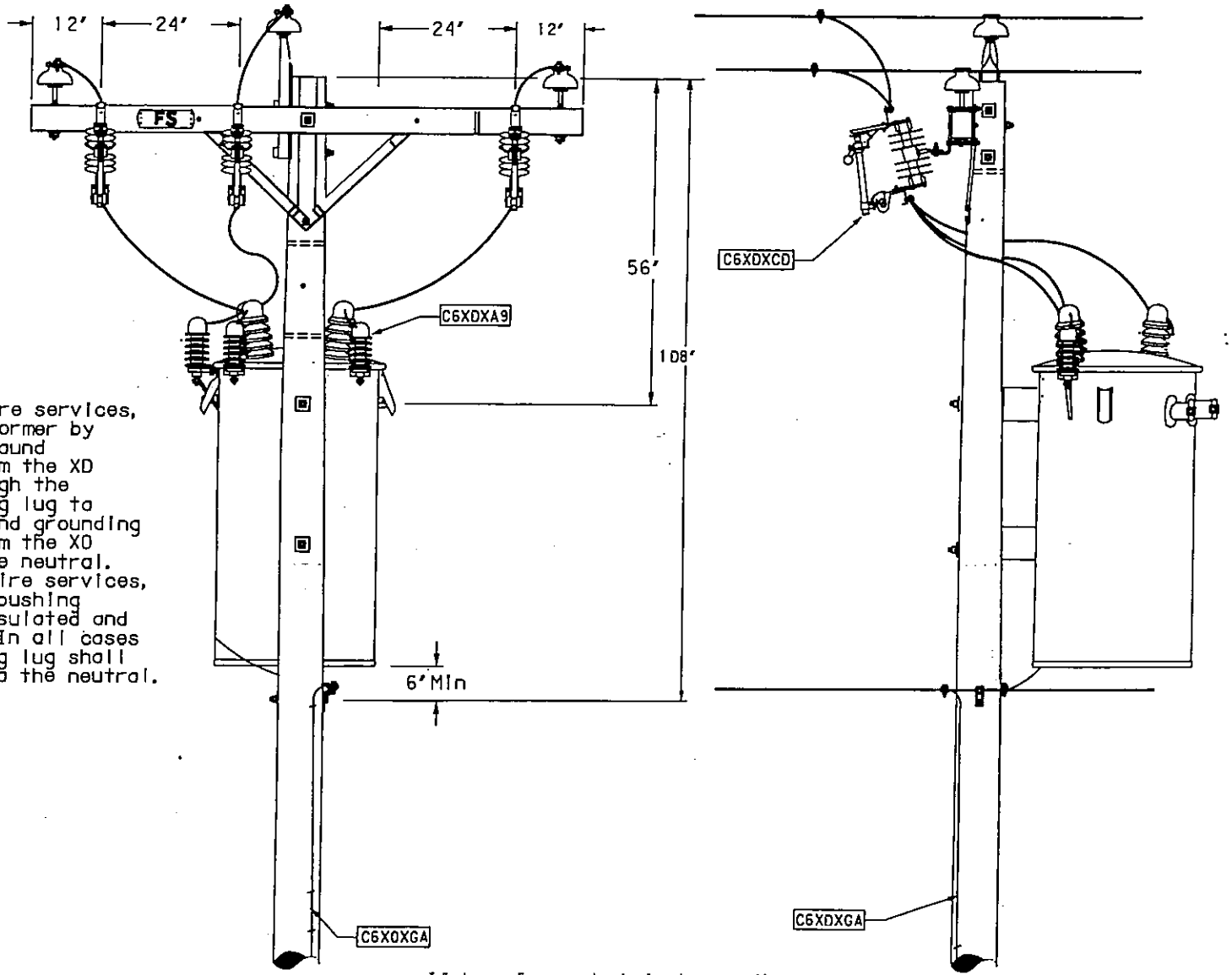
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO C6MX3SXUC12

DESCRIPTION 3PH XFMR UNIT CONV ON SX STRUCTURE 12KV

PAGE 343-10B



NOTE:

For four wire services, ground transformer by installing ground conductor from the XD bushing through the tank grounding lug to the neutral and grounding conductor from the XO bushing to the neutral.

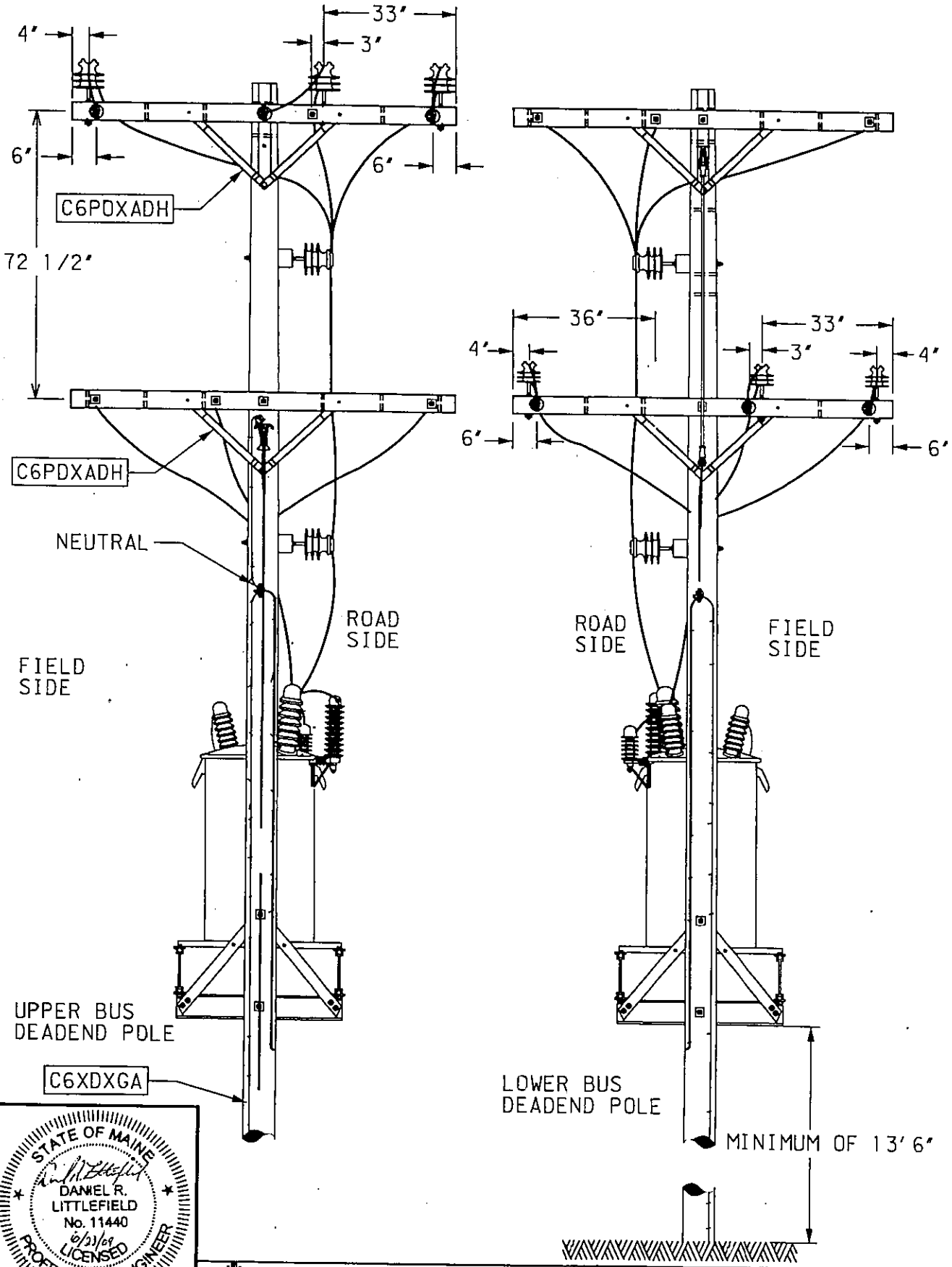
For three wire services, leave the XO bushing completely insulated and ungrounded. In all cases tank grounding lug shall be grounded to the neutral.

If transformer tank is longer than 48' locate the neutral 6' below tank

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDDE	22		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6CDEB5/8	4		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	6000270454
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C6CDEN5/8	18		EYE NUT ROUND 5/8 INCH	
		1	NUT EYE ROUND 5/8 TAP	6000273430
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDHS1/2	18		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSPT15TW	9		INSULATOR PIN TYPE F 15KV TREE WIRE	
		5	WIRE TIE #4AL MIL BTPR	6000205358
		1	INS PIN TYPE TREE 15KV	6000310352
C6CDINSPT27TW	12		INSULATOR PIN TYPE 27KV TREE WIRE	
		8	WIRE TIE #4AL MIL BTPR	6000205358
		1	INS PIN TYPE TREE 27KV	6000310468
C6CDINSSDE15	9		INSULATOR DEADEND/SUSPENSION 15KV-COMPOS	
		1	INSULATOR 15KV COMP D/E	6000310640
C6CDINSSDE35	9		INSULATOR DEADEND/SUSPENSION 35KV-COMPOS	
		1	INSULATOR 35KV COMP D/E	6000310700
C6CDIPIN	21		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDPC	21		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDTW	50		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PD	2		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	600074XXXX
C6PDA	2		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	2		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDGSLFA78	1		GUY STRAIN LINK ASSEMBLY, F/G 78IN	
		1	INS GY STN 30K LB 78IN	6000251600
		1	PLATE GUY ATT FG INS	6000251600
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	8 LAG GALV FET 1/2 X 4	6000272540
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WSH CURV GALV 2 1/2	6000274620
C6PDPLATFORM	1		PLATFORM, ALUMINUM, 16 FT	
		4	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		4	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		4	WASHER, GALV, TWO TURN SPRING ALL SIZES	60002274XXX
		1	PLATFORM TRN AL 16 FT	6000670261
C6PDPTIMBER	2		PLATFORM TIMBER, 16 FT	
		2	BOLT, THRU 3/4 IN, ALL SIZES	60002721XX
		4	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN SPRING ALL SIZES	60002274XXX
		1	PLATFORM TIMBER 18 FOOT	6000740930
C6PDXA8	8		XARM, 8PINB, 8FT	
		1	XARM 8PIN 8	6000740510
C6PDXADH	4		XARM, DOUBLE, HARDWARE ONLY	
		4	8 CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	8 LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	60002274XXX
C6XD1	3		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDCU	40		COPPER WIRE STRANDED GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6XDIP1PH	3		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT15	3		OHXMR ARRESTOR MOUNTING KIT 10KV	
		1	CMP Conv Transformer arrester kit 15 KV	6000491412
C6XDLAMKIT27	3		OHXMR ARRESTOR MOUNTING KIT 27KV	
		1	CMP Conv Transformer arrestor kit 35 KV	6000491435
C6XDTW	60		XFORMER TAP WIRE GENERIC (SELECT FROM CU	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6XDXGA	2		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251660
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX3PMSDXB	3PH PLATFORM MOUNTED S/D XFORMER BANK	343-11B

NO.	REVISION	DATE	CK.
1	Chgd page # from 343-9B to 343-11B	06/15/09	



EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	9/1/93

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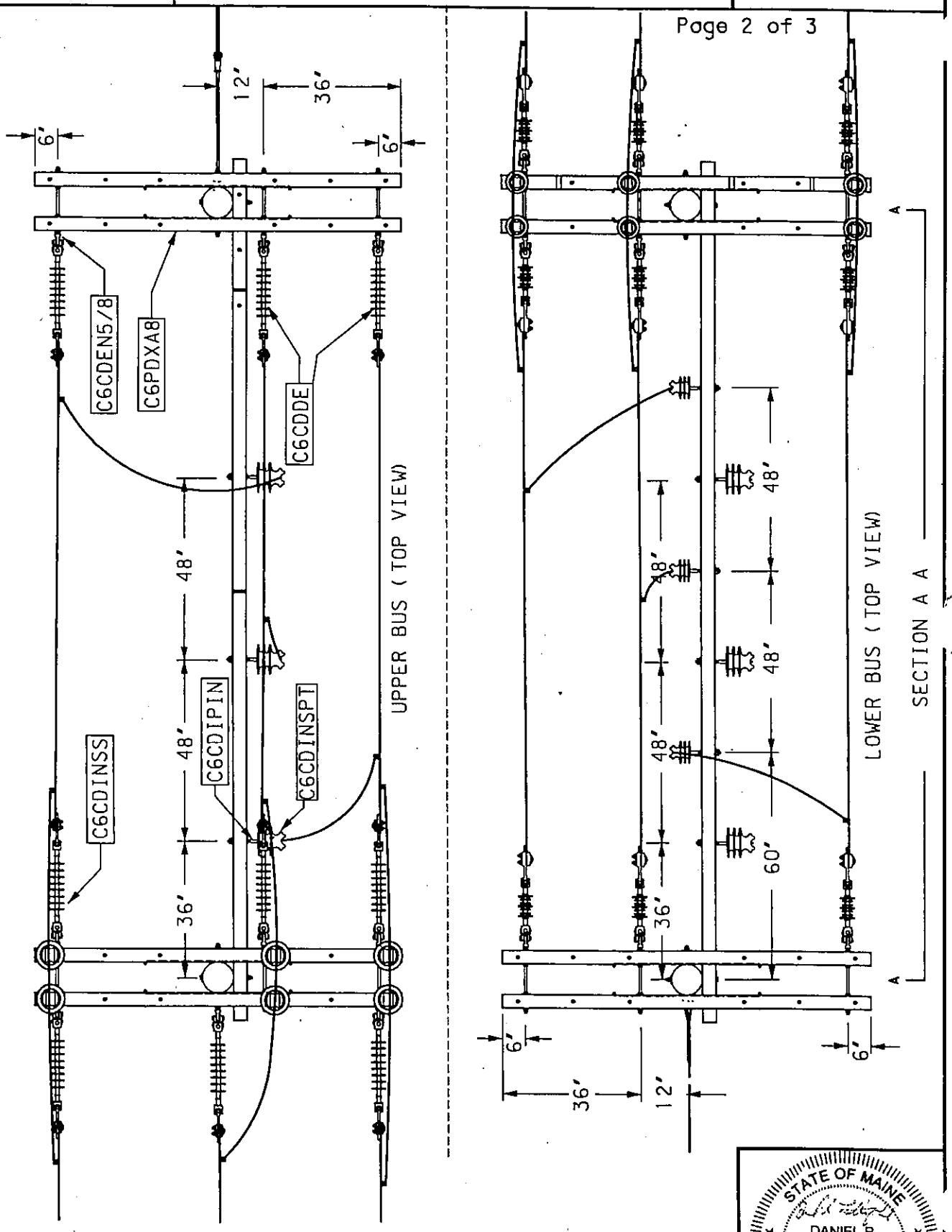
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/22/09
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
343-11C	3 PH PLATFORM MOUNTED S/D XFORMER BANK	C6MX3PMSDXB



DRAWN | REC
DATE | 02/24/06

STATE OF MAINE
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No. 11440
6/8/09
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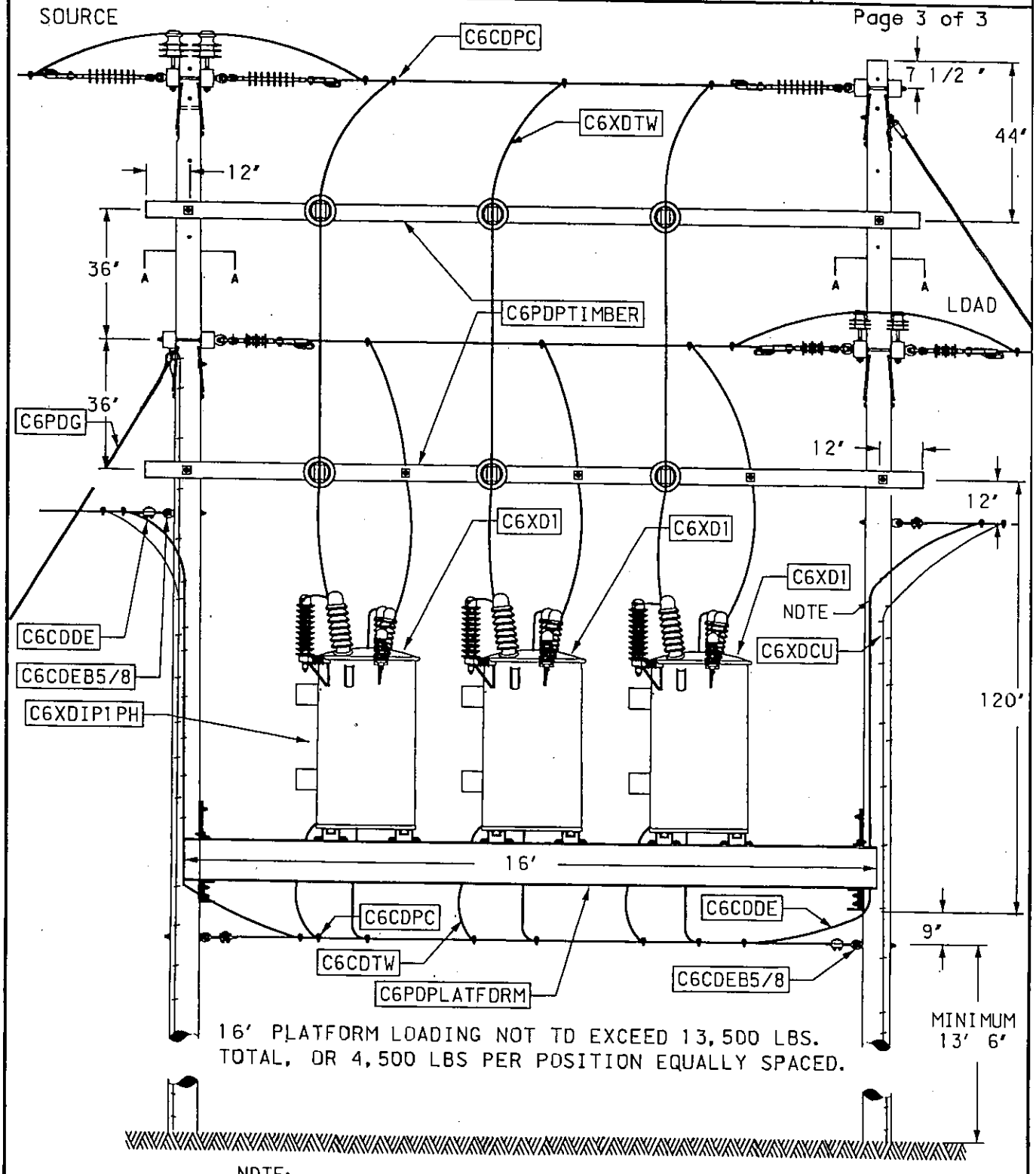
DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
C6MX3PMSDXB	3PH PLATFORM MOUNTED S/D XFORMER BANK	343-11D



16' PLATFORM LOADING NOT TO EXCEED 13,500 LBS. TOTAL, OR 4,500 LBS PER POSITION EQUALLY SPACED.

NOTE:

For 336.4 Primary Neutral the H2 Bushing and Transformer Tank Ground shall be Banded with 4/0 Copper Tap Wire.

For 1/0 AAAC Primary Neutral the H2 Bushing and Transformer Tank Ground shall be Banded with #2 Copper Tap Wire.

NO.	REVISION	DATE	CK.
1	Chgd page # from 343-90 to 343-110, added to platform note	05/25/09	

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRC
DATE	9/7/93

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/25/09
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

Distribution Construction Standards - CMP Co.

Page 344-1A *1PH XFMR TO 50KVA SPCR CBL STRUCT 12KV* **Macro: C6MX1SC**

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDSCGUARDS	1		GUARD LINE CLIP ON 1" X 8' STANDARD	
		1	GUARD LINE CLIP ON STAN	6000220922
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XOIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

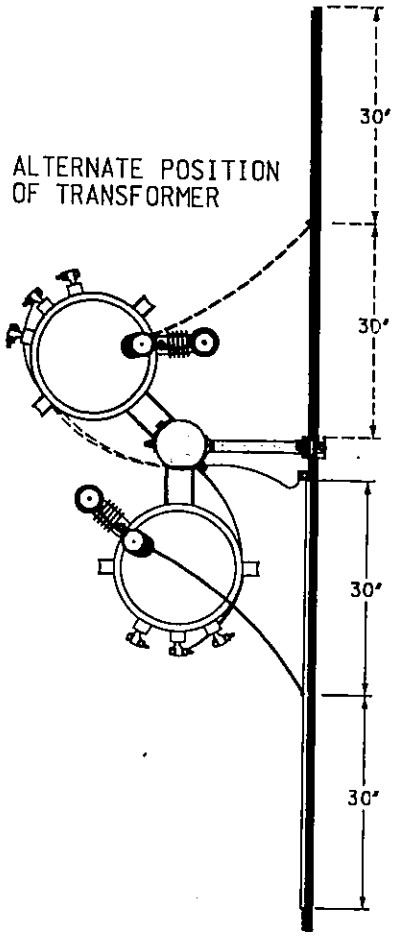
MACRO	DESCRIPTION	PAGE
C6MX1SC	1 PH XFMR TO 50 KVA TANG SPCR CBL STR 12KV	344-1B

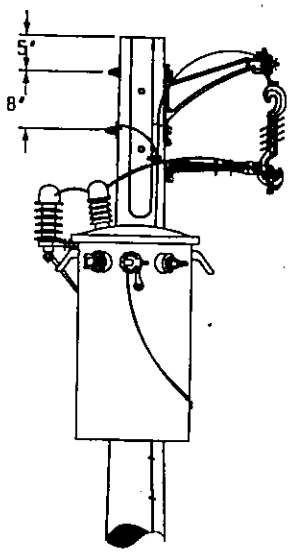
	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	02/24/06		

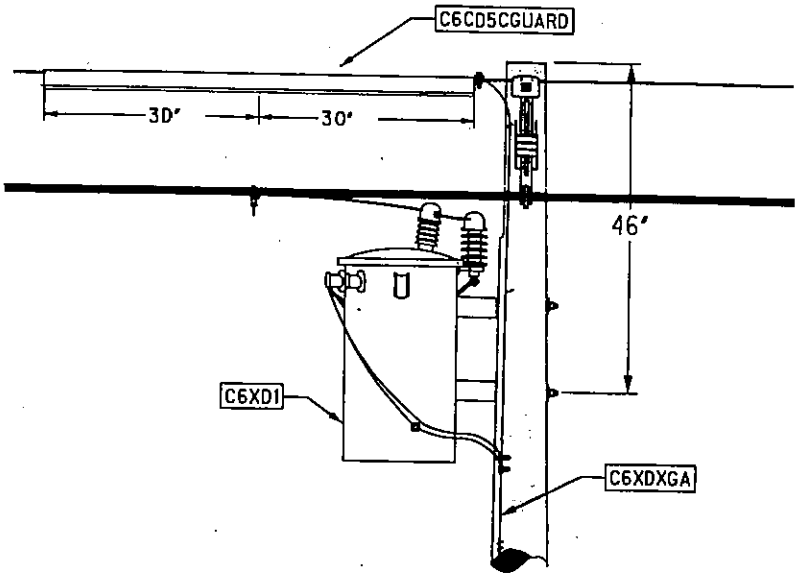
	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	5/2/95

EnergyEast

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY







Notes:

1. Transformer may be mounted as shown or may be quarter mounted away from spacer cable on opposite side of pole, as shown in Alternate Position of Transformer.
2. Interconnect primary neutral, transformer secondary neutral, and tank ground, as shown above. Pole ground must connect directly to primary neutral messenger with its own connector.
3. This installation is for CSP transformers.
4. The bottom of any grounded equipment case shall not be located less than 30 inches above highest communication attachment.
5. See Page 305-5 for location of service.

STATE OF MAINE GARY A RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
C6MX1 SC	1 PH XFMR TO 50 KVA ON SS SPACER CBL STRUCT.	344-1C

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	02/24/06		

EnergyEast

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	5/25/95

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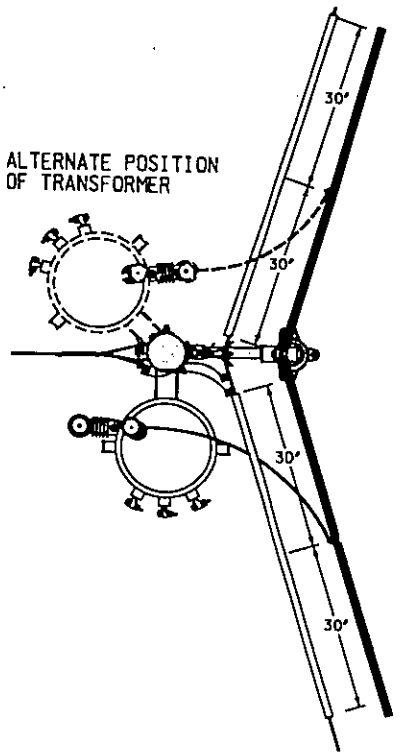

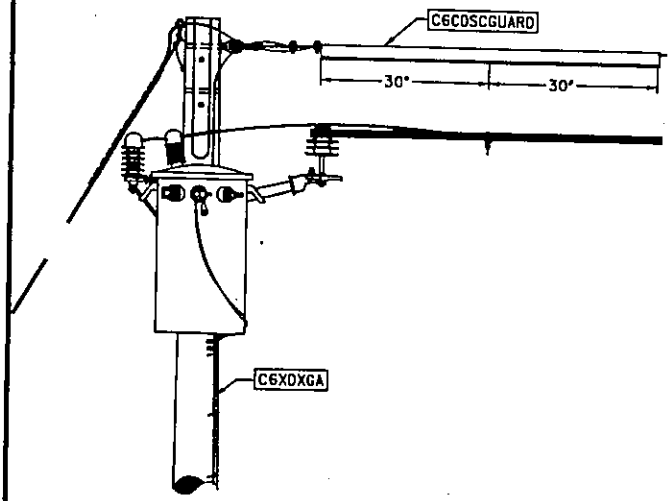

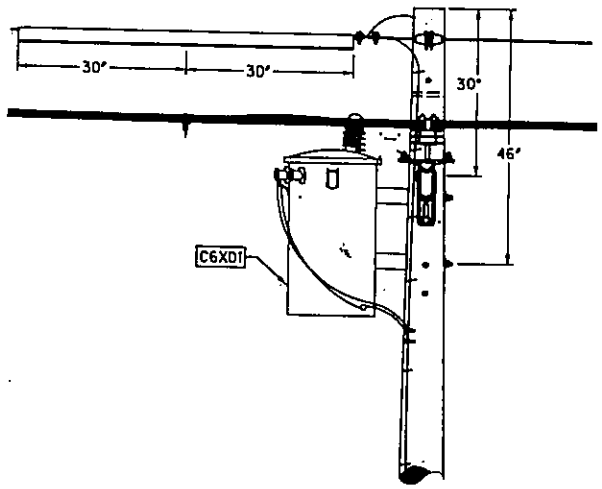

Notes:

1. Transformer may be mounted as shown or may be quarter mounted away from spacer cable on opposite side of pole, as shown in Alternate Position of Transformer.
2. Interconnect primary neutral, transformer secondary neutral, and tank ground, as shown above. Pole ground must connect directly to primary neutral messenger with its own connector.
3. This installation is for CSP transformers.
4. The bottom of any grounded equipment case shall not be located less than 30 inches above highest communication attachment.
5. See Page 305-5 for location of service.

STATE OF MAINE
GARY A. RICCI
#4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

Distribution Construction Standards - CMP Co.

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDPC	1		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSCGUARDS	1		GUARD LINE CLIP ON 1" X 8' STANDARD	
		1	GUARD LINE CLIP ON STAN	6000220922
C6CDTWCU2H	4		TAPWIRE #2 COPPER 600V RHW	
		1	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
C6XD1	1		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIP1PH	1		OHXMR, INSTALLATION PKG, 1 PHASE	
		4	CONNECTORS	600011XXXX
		7	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		10	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

MACRO	DESCRIPTION	PAGE
C6MX1 SCDE	1 PH XFMR TO 50KVA SPACER CBL DE STR	344-2B

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	02/24/06		

EnergyEast

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	10/2/95

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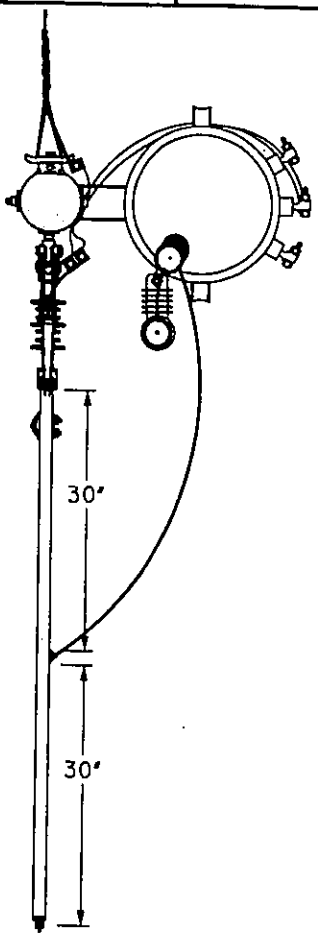

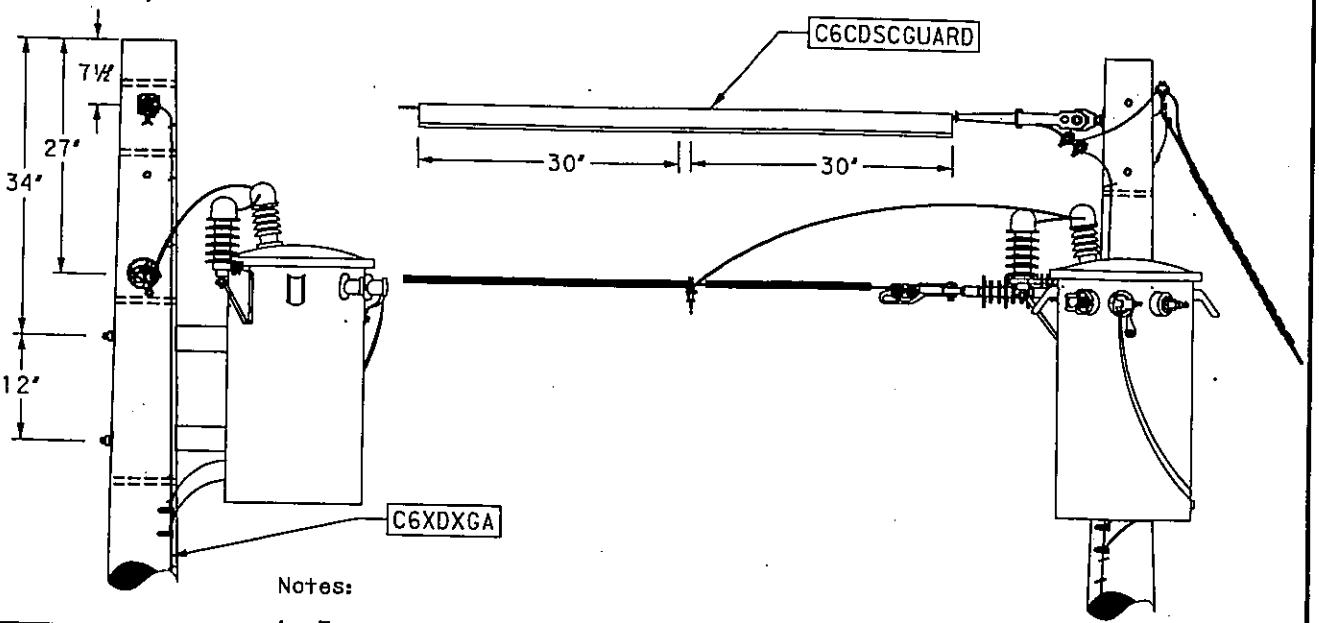

Notes:

1. Transformer may be mounted as shown or may be quarter mounted away from spacer cable on opposite side of pole, as shown in Alternate Position of Transformer.
2. Interconnect primary neutral, transformer secondary neutral, and tank ground, as shown above. Pole ground must connect directly to primary neutral messenger with its own connector.
3. This installation is for CSP transformers.
4. The bottom of any grounded equipment case shall not be located less than 30 inches above highest communication attachment.
5. See Page 305-5 for location of service.

STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	6		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6COIPIN	6		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6CDSCGUARDS	2		GUARD LINE CLIP ON 1" X 8' STANDARD	
		1	GUARD LINE CLIP ON STAN	6000220922
C6PDXA10	2		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272870
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6XD1	3		GENERIC SINGLE PHASE O/H TRANSFORMER	
		1	GENERIC TRANSFORMER	600086XXXX
C6XDIPCM	1		OHXMR, INSTALLATION PKG, CLUSTER MOUNT	
		21	CONNECTORS	600011XXXX
		15	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		1	B LAG GALV FET 1/2 X 4	6000272540
		6	WILDLIFE PROTECTOR	60003128XX
		20	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6XDLAMKIT27	3		OHXMR ARRESTOR MOUNTING KIT 27KV	
		1	CMP Conv Transformer arrester kit 35 KV	6000491435
C6XDO	1		OHXMR MOUNTS & PLATES GENERIC (SELECT FR	
		1	OHXMR MOUNTS & PLATES (SELECT FROM CUCT)	600067056X
C6XDXAMB	3		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6XDXCO	3		TRANSFORMER FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6XDXGA	1		OHXMR, GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182

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	ORIGINAL
DESIGNED	
DRAWN	GRG
DATE	9/21/93

EnergyEast

NO.	REVISION	DATE	CK.
1	Chgd title, macro #, neutral dimension, and added note 3	12/31/07	
2	Chgd macro number	07/07/09	

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
LICENSED
PROFESSIONAL ENGINEER
7/6/05

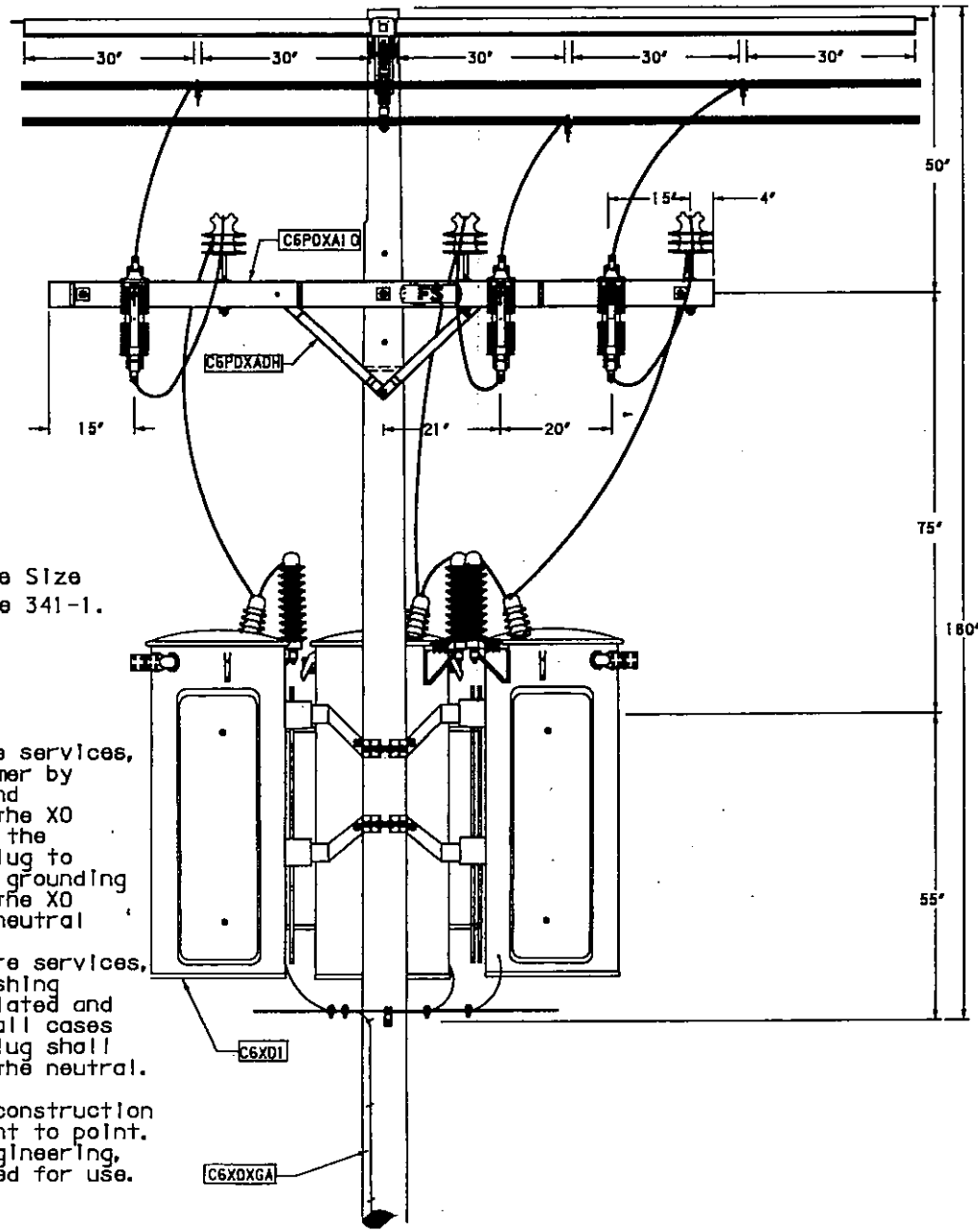
MACRO
C6MX3CM34K167S

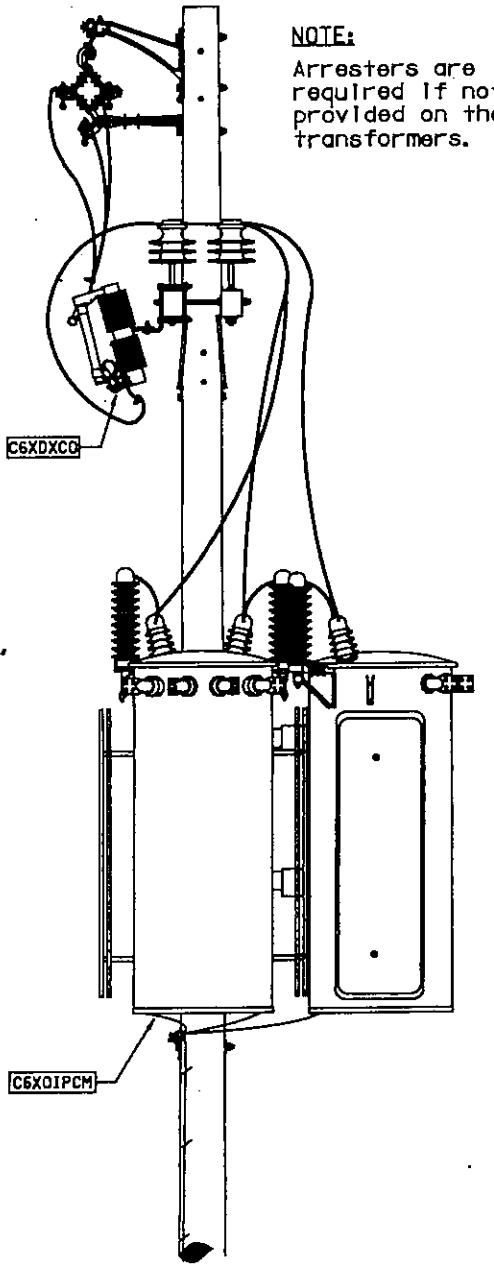
DESCRIPTION
3PH CLUSTER MOUNT 34KV UP TO 167KVA SPACER CABLE

PAGE
344-3B

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS





NOTE:
Arresters are required if not provided on the transformers.

For Fuse Size
See Page 341-1.

NOTE:

1. For four wire services, ground transformer by installing ground conductor from the XO bushing through the tank grounding lug to the neutral and grounding conductor from the XO bushing to the neutral

2. For three wire services, leave the XO bushing completely insulated and ungrounded. In all cases tank grounding lug shall be grounded to the neutral.

3. 34KV spacer construction is normally point to point. Distribution Engineering, Approval required for use.

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	10/29/01

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SERVICE FROM POLE MOUNTED THREE PHASE TRANSFORMERS

Three phase service from a pole mounted three-phase unit or banked arrangement of transformers, may be provided for total switch(s) capacity not to exceed 1000 amperes. Overhead secondary shall be limited to two-four conductor (three phase conductors and one neutral/messenger) cables 336.4 kcmil or smaller. Underground secondaries consisting of cables with conductors 4/0 awg. and smaller shall have no more than four conductors per phase. Underground secondaries consisting of cables with conductors larger than 4/0 awg. shall have no more than two conductors per phase.

Cable support and positioning brackets may be required at the discretion of the local line supervisor.

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

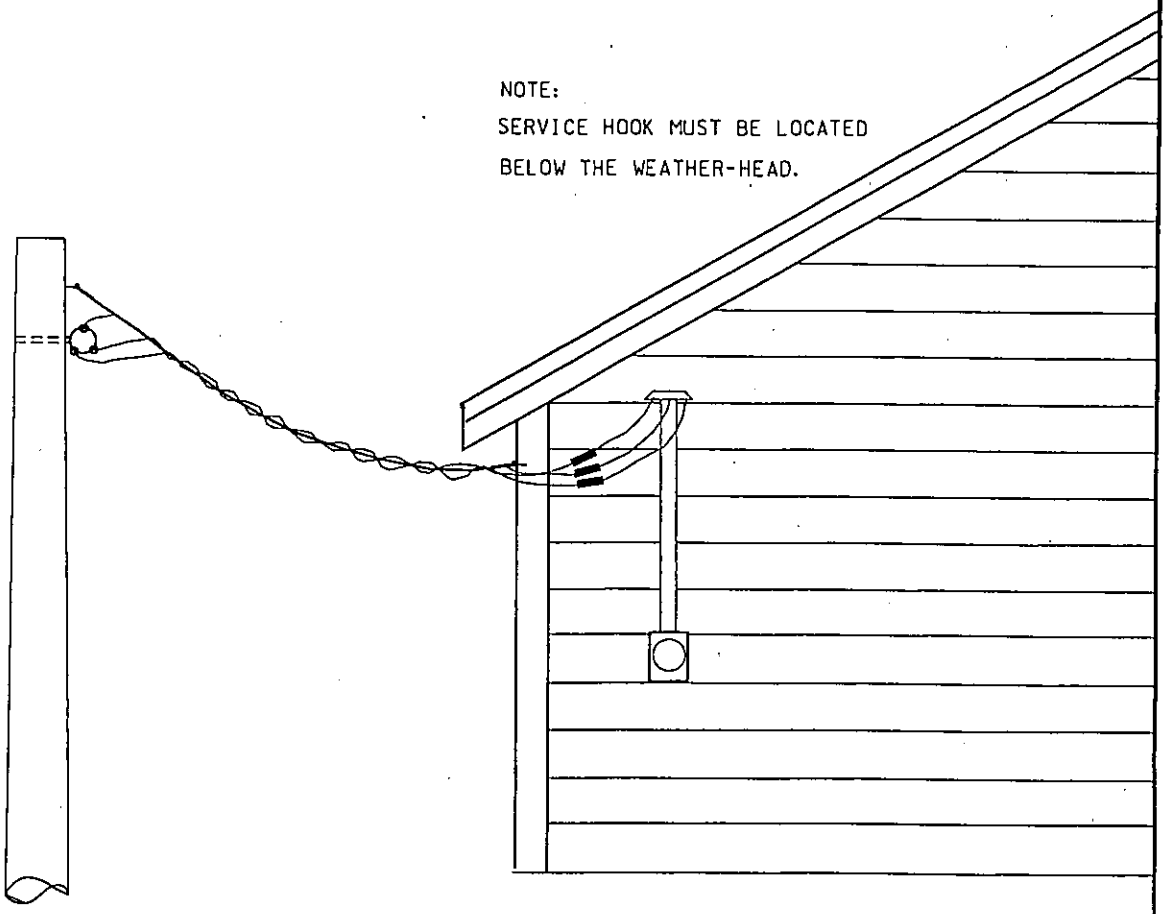
MACRO	DESCRIPTION	PAGE
	TRIPLEX SERVICE DETAIL	345-1B

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	10/25/01		

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/1/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

NOTE:
SERVICE HOOK MUST BE LOCATED BELOW THE WEATHER-HEAD.



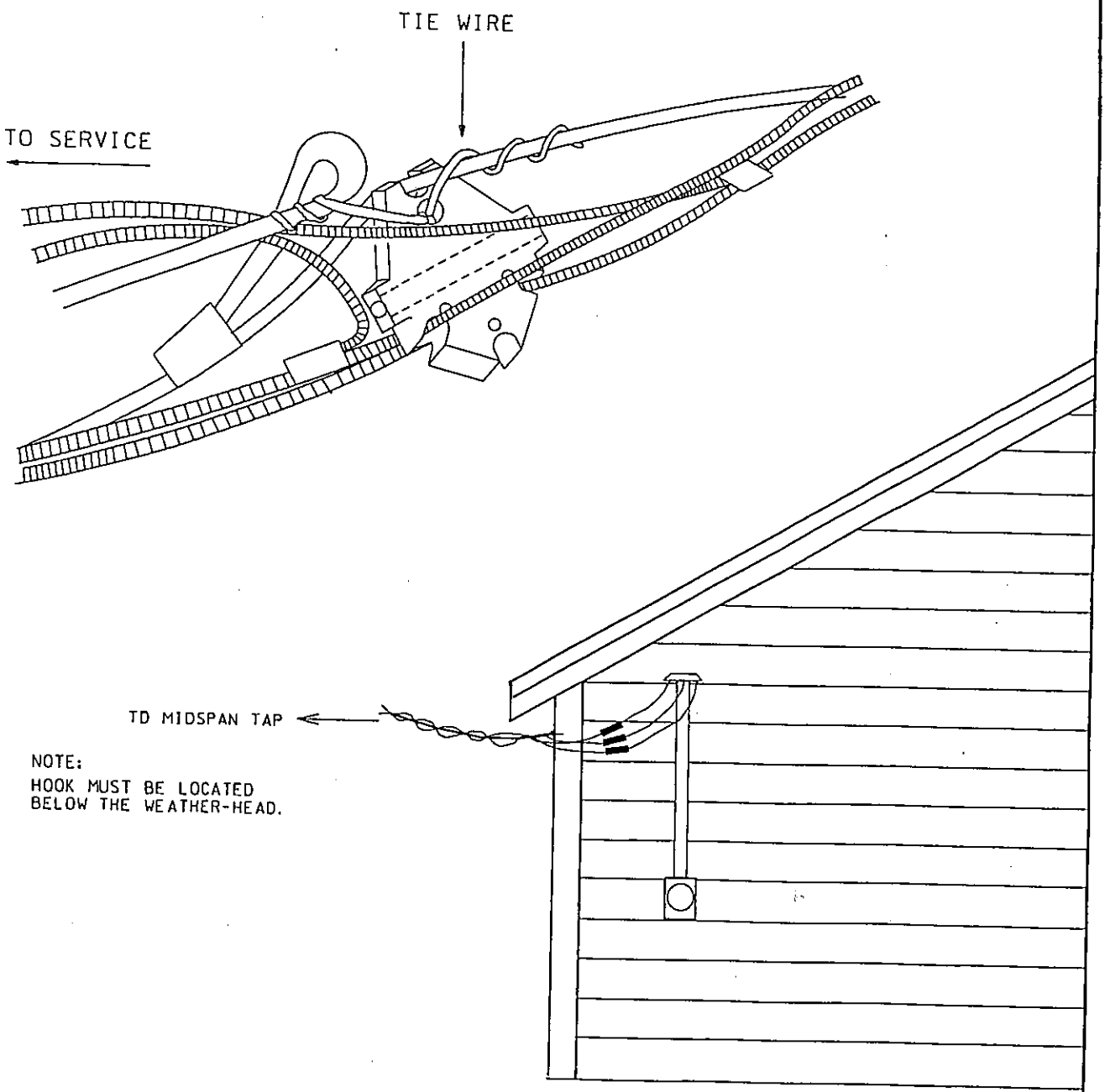
STATE OF MAINE
KENT
B.
POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	MIDSPAN TRIPLEX CABLE TAP	345-2

	REVISED	REVISED	REVISED
DESIGNED	KBP		
DRAWN	REC		
DATE	12/18/98		



NOTE:
HOOK MUST BE LOCATED BELOW THE WEATHER-HEAD.

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	4/1/93

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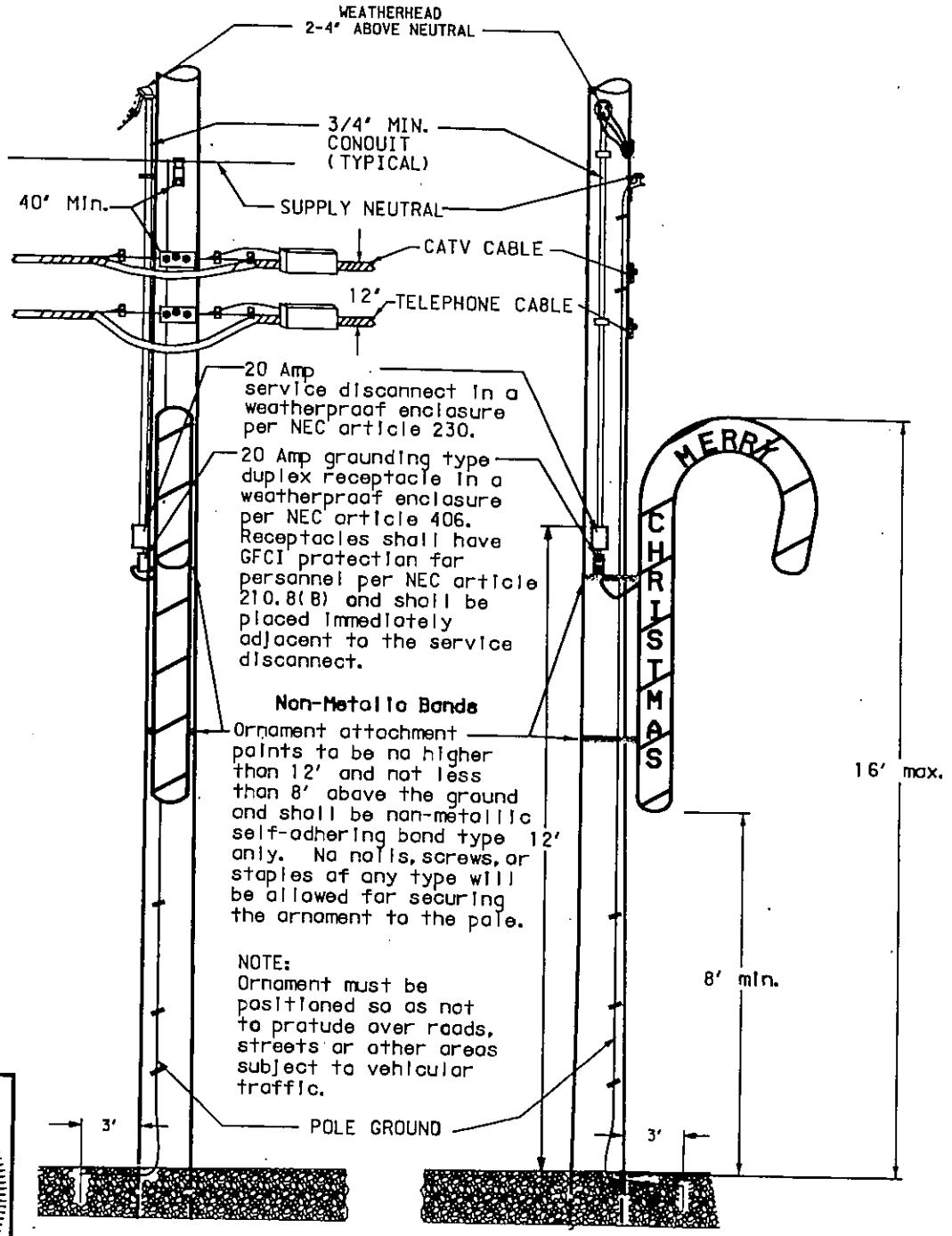
STATE OF MAINE
KENT B. POOLE
#7932
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	Temporary Seasonal Decoration Installation	345-3

NO.	REVISION	DATE	CK.
1	Changed page number to 345-3	10/03/01	
2	Changed top 2 notes, corrected other notes	12/22/08	



EnergyEast

	ORIGINAL
DESIGNED	KBP
DRAWN	RFW
DATE	10/24/97

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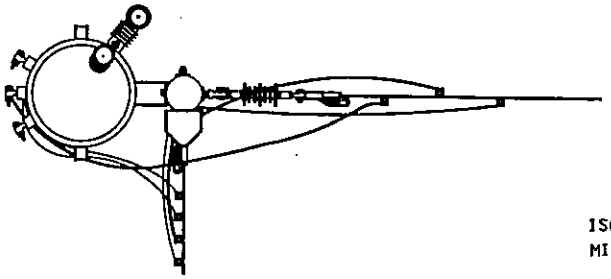
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
3/11/09
LICENSED
PROFESSIONAL ENGINEER

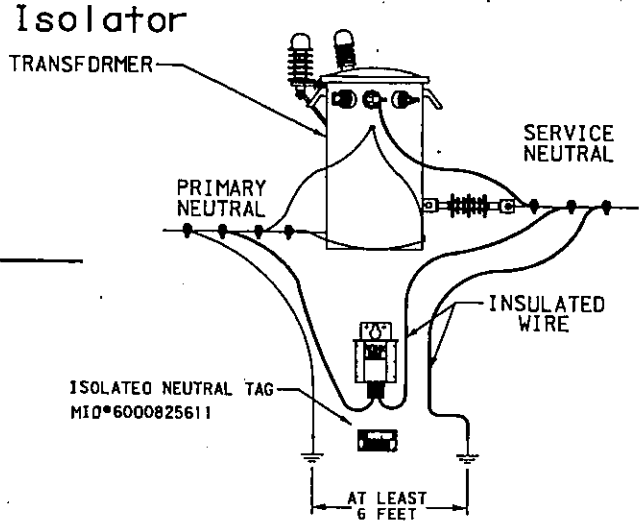
CENTRAL MAINE POWER CO.

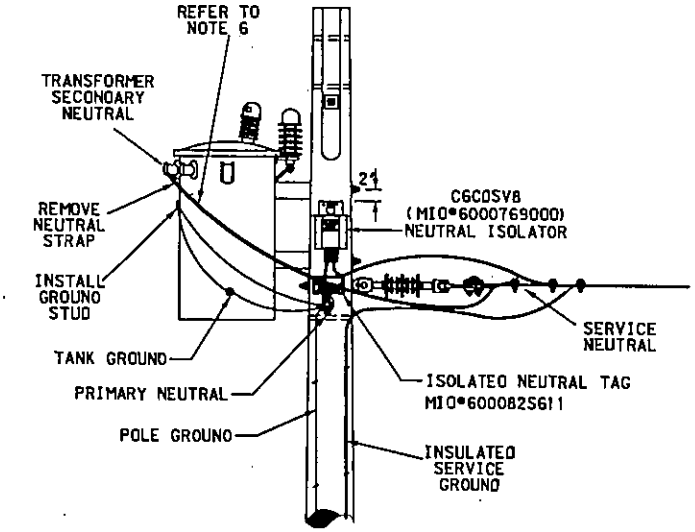
DISTRIBUTION CONSTRUCTION STANDARDS

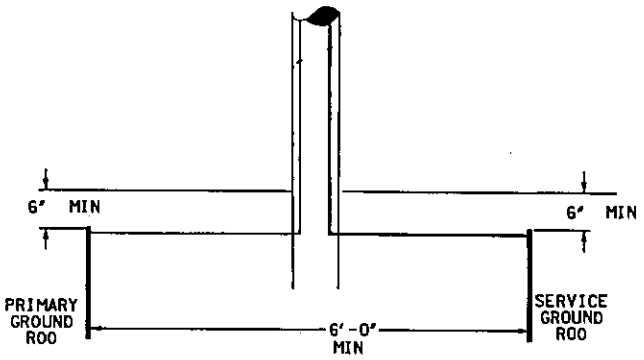
PAGE	DESCRIPTION	MACRO
345-4	NEUTRAL ISOLATOR	

Contact Distribution Engineering Prior To The Installation Of Any Neutral Isolator









1. Remove neutral strap and install primary ground from tank strap stud to primary neutral.
2. The primary and service neutrals are interconnected through a protective device that complies with the N.E.S.C. section 97.D.2.
3. Check for voltage between isolator terminals. Voltage should be low, but should not be zero.
4. Caution must be taken because of the possible difference in potential between the primary neutral and the service neutral.
5. Install insulated copper conductor from the transformer secondary neutral bushing to the service neutral sized to match the service neutral.
6. Use 600V insulated #2 copper wire to connect between either terminal of the isolator and the service neutral.
7. Care shall be taken in stapling the insulated ground wire so as not to damage insulation.
8. Install tag stating 'Caution Isolated Neutral' on the pole directly below the isolator.

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

DESIGNED	
DRAWN	GRG
DATE	04/01/93

Em East

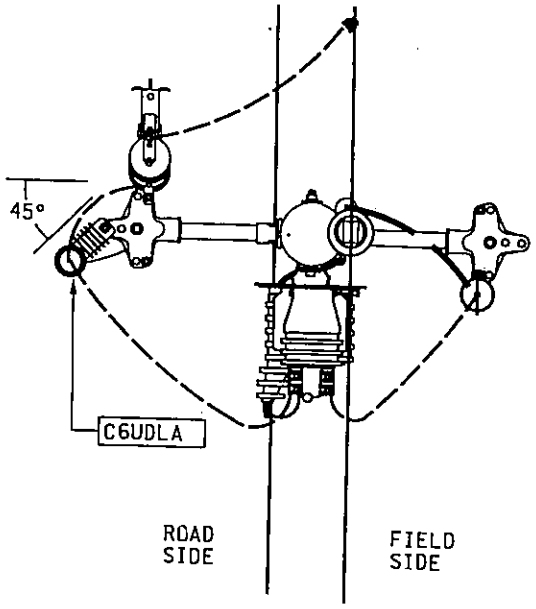
1	ADDED NEUTL BLOCKER CU'S, ISOLATED NEUTL TAG + MID'S	7/27/07 GB

STATE OF MAINE
RAYMOND A. BOUCHER
No. 7715
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

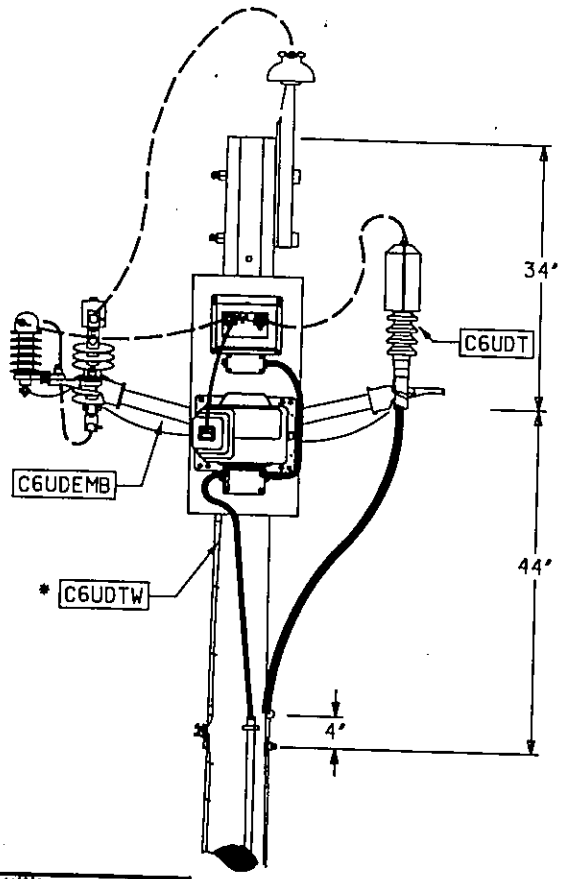
MACRO	DESCRIPTION	PAGE
	1 PH PRIMARY METERING INST. FOR UG RISER 7.2KV	346-1B

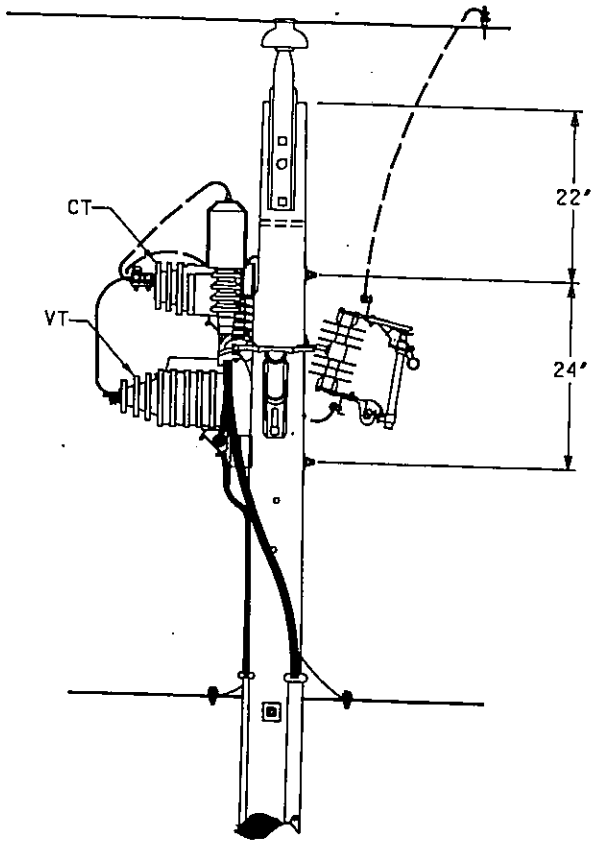
	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	05/01/02	01/27/06	



* MINIMUN WIRE SIZES FOR CONNECTIONS BETWEEN SYSTEM NEUTRAL AND URD CABLE NEUTRAL.

CABLE SIZE	POLE NEUTRAL CU
#2	C6UDCU4TWAS
1/0	C6UDCU2TWAS
4/0	C6UDCU2/0TWAS
Larger Than 4/0	C6UDCU4/0TWAS





EnergyEast

	ORIGINAL
DESIGNED	GRG
DRAWN	HEPJ
DATE	05/02/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

NOTE:

CONNECTIONS SHOWN AS DASHED LINES TO BE PROVIDED BY LINE DEPARTMENT..

STATE OF MAINE GARY A RICCI 14737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

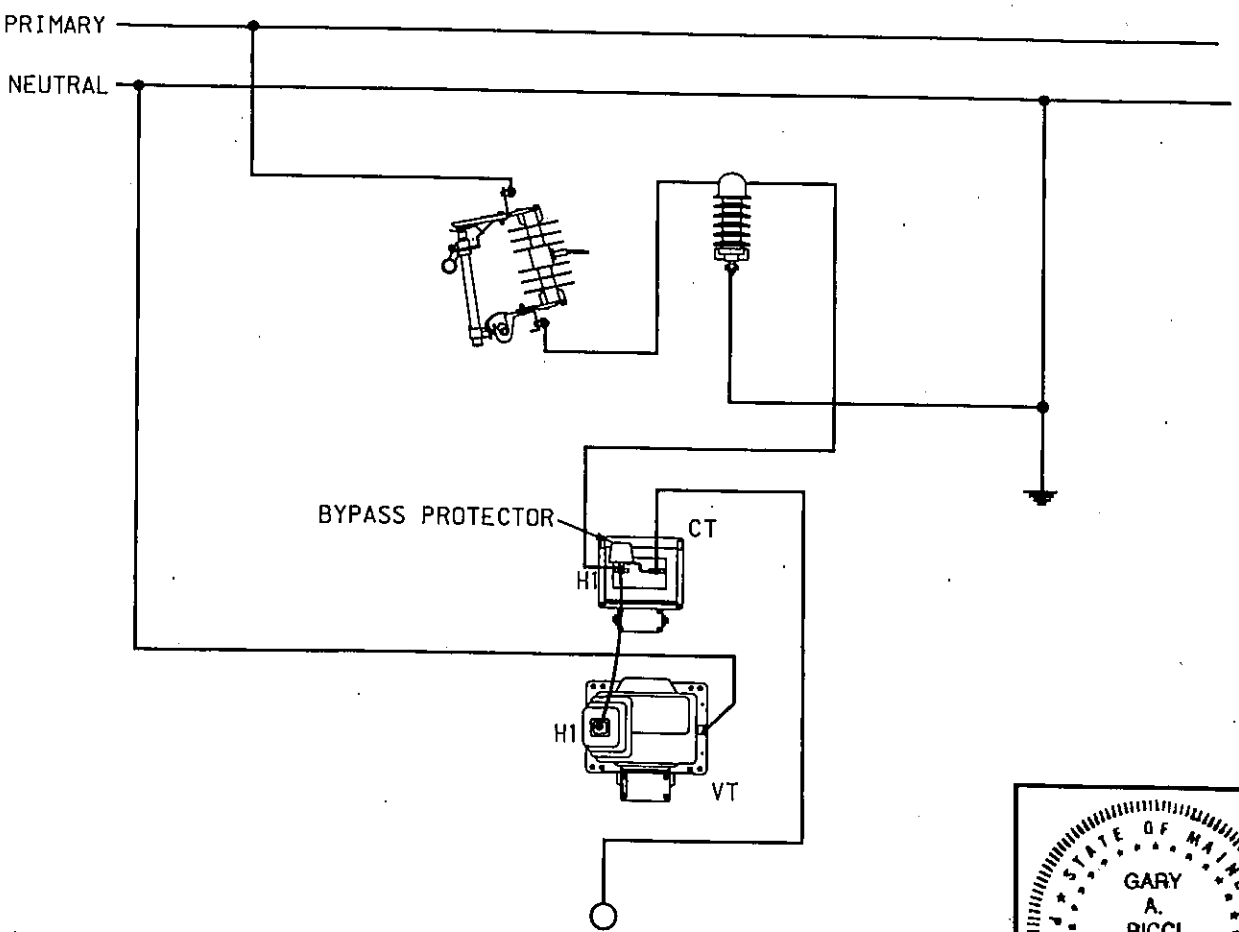
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
346-1C	1 PH PRIMARY METERING INST. FOR UG RISER 7.2KV	

NOTES

1. Single phase primary meter cluster, 1 current transformer (CT) 1 voltage transformer (VT). This unit is pre-assembled at the Meter Department. (See Meter Construction Standard, Page 980-23.1.1.
2. Do not remove the CT by-pass protector connected across the bushing. The by-pass is to protect the current transformer windings from surge currents.
3. Connect the lead wire from the cutout through the top of the lightning arrester to the CT bushing in one piece.

CONNECTION FIELD DIAGRAM



DESIGNED	CS
DRAWN	REC
DATE	02/06/06

DESIGNED	CS
DRAWN	REC
DATE	04/19/02

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	3 PH PRIMARY METERING INST. INLINE 12KV	346-2B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	04/19/02	01/27/06	

	ORIGINAL
DESIGNED	EVG
DRAWN	SGD
DATE	05/17/88

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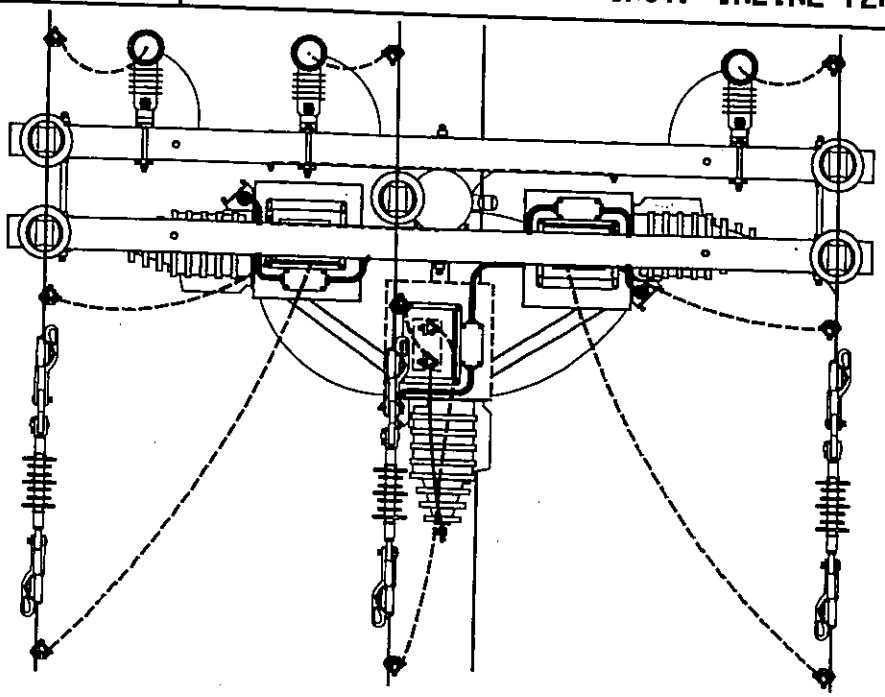

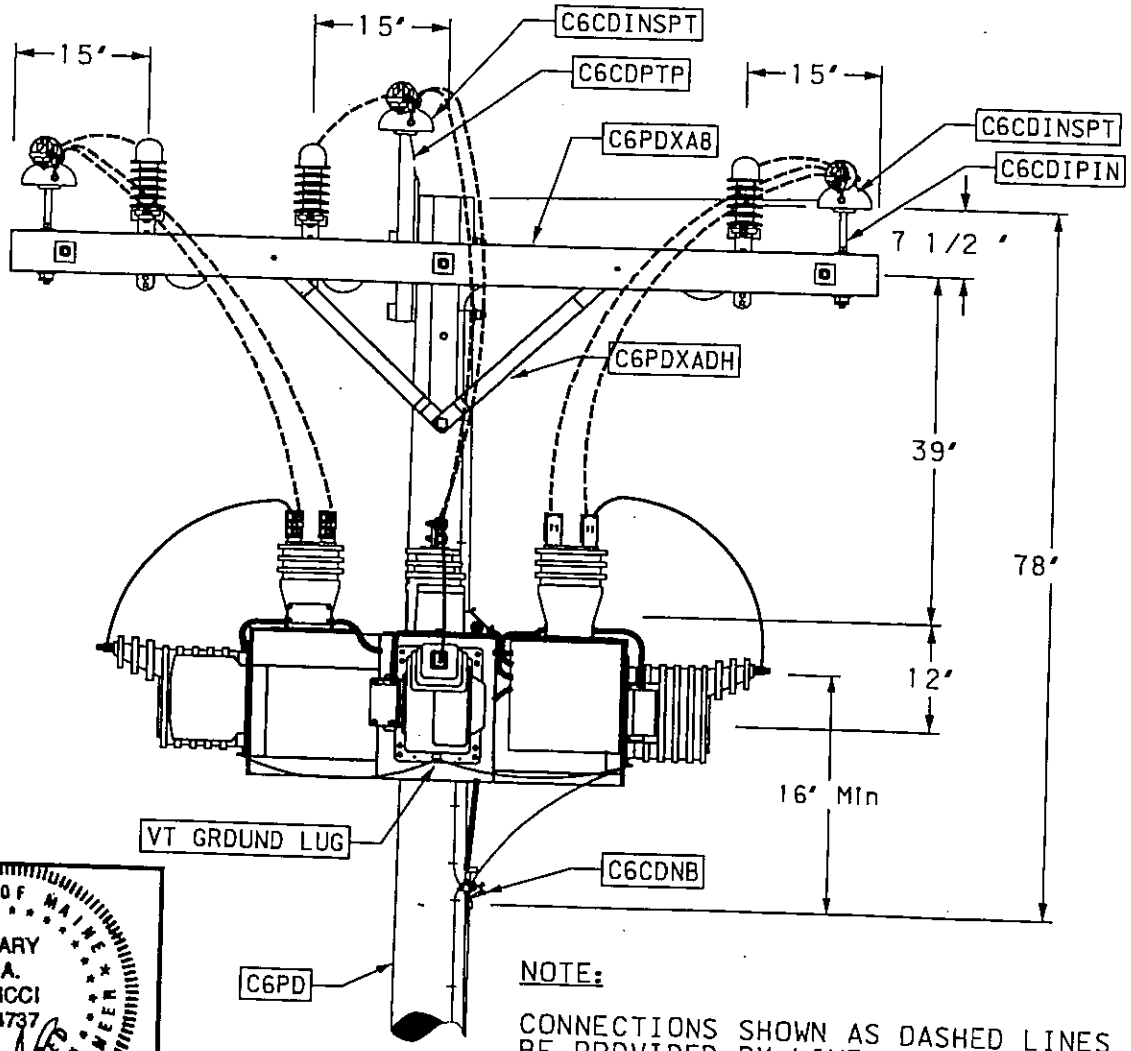

NOTE:

CONNECTIONS SHOWN AS DASHED LINES WILL BE PROVIDED BY LINE DEPARTMENT.

STATE OF MAINE GARY A. RICCI #4737 PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
346-2C	3 PH PRIMARY METERING INST. INLINE 12KV	

NOTES

1. The meter mount, current transformers and potential transformers shall be preassembled at the Meter Department.
2. The meter cable is to be run (on site) in 1 1/4" conduit and coupled to the top of the meter enclosure. A sufficient amount of meter cable with a watertight cable connector to seal the top of the conduit shall be provided.
3. Bond the meter mount, the arrester grounds, VT ground lug, and the pole ground to the primary neutral.
4. If there is more than one span beyond load side of the metering pole, then arresters are required on the load side as well as on the line side.

REVISED	DESIGNED	CS
	DRAWN	REC
	DATE	05/02/02

ORIGINAL	DESIGNED	HEP
	DRAWN	
	DATE	05/02/90

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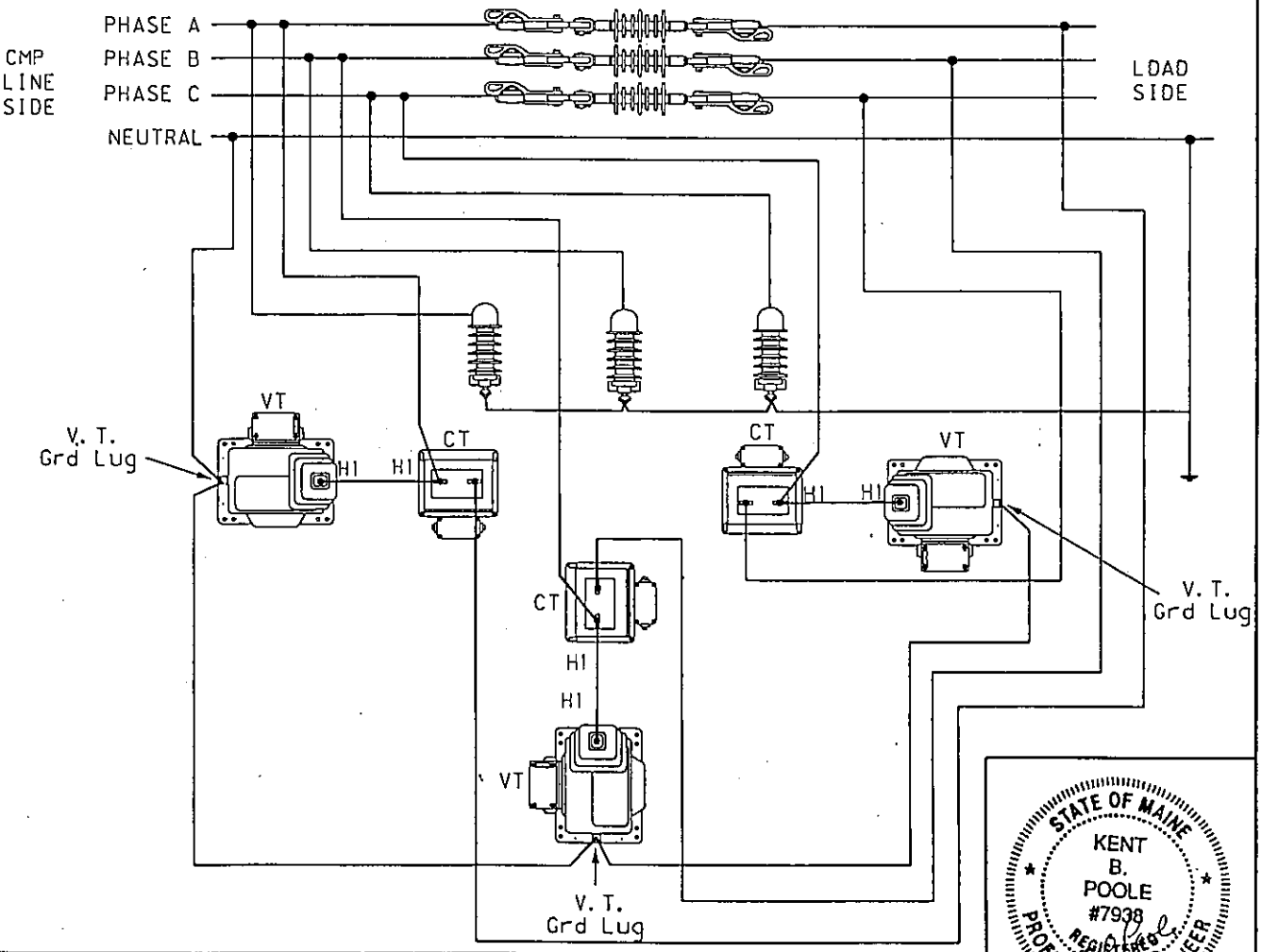
FIELD CONNECTIONS DIAGRAM



STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	3 PH PRIMARY METERING INST. FOR UG RISER 12KV	346-3B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	04/19/02	02/07/06	

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DESIGNED	EVC
DRAWN	SGD
DATE	05/17/88

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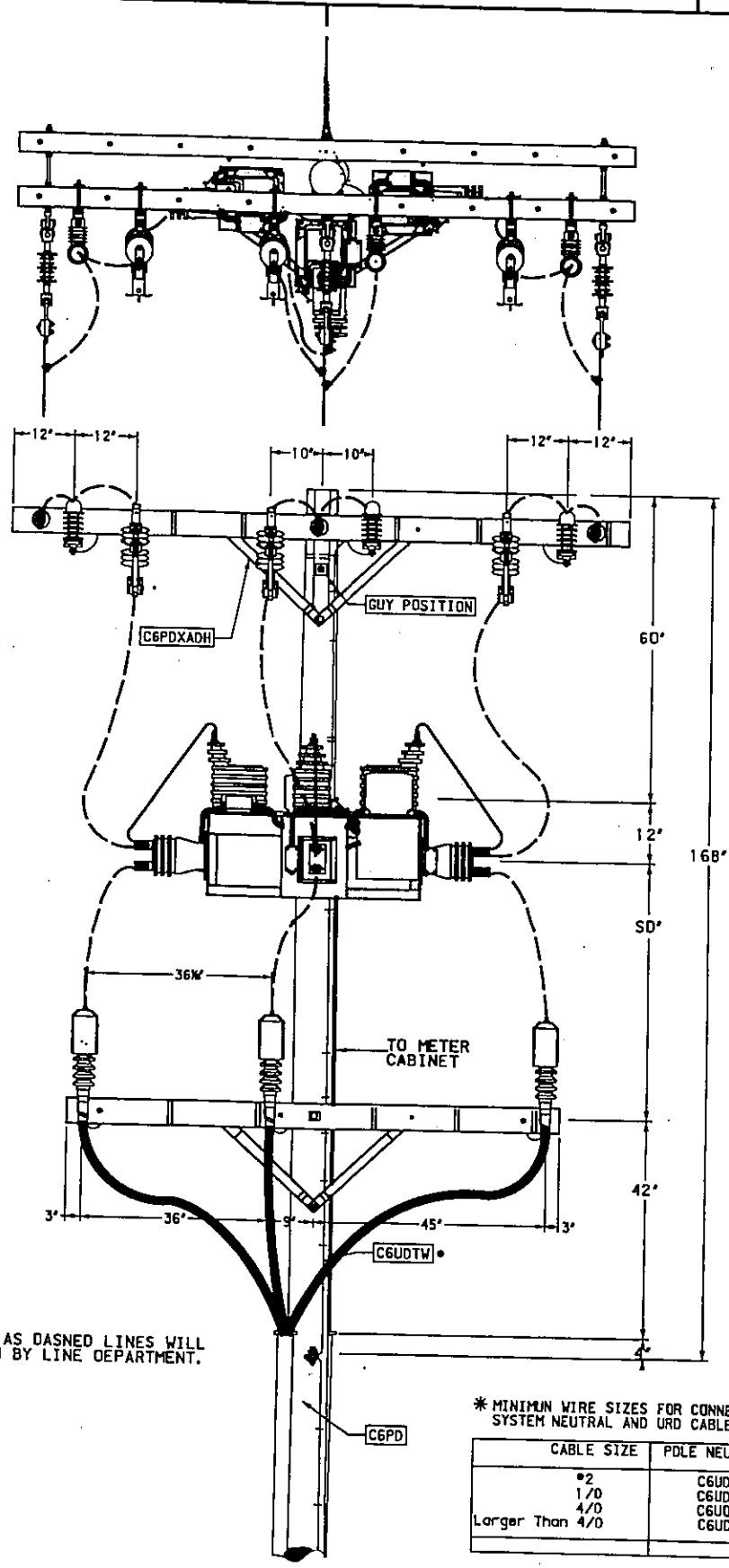


NOTE:

TAPS SHOWN AS DASNED LINES WILL BE PROVIDED BY LINE DEPARTMENT.

* MINIMUN WIRE SIZES FOR CONNECTIONS BETWEEN SYSTEM NEUTRAL AND URD CABLE NEUTRAL.

CABLE SIZE	PDLE NEUTRAL CU
#2	C6UDCU4TWAS
1/0	C6UDCU2TWAS
4/0	C6UDCU2/0TWAS
Larger Than 4/0	C6UDCU4/0TWAS

STATE OF MAINE
GARY A. RICCI #4737
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

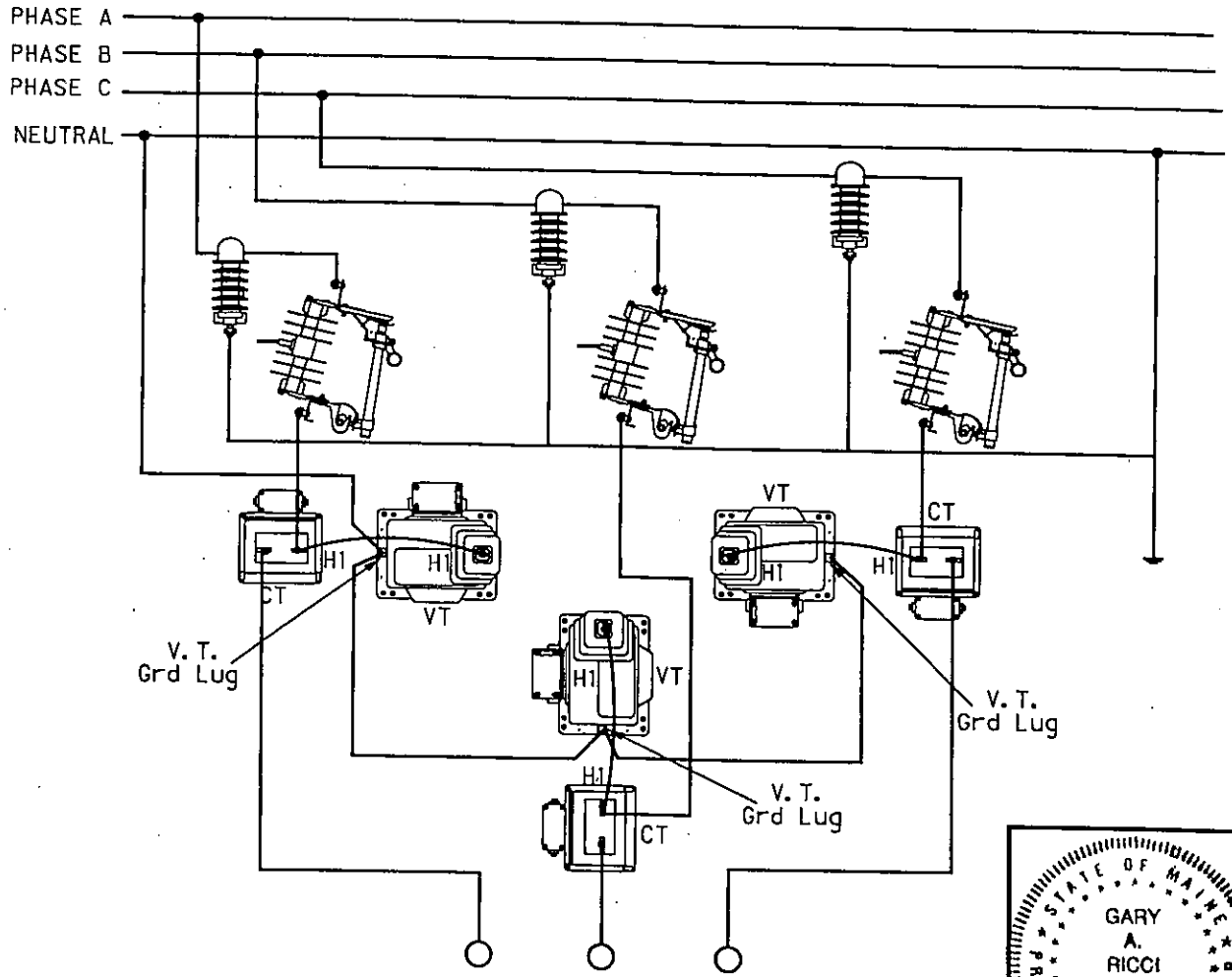
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
346-3C	3 PH PRIMARY METEING INST. FOR UG RISER 12KV	

NOTES

1. The meter maunt, current transformers and patential transformers shall be preassembled at the Meter Department.
2. The meter cable is ta be run (on site) in 1 1/4' conduit and coupled ta the top of the meter enclasure. A sufficient amaunt of meter cable with a watertight cable connectar ta seal the tap af the canduit shall be provided.
3. Bond the meter maunt, the arrester grounds, VT ground lug, and the pole graund ta the primary neutral.
4. If there is mare than ane span beyand load side of the metering pole, then arresters are required on the laad side as well as an the line side.
5. Refer to Distribution Construction Standards Book pages 360, 361, 361-1, 361-2, and 361-3 for cable riser details.

FIELD CONNECTIONS DIAGRAM



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DATE	05/02/02	01/30/06

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DESIGNED	HEP
DRAWN	
DATE	05/02/90

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STATE OF MAINE PROFESSIONAL ENGINEER GARY A. RICCI #4737

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	3 PH PRIMARY METERING INST. CLUSTER MOUNT 35KV	346-4B

	REVISED	REVISED	REVISED
DESIGNED	EVC	CS	
DRAWN	SGD	REC	
DATE	05/17/88	04/19/02	

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DATE	12/06/85

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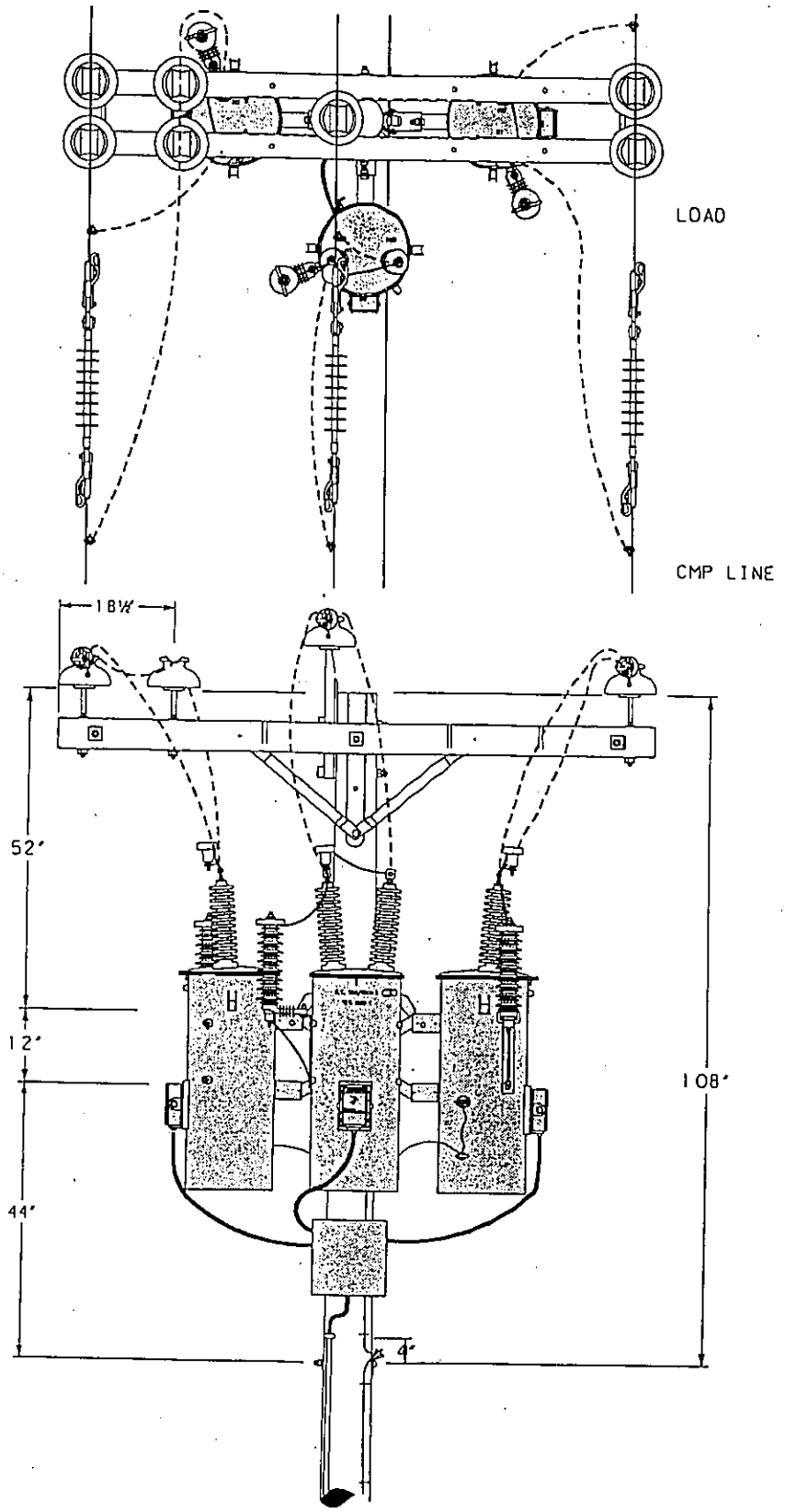

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CENTRAL MAINE POWER CO.

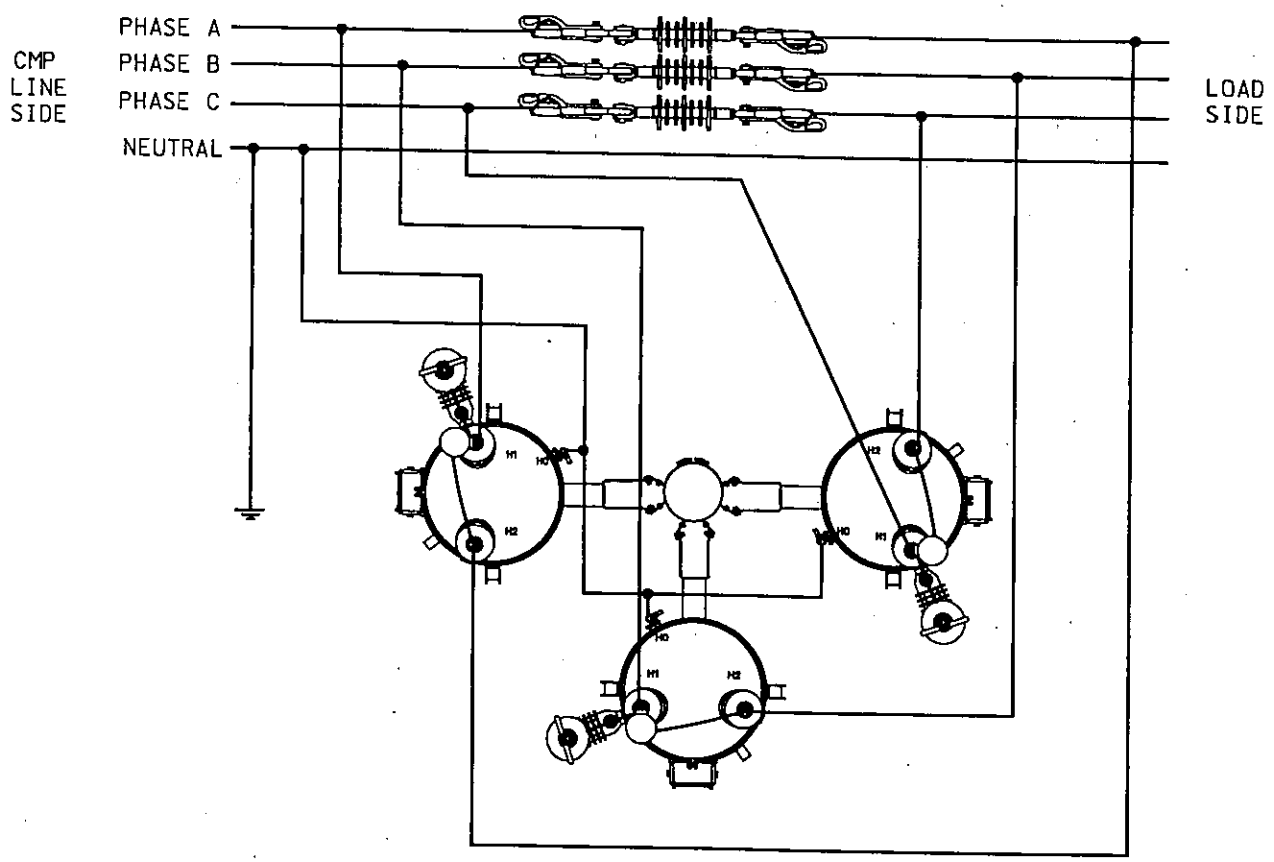
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
346-4C	3 PH PRIMARY METERING INST. CLUSTER MOUNT 35KV	

NOTES

1. The meter cable is to be run (on site) in 1 1/4" conduit and coupled to the top of the meter enclosure. A sufficient amount of meter cable with a watertight colbe connector to seal the top of the conduit shall be provided.
2. All necessary arresters shall be provided on the metering transformers.
3. Do not remove the CT by-pass protectors connected across the bushings. These are to protect the current transformer windings from surge currents.

FIELD CONNECTIONS DIAGRAM



	DESIGNED	DRAWN	DATE
	CS	REC	04/26/02
	CS	REC	02/06/06

	DESIGNED	DRAWN	DATE
	HEP		05/02/90

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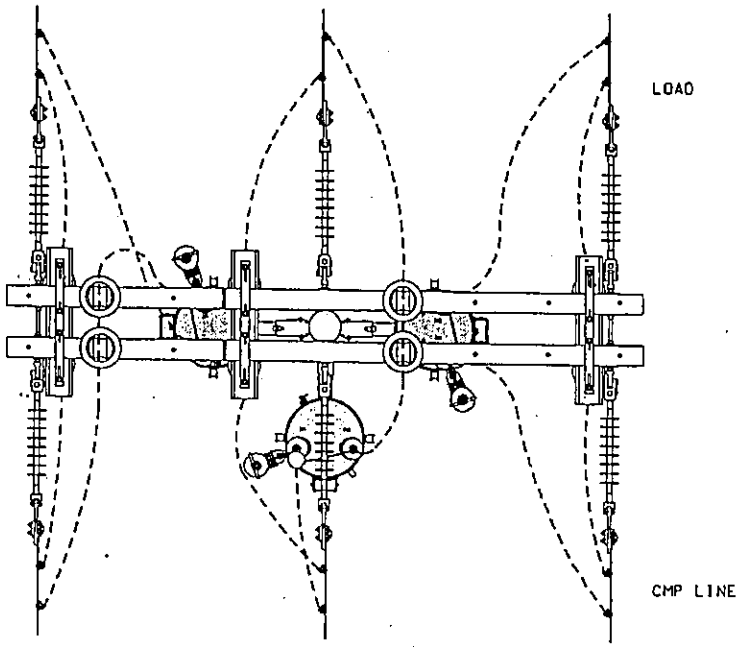
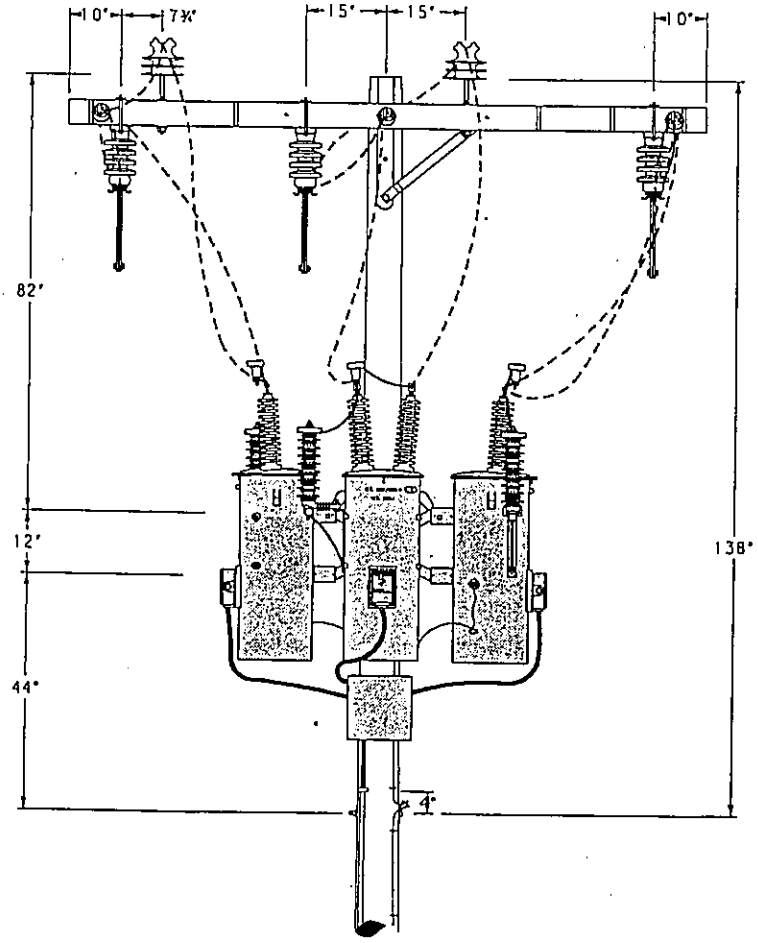
STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	3 PH PRIM METERING INST. CLUSTER MOUNT 35KV W/BYPASS	346-5B





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DESIGNED	EVG	CS	
DRAWN	SGD	REC	
DATE	05/17/88	04/19/02	

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DESIGNED	EVG
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DATE	01/20/87

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CENTRAL MAINE POWER CO.

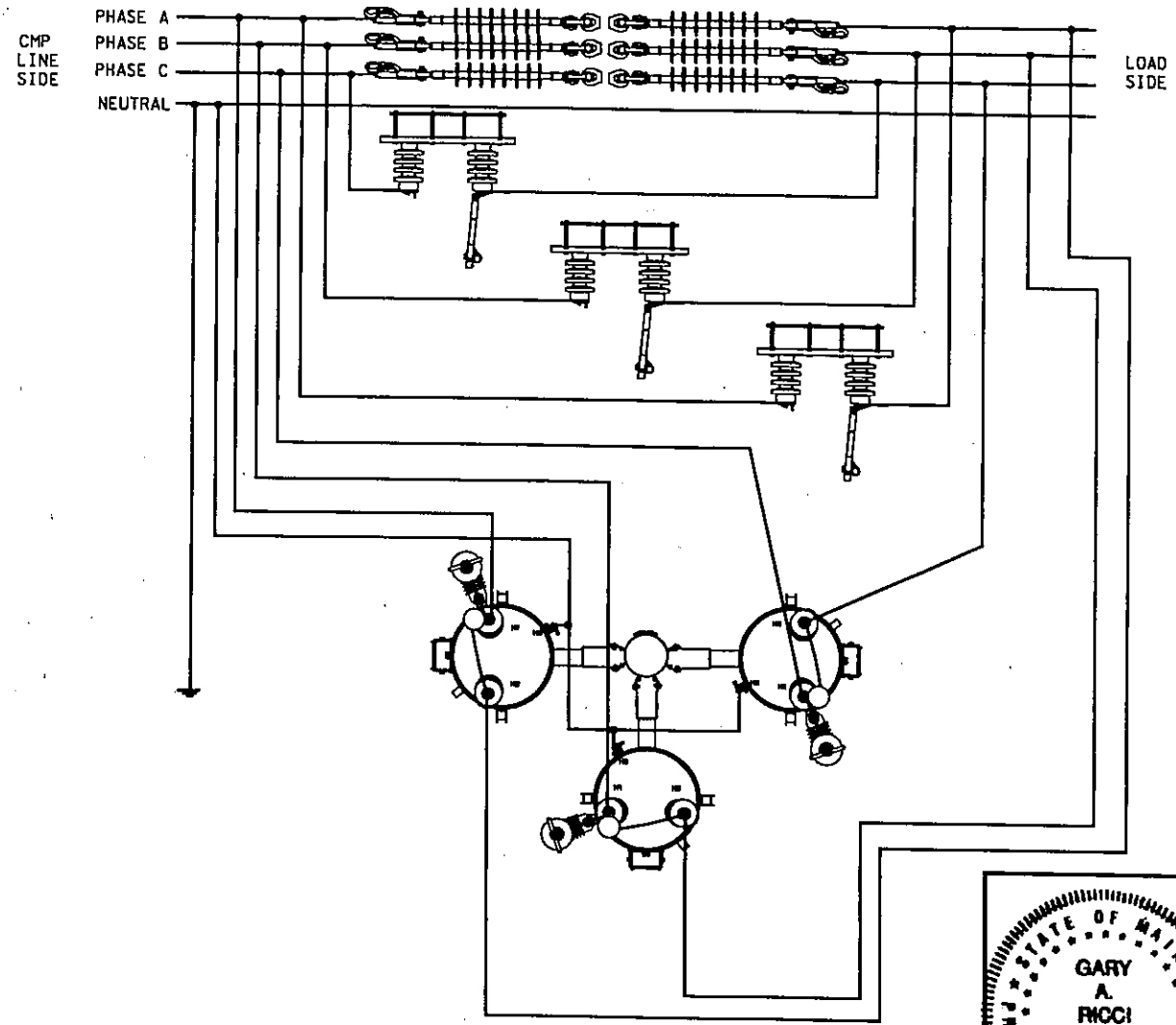
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
346-5C	3 PH PRIM METERING INST. CLUSTER MOUNT 35KV W/BYPASS	

NOTES

1. The meter cable is to be run (on site) in 1 1/4" conduit and coupled to the top of the meter enclosure. A sufficient amount of meter cable with a watertight cable connector to seal the top of the conduit shall be provided.
2. All necessary arresters shall be provided on the metering transformers.
3. Do not remove the CT by-pass protectors connected across the bushings. These are to protect the current transformer windings from surge currents.

FIELD CONNECTIONS DIAGRAM



	DESIGNED	DRAWN	DATE
	CS	REC	05/01/02
	CS	REC	02/06/06

	DESIGNED	DRAWN	DATE
ORIGINAL	HEP		05/02/90

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REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

NO.	REVISION	DATE	CK.
1	Corrected spelling in text	07/17/07	KP
1	Changed word meesanger to neutral	09/10/08	

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CONDUCTORS

Conductors for overhead distribution lines shall in general consist of All Aluminum Alloy (AAC) or aluminum material. Other materials may be desired or required under special circumstances.

Bare conductors shall be used for all rural construction where the voltage is in excess of 750 volts except where conditions or requirements make the use of tree wire advisable. Bare conductors shall likewise be used in urban and residential area construction except where local conditions require the use of covered wire.

Pole line construction shall be classified as one of three catagories:

(1) Medium Span Construction

(a) Recommeded for urban and residential areas
(b) Limited to 250 feet or less

(2) Long Span Constructionon

(a) Recommeded for rural areas
(b) Limited to 400 feet or less

(3) Extra Long Span Construction

(a) Requires special consideration by the Engineering Department
(b) Recommended for spans over 400 feet

The standard conductor for all new primary construction shall be #1/0 AAAC or 336.4 MCM 19 strand aluminum.

Standard secondary and service coble shall be aluminum multiplex cable (triplex or quodroplex) sized:

#2 Aluminum phase, #4 neutral

1/0 Aluminum phase, 1/0 neutral

336.4 MCM Aluminum phase, 4/0 neutral

Cases involving unusual engineering considerations may require the use of other types of conductors. Specifications for such special cases will be provided by Distribution Engineering on request.

STATE OF MAINE
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No. 11440
9/10/09
LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	TREE WIRE	351

	REVISED	REVISED	REVISED
DESIGNED	REDRAWN	CS	CS
DRAWN	JRP	CMH	REC
DATE	06/23/98	08/24/01	03/01/06

TREE WIRE

Tree wire is a partially insulated conductor that is designed to prevent service interruptions caused by momentary brush and tree contact.

Tree wire is to be used on a limited basis in those areas where tree trimming rights cannot be acquired or where continuous tree trimming is not possible. All tree wire installations shall require the approval of the Division Field Engineer/Superintendent.

NOTE: TREE WIRE IS NOT FULLY INSULATED: When energized, tree wire should be handled in the same manner as a bare energized conductor.

STANDARD TREE WIRE

15 kV

MID*6000207958 1/0 AAAC with 165 mils of polyethylene covering
MID*6000207981 336.4 MCM Aluminum with 165 mils of polyethylene covering

35 kV

MID*6000207990 1/0 AAAC with 315 mils of polyethylene covering
MID*6000207995 336.4 MCM Al with 315 mils of polyethylene covering

STANDARD TREE WIRE HARDWARE

15 kV

Insulators
MID*6000310352 Insulator pin-type 15KV for tree wire

Insulator Pins
MID*6000273850 Pin steel 5/8" x 2" x 12 1/2"

Ties
MID*6000205358 #4 Aluminum tie solid weatherproof

35 kV

Insulators
MID*6000310468 Insulator pin-type 27 kV for tree wire

Insulator Pins
MID*6000273900 Pin steel for 27 kV tree wire insulators

Ties
MID*6000205358 #4 Aluminum tie solid weatherproof

	ORIGINAL
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DATE	05/02/90

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MACRO

DESCRIPTION
CHARACTERISTICS OF LOW VOLTAGE AERIAL TRIPLEX AND QUADRAPLEX CABLE

PAGE 352

MATERIAL ID NUMBERS		6000200300	71641	6000200340	6000200330	6000200350
SIZE-AWG PHASE CONDUCTORS SIZE-AWG NEUTRAL MESSENGER		2-#2 ALUM. 1-#4 AAAC	2-#1/0 AL. 1-#1/0 AAAC	2-336.4 AL. 1-#4/0 AAAC	3-#1/0 AL. 1-#1/0 AAAC	3-336.4 AL. 1-#4/0 AAAC
TYPICAL USE		100 & 200 AMP SERV. DROP	200 A. SERV SEC. MAINS	400 A. SERV SEC. MAINS	200 A. SERV SEC. MAINS	400 A. SERV. SEC. MAINS
STRANDING PHASE CONDUCTORS STRANDING NEUTRAL MESSENGER		7 X .0974 7 X .0834	7 X .1228 7 X .1327	19 X .1331 7 X .1878	7 X .1228 7 X .1327	19 X .1331 7 X .1878
DIAMETER IN INCHES	INSULATED PHASE CONDUCTORS	.373	.477	.806	.482	.806
	BARE NEUTRAL MESSENGER	.250	.398	.563	.398	.563
ULT. STRENGTH NEUTRAL MESSENGER IN POUNDS		1760	4270	8560	4270	8560
(CIRCULAR MILS) AREA OF PHASE CONDUCTOR		66,360 CM	105,500 CM	336,400 CM	105,500 CM	336,400 CM
(CIRCULAR MILS) AREA OF NEUTRAL CONDUCTOR		41,740 CM	123,300 CM	246,900 CM	123,300 CM	246,900 CM
ALLOWABLE TENSION NEUT. MESSENGER 60% ULT. POUNDS		1050	2562	5136	2560	5136
FEET PER POUND		4.63	2.55	.97	1.92	.70
POUNDS PER 1000 FEET		216	391	1032	519	1428
* CURRENT CARRYING CAPACITY		150 AMPS	200 AMPS	380 AMPS	180 AMPS	330 AMPS
TYPE		TRIPLEX	TRIPLEX	TRIPLEX	QUADRAPLEX	QUADRAPLEX

*40°C AMBIENT, 90°C CONDUCTOR TEMPERATURE (XLPE); SUN AND WIND 2 FT/SEC.

STATE OF MAINE DANIEL R. LITTLEFIELD No. 11440 LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE 352-1

DESCRIPTION
CHARACTERISTICS OF ALUM. CONDUCTORS

MACRO

CODE NAME		AZUSA	TULIP
MATERIAL ID*		72001	71960
SIZE - AWG		1/0 AAAC	336.4 AL
COPPER EQUIVALENT (*AWG)		2	4/0
STRANDING		7 X .1327	19 X .1331
DIAMETER IN INCHES		.398	.666
ULTIMATE STRENGTH TENSION IN POUNDS		4270	6150
AREA OF CONDUCTOR CIRCULAR MILS		123300	336400
ALLOWABLE TENSION 60% ULT. POUNDS		* 2562	* 3690
FEET PER POUNDS		8.7	3.17
POUNDS PER 1000 FEET		114.9	315.5
CURRENT CARRYING CAPACITY IN AMPERES	WINTER	255	515
	SUMMER	210	415

COVERED CONDUCTORS

MATERIAL ID*		6000207958	6000207981	6000207990	6000207995	6000207996
SIZE - AWG		1/0 AAAC	336.4 AA	1/0AAAC	336.4AA	477AA
RATED KV		15	15	35	35	35
CONDUCTOR SHEILD IN MILS.		15	15	15	15	20
CONDUCTOR INSULATION IN MILS.		150	150	300	300	300
STRANDING		7 X .1327	19 X .1331	7 X .1379	19 X .1055	19 X .1331
OVERALL DIAMETER IN INCHES		.728	.933	1.028	1.237	1.362
ULTIMATE STRENGTH TENSION IN POUNDS		4270	6150	4270	6150	8360
AREA OF CONDUCTOR CIRCULAR MILS		123300	336400	123300	336400	477000
ALLOWABLE TENSION 60% ULT. POUNDS		* 2562	* 3690	* 2562	* 3690	* 5016
FEET PER POUNDS		3.92	2.01	2.36	1.39	1.11
POUNDS PER 1000 FEET		255	497	424	721	903
CURRENT CARRYING CAPACITY IN AMPERES	WINTER	243	475	230	448	554
	SUMMER	192	373	180	349	430

Winter amp ratings are based on a conductor temperature of 75°C with an air temperature of 25°C sun and wind 2 FT/SEC.

Summer amp ratings are based on a conductor temperature of 75°C with an air temperature of 40°C sun and wind 2 FT/SEC.

Conductors shown on this chart are standard conductors approved for new construction.

* Allowable tension may be limited by construction design criterion

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

STATE OF MAINE * GARY A. RICCI #4737 * REGISTERED PROFESSIONAL ENGINEER

		02/06/06	DATE
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		CS	DESIGNED
REVISED	REVISED	REVISED	

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DATE	01/10/18
DRAWN	RCE
DESIGNED	
ORIGINAL	

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DRAWN	REC		
DATE	01/30/06		

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ORAWN	
DATE	12/01/75

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MACRO

DESCRIPTION
CHARACTERISTICS OF MHD COPPER CONDUCTORS

PAGE
352-2

MIO*			N/A	6000205750	6000205773	6000205819	6000206118	6000206141	6000206164
SIZE - AWG			*8	*6	*4	*2	*1/0	*2/0	*4/0
STRANDING			SOLID	SOLID	SOLID	SOLID	7X.1228	7X.1379	7X.1739
DIAMETER IN INCHES	BARE		0.129	0.162	0.204	0.258	0.368	0.414	0.522
	TBWP		0.28	0.33	0.37	0.46	0.62	0.68	0.81
ULTIMATE STRENGTH	TENSION IN POUNDS		644	1010	1584	2450	3731	4599	6980
AREA OF CONDUCTOR	CIRCULAR MILS		16510	27220	41740	66360	105600	133100	211600
ALLOWABLE TENSION	60% ULT. POUNDS		386	606	950	1470	* 2239	* 2759	* 4188
FEET PER POUND	BARE TBWP POLY. WP		20.0 13.3 17.9	12.6 8.93 11.5	7.91 6.10 7.35	4.98 3.85 4.34	3.07 2.36 2.73	2.43 1.92 2.18	1.53 1.25 1.40
POUNDS PER 1000 FEET	BARE TBWP POLY. WP		50 75 56	80 112 87	126 164 136	201 260 230	326 424 367	411 522 458	653 800 715
CURRENT CARRYING CAPACITY IN AMPERES	TBWP & POLY. WP	WINTER	85	110	145	195	255	290	390
		SUMMER	70	90	120	165	215	245	330
	BARE	WINTER	90	120	170	220	310	360	480
		SUMMER							

Winter amp ratings are based on a conductor temperature of 75°C with an air temperature of 25°C sun and wind 2 FT/SEC.

Summer amp ratings are based on a conductor temperature of 75°C with an air temperature of 40°C sun and win 2 FT/SEC.

Conductors shown in this chart are repair items only, not to be used for new construction.

* Allowable tensions may be limited by construction design criterion

STATE OF MAINE * GARY A. RICCI #4737 * REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
352-3	CHARACTERISTICS OF COMPOSITE CONDUCTORS	

TYPES OF CONDUCTOR		COPPER-COPPERWELD		
MATERIAL ID*		6000206555	6000206578	6000206601
DESIGNATION		*6-A	*4-A	*2-A
COPPER EQUIVALENT		*6	*4	*2
STRANDING	CONDUCTORS	2 X .1068	2 X .1347	2 X .1699
	HIGH STRENGTH	1 X .1068	1 X .1347	1 X .1699
DIAMETER IN INCHES		0.230	0.290	0.366
ULTIMATE STRENGTH TENSION IN POUNDS		2585	3938	5876
AREA OF CONDUCTOR CIRCULAR MILS		34240	54440	86570
ALLOWABLE TENSION 60% ULT. POUNDS		1551	* 2362	* 3525
FEET PER POUNDS		9.85	6.18	3.89
POUNDS PER 1000 FEET		101.6	161.8	256.8
CURRENT CARRYING CAPACITY IN AMPERES	WINTER	140	180	240
	SUMMER			

Winter amp ratings are based on a conductor temperature of 75°C with an air temperature of 25°C sun and wind 2 FT/SEC.

Summer amp ratings are based on a conductor temperature of 75°C with an air temperature of 40°C sun and wind 2 FT/SEC.

Conductors shown in this chart are repair items only, not to be used for new construction.

* Allowable tension may be limited by construction design criterion

	REVISED	REVISED	REVISED
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DRAWN	REC		
DATE	01/30/06		

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DRAWN	
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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
352-4	CHARACTERISTICS OF ALUM. CONDUCTORS	

MATERIAL ID*		N/A	N/A	N/A
CODE NAME		POPPY	ASTER	SUNFLOWER
SIZE - AWG		1/0 AL	2/0 AL	4/0 AL
COPPER EQUIVALENT (*AWG)		2	1	2/0
STRANDING		7 X .1228	7 X .1379	19 X .1055
DIAMETER IN INCHES		.368	.414	.528
ULTIMATE STRENGTH TENSION IN POUNDS		1990	2510	3890
AREA OF CONDUCTOR CIRCULAR MILS		105600	133100	211600
ALLOWABLE TENSION 60% ULT. POUNDS		1194	1506	* 2334
FEET PER POUNDS		10.1	8.01	5.04
POUNDS PER 1000 FEET		98.9	124.8	198.6
CURRENT CARRYING CAPACITY IN AMPERES	WINTER	245	285	385
	SUMMER	200	235	315

Winter amp ratings are based on a conductor temperature of 75°C with an air temperature of 25°C sun and wind 2 FT/SEC.

Summer amp ratings are based on a conductor temperature of 75°C with an air temperature of 40°C sun and wind 2 FT/SEC.

Conductors shown in this chart are repair items only, not to be used for new constuction.

* Allowable tension may be limited by construction design criterion

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DATE	01/01/81

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No. 11440
9/c/08
LICENSED
PROFESSIONAL ENGINEER

PAGE 352-5

DESCRIPTION CHARACTERISTICS OF BARE ACSR CONDUCTORS

MACRO

MATERIAL ID*		6000204485	6000204508	6000204554	6000204600	6000204623	6000204669	6000204738
CODE NAME		TURKEY	SWANATE	SPARATE	RAVEN	QUAIL	PENGUIN	ORIOLE
SIZE - AWG		6	4	2	1/0	2/0	4/0	336.4MCM
COPPER EQUIVALENT		8	6	4	2	1	2/0	4/0
STRANDING	ALUMINUM	6X.0661	7X.0772	7X.0974	6X.1327	6X.1489	6X.1878	30X.1059
	STEEL	1X.0661	1X.1029	1X.1299	1X.1327	1X.1489	1X.1878	7X.1059
DIAMETER IN INCHES		.198	.257	.325	.398	.447	.563	.741
ULTIMATE STRENGTH TENSION IN POUNDS		1190	2360	3640	4380	5300	8350	17300
AREA OF CONDUCTOR CIRCULAR MILS		26250	41740	66370	105500	133100	211600	336400
ALLOWABLE TENSION 60% ULT. POUNDS		714	1416	* 2184	* 2628	* 3180	* 5010	* 10380
FEET PER POUNDS		27.8	14.9	9.34	6.89	5.46	3.44	1.90
POUNDS PER 1000 FEET		36	67	107	145	183	291	526
CURRENT CARRYING CAPACITY IN AMPERES	WINTER	105	140	185	240	275	360	535
	SUMMER	85	115	150	200	225	295	435

Winter amp ratings are based on a conductor temperature of 75°C with an air temperature of 25°C sun and wind 2 FT/SEC.

Summer amp ratings are based on a conductor temperature of 75°C with an air temperature of 40°C sun and wind 2 FT/SEC.

Conductors shown in this chart are repair items only, not to be used for new construction.

* Allowable tension may be limited by construction design criterion

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

GARY A. RICCI #4737 STATE OF MAINE PROFESSIONAL ENGINEER

		01/30/06	DATE
		REC	DRAWN
		CS	DESIGNED
	REVISED	REVISED	

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12/01/75	DATE
RCE	DRAWN
	DESIGNED
ORIGINAL	

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MACRO	DESCRIPTION	PAGE
	Conductor Sagging - General Information	354

	REVISED	REVISED	REVISED
DESIGNED	JEC	JEC	CS
DRAWN	RFW	GRG	REC
DATE	2/01/94	2/9/94	10/01/01

General: The following tables contain information necessary for proper design and installation of overhead conductors. The tables consist of "stringing sags" and "final sags" for all commonly used conductors in the CMP system. The stringing sags tables are to be used for all new installations of overhead conductors. The final sags tables are to be used for designing new construction to allow for proper clearances and for resagging existing lines when construction changes are made.

Underlying Assumptions: The tables have been designed to comply with all applicable safety codes and good engineering and construction practices. Where possible, conductor tensions have been limited to either 2000 lb. or 3000 lb. tensions under heavy loading conditions. Heavy loading conditions are defined as one half inch radial thickness of ice on the conductor and a four pound per square foot horizontal wind pressure perpendicular to the conductor (NESC 250B). While some conductors may have ultimate breaking strengths greater than these values, these values ensure that cross arm strengths are not exceeded. In addition, The National Electrical Safety Code requires that a conductor tension under worse case conditions not exceed 60% of its rated breaking strength. It also requires that at 60 degrees Farenheit, the conductor tension not exceed 35% of its rated breaking strength when installed nor 25% of its rated breaking after reaching final sag conditions (NESC 261H2).

Use of Sag Tables: The sag tables are set up with two different sag specifications. Stringing sag information is to be used when installing new conductors. Final sag information is to be used in determining the amount of vertical space required for conductor clearances. Specifically, the largest sag as specified in the final sag table for a given length span and type of conductor is to be used in conjunction with required conductor spacing (power and communication) to determine the proper vertical CMP space on a pole. In addition, the final sag tables are to be used for resagging conductors, which have been subjected to final sag conditions, when they have been detached from poles for maintenance or construction purposes.

Determining Ruling Span: Ruling span is defined as a weighted average of various length spans that occur between dead ends.

FOR PURPOSES OF ESTIMATION IT MAY BE EASIER TO TAKE THE AVERAGE OF THE SPANS AND APPROXIMATE THE RULING SPAN WITH THIS VALUE.

Strictly speaking, a ruling span can be calculated from the following formula.

$$\text{RULING SPAN} = \sqrt{\left(\frac{S_1^3+S_2^3+S_3^3+\ldots S_N^3}{S_1+S_2+S_3+\ldots S_N}\right)}$$

The equation says to take the sum of the cubes of each span divided by the sum of the spans, and then to take the square root of the total.

In the tables when two ruling spans are given, the longer ruling span will be used primarily in rural areas where pole spans are generally longer, and the shorter ruling span will be generally be used in urban areas where poles are closer together.

	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	1/28/94

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STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

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DESIGNED	BCB
DRAWN	RFW
DATE	1/28/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE KENT B. POOLE #7658 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
336,400 CM BARE ALUMINUM WIRE
150 FOOT RULING SPAN

PAGE
354-1

STRINGING SAG CHART - FOR INSTALLATION

336,400 CM BARE ALUMINUM WIRE
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	4	5	6	8	10	12	13	16
125	6	8	10	13	16	18	21	25
150	8	11	14	19	23	27	30	37
175	11	15	20	25	31	36	41	50
200	15	19	26	33	40	47	54	65
STRINGING TENSION (LBS.)	1292	983	741	576	471	402	354	292

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM BARE ALUMINUM WIRE
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 OEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	11	12	5	7	9	11	12	14	15	18
125	17	19	8	11	14	17	19	22	24	28
150	25	28	11	15	20	24	28	31	35	41
175	34	38	15	21	28	33	38	43	47	55
200	44	49	20	27	36	43	50	56	62	72
FINAL TENSION (LBS.)	2000	1269	961	702	527	446	383	340	308	263

STRINGING SAG CHART - FOR INSTALLATION

336,400 CM BARE ALUMINUM WIRE
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	17	19	21	23	24	26	27	30
200	30	34	37	40	43	46	48	53
250	47	53	58	63	67	71	76	83
300	68	76	83	90	97	103	109	120
350	92	103	113	123	132	140	148	164
STRINGING TENSION (LBS.)	630	565	515	475	443	416	394	357

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM BARE ALUMINUM WIRE
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	25	26	19	21	23	25	26	28	29	32
200	45	47	35	38	41	44	47	49	52	57
250	70	73	54	59	65	69	73	77	81	88
300	100	105	78	85	93	99	105	111	117	127
350	137	144	106	116	127	134	143	151	159	174
FINAL TENSION (LBS.)	2000	1341	550	503	460	434	408	387	368	338

STATE OF MAINE
KENT B. POOLE
#7988
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DESIGNED	DRAWN	DATE
BCB	RFW	1/28/94

DESIGNED	DRAWN	DATE
CS	CMH	8/24/01

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DATE	2/15/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7986
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
336,400 CM BARE ALUMINUM WIRE
300 FOOT RULING SPAN – 3000 LB. MAXIMUM TENSION

PAGE
354-3

STRINGING SAG CHART - FOR INSTALLATION

336,400 CM BARE ALUMINUM WIRE
300 FOOT RULING SPAN
3000 LB. MAXIMUM TENSION
USE APPROPRIATE GUYS AND STRUCTURES

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
200	10	11	14	16	19	22	25	31
250	15	18	21	25	30	35	39	48
300	22	26	31	37	43	50	56	69
350	29	35	42	50	59	68	77	94
400	38	46	55	65	77	89	100	122
STRINGING TENSION (LBS.)	1975	1662	1389	1165	990	858	758	622

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM BARE ALUMINUM WIRE
300 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2 " ICE	0	15	32	45	60	75	90	120
200	30	30	15	18	22	24	27	30	33	37
250	46	47	23	28	34	38	42	47	51	59
300	67	68	34	40	49	55	61	67	73	84
350	91	93	46	55	66	74	83	92	100	115
400	119	121	60	72	86	97	109	120	131	150
FINAL TENSION (LBS.)	3000	2068	1273	1056	880	783	699	634	583	508

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-4

DESCRIPTION 336,400 CM ALUMINUM 8 kV TREE WIRE 150 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR INSTALLATION

336,400 CM ALUMINUM 8 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	6	7	9	10	12	14	15	18
125	9	11	14	16	19	21	24	28
150	13	16	20	24	27	31	34	40
175	17	22	27	32	37	42	46	54
200	23	29	35	42	48	55	60	71
225	29	36	45	53	61	69	76	89
250	35	45	55	66	76	85	94	110
STRINGING TENSION (LBS.)	1121	889	721	605	524	466	422	360

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM ALUMINUM 8 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	13	14	7	9	11	13	14	16	17	19
125	20	22	11	14	17	20	22	24	26	30
150	29	32	16	21	25	28	32	35	38	43
175	39	43	22	28	34	38	43	48	52	59
200	51	56	29	37	45	50	56	62	67	77
225	65	71	37	46	56	64	71	79	85	98
250	80	88	46	57	70	79	88	97	105	121
FINAL TENSION (LBS.)	2000	1341	864	694	570	505	451	409	377	330

*OVERALL DIAMETER = 0.836" (APPRXIMATELY 27/32 INCHES)

STATE OF MAINE
KENT B. POOLE
REGISTERED PROFESSIONAL ENGINEER

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DATE	2/17/94

		DATE 8/24/01
		DRAWN CMH
		DESIGNED CMH

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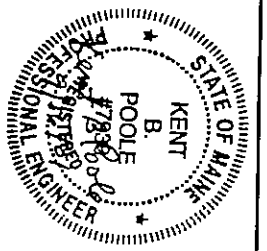
	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	1/28/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		



STRINGING SAG CHART - FOR INSTALLATION

336,400 CM ALUMINUM 8 kV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	22	24	25	27	28	30	31	33
200	39	42	45	48	50	53	55	59
250	61	66	70	74	78	82	86	93
300	89	95	101	107	113	118	124	134
350	121	129	138	146	154	161	168	182
STRINGING TENSION (LBS.)	646	602	566	535	508	485	464	430

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM ALUMINUM 8 kV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	29	30	24	26	27	29	30	31	33	35
200	51	53	43	46	49	51	53	56	58	62
250	80	84	67	71	76	80	83	87	91	97
300	115	120	97	103	110	115	120	125	130	140
350	157	164	132	140	149	156	163	171	178	191
FINAL TENSION (LBS.)	2000	1415	593	557	523	501	478	458	441	411

* OVERALL DIAMETER = 0.836" (APPROXIMATELY 27/32 INCHES)

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
336,400 CM ALUMINUM 8 kV TREE WIRE
250 FOOT RULING SPAN

PAGE
354-5

STRINGING SAG CHART - FOR INSTALLATION

336,400 CM ALUMINUM 15 KV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	8	9	11	12	14	15	17	19
125	12	15	17	19	22	24	26	30
150	17	21	25	28	31	34	37	43
175	24	29	33	38	43	47	51	58
200	31	37	44	50	56	61	66	76
STRINGING TENSION (LBS.)	1009	842	720	632	566	515	475	415

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM ALUMINUM 15 KV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	14	16	10	11	13	14	16	17	18	20
125	22	24	15	18	20	22	24	26	28	32
150	32	35	21	25	29	32	35	38	41	46
175	44	48	29	34	40	44	48	52	56	63
200	57	63	38	45	52	57	63	68	73	82
FINAL TENSION (LBS.)	2000	1398	821	700	604	551	502	464	433	385

* OVERALL DIAMETER = 0.996"

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

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DATE	1/27/94

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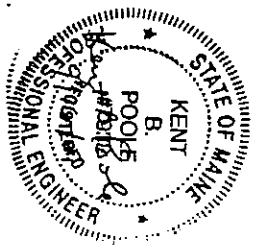
DRAWN	CMH		
DATE	8/24/01		



STRINGING SAG CHART - FOR INSTALLATION

336,400 CM ALUMINUM 15 KV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	27	28	29	31	32	33	34	37
200	47	50	52	55	57	59	61	65
250	74	78	82	85	89	92	95	102
300	106	112	118	123	128	133	138	147
350	145	153	160	167	174	181	187	200
STRINGING TENSION (LBS.)	666	633	604	579	556	536	517	486

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM ALUMINUM 15 KV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4* WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	32	34	28	30	31	32	33	35	36	38
200	57	60	50	53	55	57	60	62	64	68
250	90	93	79	83	87	90	93	96	100	106
300	129	135	113	119	125	129	134	139	144	152
350	176	183	154	162	170	176	183	189	196	208
FINAL TENSION (LBS.)	2000	1471	626	597	569	550	530	513	496	468

* OVERALL DIAMETER = 0.996"

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
336,400 CM ALUMINUM 15 KV TREE WIRE
250 FOOT RULING SPAN

PAGE
354-7

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-8

DESCRIPTION 336,400 CM ALUMINUM 35 kV TREE WIRE 150 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR INSTALLATION

336,400 CM ALUMINUM 35 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	12	14	15	16	18	19	20	22
125	19	22	24	26	27	29	31	34
150	28	31	34	37	39	42	44	49
175	38	42	46	50	54	57	61	67
200	50	55	60	65	70	75	79	87
STRINGING TENSION (LBS.)	922	832	760	702	654	615	581	526

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM ALUMINUM 35 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	18	19	14	15	17	18	19	20	21	23
125	27	30	22	24	26	28	30	31	33	36
150	39	43	31	34	38	40	43	45	47	52
175	54	58	43	47	51	54	58	61	65	71
200	70	76	56	61	67	71	76	80	84	92
FINAL TENSION (LBS.)	2000	1497	820	749	685	645	606	573	544	498

* OVERALL DIAMETER = 1.296"

STATE OF MAINE
KENT B. POOLE
PROFESSIONAL ENGINEER

DESIGNED	BCB	DATE	1/28/94
DRAWN	RFW		

DESIGNED	CS	DATE	8/24/01
DRAWN	CMH		

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	REVISED	REVISED	REVISED
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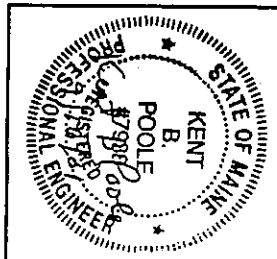
DATE	8/24/01		



STRINGING SAG CHART - FOR INSTALLATION

336,400 CM ALUMINUM 35 kV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	16	18	19	21	22	24	25	28
200	28	31	34	37	40	42	45	50
250	44	49	53	58	62	66	70	78
300	64	70	77	83	89	95	101	112
350	87	96	104	113	121	129	137	152
STRINGING TENSION (LBS.)	1610	1465	1344	1244	1158	1086	1024	924

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

336,400 CM ALUMINUM 35 kV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	D	15	32	45	60	75	90	120
150	26	27	20	22	23	25	26	27	29	31
200	47	49	35	38	41	44	46	49	51	56
250	73	76	55	60	65	68	72	76	80	87
300	105	110	80	86	93	98	104	110	115	126
350	143	150	108	117	127	134	142	150	157	171
FINAL TENSION (LBS.)	3000	2321	1294	1197	1107	1049	990	940	896	824

* OVERALL DIAMETER = 1.296

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
336,400 CM ALUMINUM 35 kV TREE WIRE
250 FOOT RULING SPAN

PAGE
354-9

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-10

DESCRIPTION #1/0 AAAC BARE WIRE 150 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR INSTALLATION

#1/0 AAAC BARE WIRE
150 FOOT RULING SPAN

TEMPERATURE IN OEGREES F
CONOUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	1	1	1	1	1	2	2	2
125	1	2	2	2	2	2	3	4
150	2	2	3	3	3	4	4	6
175	3	3	3	4	4	5	5	8
200	4	4	4	5	6	6	7	10
STRINGING TENSION (LBS.)	1831	1687	1544	1401	1258	1116	974	695

FINAL SAG CHART - FOR OESIGN & MAINTENANCE

#1/0 AAAC BARE WIRE
150 FOOT RULING SPA

TEMPERATURE IN OEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 OEG. 1/2" ICE 4# WIND	32 OEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	8	7	1	1	1	1	2	2	2	4
125	13	10	2	2	2	2	3	3	4	7
150	19	15	2	3	3	3	4	5	6	10
175	26	20	3	3	4	4	5	6	8	14
200	34	26	4	4	5	6	7	8	10	18
FINAL TENSION (LBS.)	2000	1522	1734	1559	1360	1209	1035	863	695	393

STATE OF MAINE
KENT B. POOLE
#7999
REGISTERED PROFESSIONAL ENGINEER

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DATE	1/25/94

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DATE	8/24/0

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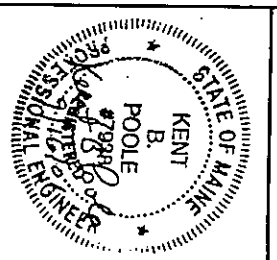
DATE	1/25/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		



CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#1/0 AAAC BARE WIRE
250 FOOT RULING SPAN

PAGE
354-11

STRINGING SAG CHART - FOR INSTALLATION

#1/0 AAAC BARE WIRE
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	3	3	3	4	4	5	6	9
200	5	5	6	7	8	9	11	16
250	7	8	9	11	12	14	17	25
300	11	12	13	15	18	21	25	37
350	15	16	18	21	24	28	33	50
STRINGING TENSION (LBS.)	1448	1307	1166	1028	892	760	636	427

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#1/0 AAAC BARE WIRE
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	19	16	3	4	4	5	6	8	10	14
200	34	29	5	6	8	9	11	14	18	26
250	52	45	9	10	12	14	17	22	27	40
300	76	64	12	14	17	20	25	31	40	58
350	103	87	17	19	23	28	34	43	54	78
FINAL TENSION (LBS.)	2000	1414	1269	1099	911	773	625	496	395	272

STRINGING SAG CHART - FOR INSTALLATION

#1/0 AAAC BARE WIRE
300 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
200	6	7	8	9	10	12	15	20
250	9	10	12	14	16	19	23	32
300	13	15	17	20	23	28	33	46
350	18	20	23	27	32	38	45	63
400	23	26	30	35	41	49	59	82
STRINGING TENSION (LBS.)	1190	1054	920	792	671	563	470	339

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#1/0 AAAC BARE WIRE
300 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
200	34	29	7	9	11	13	16	19	22	28
250	53	46	11	13	17	20	24	29	34	44
300	76	66	16	19	24	29	35	42	49	63
350	103	90	22	26	33	39	48	57	67	86
400	135	118	29	34	43	51	63	75	88	112
FINAL TENSION (LBS.)	2000	1371	965	810	649	543	444	370	317	249

STATE OF MAINE
KENT B. POOLE
REGISTERED PROFESSIONAL ENGINEER
#7880

DESIGNED	BCB
DRAWN	RFW
DATE	2/10/94

DESIGNED	CS
DRAWN	CMH
DATE	8/24/01

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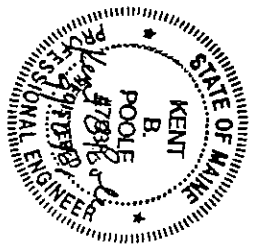
	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/16/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		



STRINGING SAG CHART - FOR INSTALLATION

*1/0 AAAC 8 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	1	1	2	2	2	2	3	4
125	2	2	3	3	3	3	4	6
150	3	3	4	4	4	5	6	8
175	4	4	5	5	6	7	8	11
200	5	6	6	7	8	9	10	14
225	7	7	8	9	10	11	13	18
250	8	9	10	11	12	14	16	23
STRINGING TENSION (LBS.)	1776	1633	1490	1348	1206	1066	927	659

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*1/0 AAAC 8 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	9	8	1	2	2	2	2	3	4	6
125	15	12	2	2	3	3	4	5	6	10
150	21	18	3	4	4	5	5	7	8	14
175	29	24	4	5	6	6	7	9	11	19
200	38	32	6	6	7	8	10	12	15	24
225	48	40	7	8	9	11	12	15	19	31
250	59	50	9	10	12	13	15	18	23	38
FINAL TENSION (LBS.)	2000	1524	1667	1493	1296	1146	976	810	652	390

* OVERALL DIAMETER = 0.538"

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#1/0 AAAC 8 kV TREE WIRE
150 FOOT RULING SPAN

PAGE
354-13

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-14

DESCRIPTION #1/0 AAAC 8 kV TREE WIRE 250 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR INSTALLATION

#1/0 AAAC 8 kV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	4	5	5	6	7	8	10	13
200	7	8	9	11	12	14	17	23
250	11	13	14	17	19	22	26	36
300	16	18	21	24	28	32	38	52
350	22	25	28	32	38	44	52	71
STRINGING TENSION (LBS.)	1302	1166	1032	902	779	665	564	412

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#1/0 AAAC 8 kV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	21	19	5	6	7	8	10	12	14	18
200	38	34	9	10	12	14	17	21	24	32
250	59	53	14	16	19	23	27	33	38	49
300	85	76	20	23	28	33	39	47	55	71
350	116	103	27	31	38	44	53	64	75	97
FINAL TENSION (LBS.)	2000	1433	1100	942	775	660	547	457	390	303

* OVERALL DIAMETER = 0.538"

STATE OF MAINE
KENT B. POOLE
PROFESSIONAL ENGINEER

DESIGNED	DRAWN	DATE
BCB	RFW	2/17/94

DESIGNED	DRAWN	DATE
CS	CMH	8/24/01

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	1/24/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7882
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
*1/0 AAAC 15 KV TREE WIRE
150 FOOT RULING SPAN

PAGE
354-15

STRINGING SAG CHART - FOR INSTALLATION

*1/0 AAAC 15 KV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	2	2	3	3	3	4	4	6
125	3	4	4	5	5	6	7	9
150	5	5	6	7	8	9	10	14
175	7	7	8	9	10	12	13	18
200	9	10	11	12	13	15	17	24
STRINGING TENSION (LBS.)	1683	1542	1402	1263	1126	992	862	627

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*1/0 AAAC 15 KV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	11	10	2	3	3	4	4	5	6	9
125	17	16	4	4	5	6	7	8	10	14
150	25	22	5	6	7	8	9	11	14	20
175	34	30	7	8	10	11	13	15	19	27
200	44	40	10	11	13	14	17	20	24	36
FINAL TENSION (LBS.)	2000	1535	1555	1385	1194	1052	895	747	617	424

* OVERALL DIAMETER = 0.698" (APPROXIMATELY 11/16 INCHES)

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-16

DESCRIPTION #1/0 AAAC 15 KV TREE WIRE 250 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR INSTALLATION

#1/0 AAAC 15 KV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN OEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	8	9	10	11	13	14	16	19
200	14	16	17	20	22	25	28	34
250	22	24	27	31	35	39	44	53
300	31	35	39	44	50	56	63	76
350	42	48	54	61	68	77	85	103
STRINGING TENSION (LBS.)	1088	970	862	763	677	603	541	448

FINAL SAG CHART - FOR OESIGN & MAINTENANCE

#1/0 AAAC 15 KV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN OEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 OEG. 1/2" ICE 4# WIND	32 OEG. 1/2" ICE	D	15	32	45	60	75	90	120
150	25	23	10	11	13	14	16	18	20	23
200	44	42	17	20	23	25	29	32	35	40
250	69	65	27	31	36	40	45	49	54	63
300	100	94	38	44	51	57	64	71	78	91
350	136	128	52	60	70	78	87	97	106	124
FINAL TENSION (LBS.)	2000	1471	887	772	663	594	529	477	436	373

* OVERALL DIAMETER = 0.698" (APPROXIMATELY 11/16 INCHES)

STATE OF MAINE
KENT B. POOLE
#7988
REGISTERED PROFESSIONAL ENGINEER

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DESIGNED	BCB
DRAWN	RFW
DATE	1/24/94

DESIGNED	CS	
DRAWN	CMH	
DATE	8/24/01	

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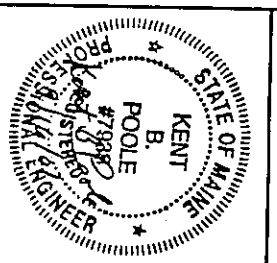
	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	1/24/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		



CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#1/0 AAAC 35 kV TREE WIRE
150 FOOT RULING SPAN

PAGE
354-17

STRINGING SAG CHART - FOR INSTALLATION

#1/0 AAAC 35 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
100	4	5	5	6	6	7	8	10
125	7	7	8	9	10	11	12	16
150	9	10	11	13	14	16	18	23
175	13	14	15	17	19	22	24	31
200	17	18	20	22	25	28	32	40
STRINGING TENSION (LBS.)	1510	1377	1247	1122	1003	892	790	623

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#1/0 AAAC 35 kV TREE WIRE *
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	14	13	5	5	6	7	8	9	10	13
125	21	21	7	8	9	11	12	14	16	20
150	31	30	10	12	14	15	18	20	23	29
175	42	40	14	16	19	21	24	28	31	39
200	55	53	19	21	24	27	31	36	41	51
FINAL TENSION (LBS.)	2000	1564	1357	1203	1038	923	803	701	616	491

* OVERALL DIAMETER = 0.998"

STRINGING SAG CHART - FOR INSTALLATION

*1/0 AAAC 35 KV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
150	17	18	19	21	22	23	25	27
200	29	32	34	37	39	42	44	49
250	46	50	53	57	61	65	69	76
300	66	72	77	83	88	94	99	110
350	90	97	105	112	120	127	135	149
STRINGING TENSION (LBS.)	857	793	737	687	645	607	574	520

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*1/0 AAAC 35 KV TREE WIRE *
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	31	30	19	21	22	24	25	26	28	30
200	55	54	34	37	40	42	44	47	49	54
250	86	84	53	57	62	65	69	73	77	84
300	124	122	77	83	89	94	100	105	111	121
350	169	166	104	113	122	128	136	143	151	165
FINAL TENSION (LBS.)	2000	1533	739	687	636	603	569	540	514	471

* OVERALL DIAMETER = 0.998"

STATE OF MAINE
KENT B. POOLE
#7080
REGISTERED PROFESSIONAL ENGINEER

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DATE	1/25/94
DRAWN	RFW
DESIGNED	BCB

DATE	8/24/01
DRAWN	CMH
DESIGNED	CS

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/15/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
REGISTERED PROFESSIONAL ENGINEER

MACRO

DESCRIPTION
#4/0 AWG STRANDED BARE COPPER MHD
150 FOOT RULING SPAN

PAGE
354-19

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#4/0 AWG STRANDED BARE COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	13	13	9	10	11	12	13	15	16	17
125	20	21	14	16	18	19	21	23	24	27
150	29	30	20	23	26	28	30	33	35	39
175	39	41	27	31	35	38	41	44	47	53
200	51	54	36	40	46	50	54	58	62	70
FINAL TENSION (LBS.)	2000	1437	1101	973	861	794	730	678	634	566

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*4/0 AWG STRANDED WP COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	15	16	12	13	14	15	16	17	18	19
125	24	25	19	20	22	23	25	26	28	30
150	34	36	27	29	32	34	36	38	40	44
175	47	49	37	40	43	46	49	52	54	60
200	61	65	48	52	57	60	64	68	71	78
FINAL TENSION (LBS.)	2000	1508	1008	926	850	802	754	714	678	620

KENT B. POOLE 7690 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

DESIGNED	BCB	DATE	2/16/94
DRAWN	RFW		

DESIGNED	CS	DATE	8/24/01
DRAWN	CMH		

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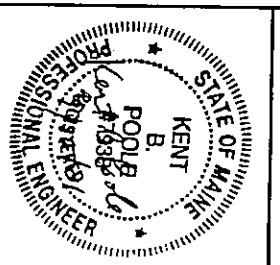
	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/11/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		



NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#2/0 AWG STRANDED BARE COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	10	10	4	5	6	7	8	9	10	13
125	16	16	7	8	10	11	13	15	16	20
150	23	23	10	12	14	16	18	21	24	29
175	32	31	14	16	19	21	25	28	32	39
200	42	40	18	21	25	28	32	37	42	51
FINAL TENSION (LBS.)	2000	1454	1382	1193	1004	879	760	665	591	486

MACRO

DESCRIPTION
#2/0 AWG STRANDED BARE COPPER MHD
150 FOOT RULING SPAN

PAGE
354-21

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*2/0 AWG STRANDED BARE COPPER MHD
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4* WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	23	23	16	17	19	20	21	22	24	26
200	42	41	28	31	33	35	38	40	42	46
250	65	64	45	48	52	55	59	62	65	72
300	94	93	64	69	75	80	85	90	94	103
350	128	126	87	94	103	109	115	122	128	141
FINAL TENSION (LBS.)	2000	1434	868	801	739	698	657	622	592	541

STATE OF MAINE
KENT B. POOLE
#7908
REGISTERED PROFESSIONAL ENGINEER

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

DESIGNED	BCB
DRAWN	RFW
DATE	1/27/94

DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/11/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#10826
REGISTERED PROFESSIONAL ENGINEER

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONOUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*2/0 AWG STRANDED WP COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONOUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	13	13	7	7	9	10	11	12	13	15
125	20	20	10	12	13	15	17	18	20	23
150	28	28	15	17	19	21	24	26	29	33
175	39	39	20	23	26	29	33	36	39	45
200	50	50	26	30	34	38	43	47	51	59
FINAL TENSION (LBS.)	2000	1498	1194	1048	909	822	738	670	615	531

CENTRAL MAINE POWER CO.
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
*2/0 AWG STRANDED WP COPPER MHD
150 FOOT RULING SPAN

PAGE
354-23

DESCRIPTION *2/0 AWG STRANDED WP COPPER MHO 250 FOOT RULING SPAN

MACRO

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART FOR DESIGN & MAINTENANCE

*2/0 AWG STRANDED WP COPPER MHO
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	28	28	22	23	25	26	27	28	29	31
200	51	51	40	42	44	45	47	49	51	54
250	79	79	62	65	68	71	74	77	80	85
300	114	114	89	94	99	102	106	111	115	122
350	155	155	121	127	134	139	145	151	156	166
FINAL TENSION (LBS.)	2000	1499	795	757	719	693	666	642	620	581

STATE OF MAINE
KENT B. POOLE
#7898
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	DRAWN	DATE
CS	CMH	8/24/01

DESIGNED	DRAWN	DATE
BCB	RFW	1/27/94

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/11/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7881
REGISTERED PROFESSIONAL ENGINEER

MACRO

DESCRIPTION
#1/0 AWG STRANDED BARE COPPER MHD
150 FOOT RULING SPAN

PAGE
354-25

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#1/0 AWG STRANDED BARE COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	10	9	3	4	4	5	5	6	7	10
125	15	14	5	6	6	7	8	10	11	15
150	22	19	7	8	9	10	12	14	17	22
175	29	26	10	11	13	14	17	19	22	30
200	38	35	13	14	16	19	22	25	29	39
FINAL TENSION (LBS.)	2000	1504	1545	1373	1185	1049	904	775	666	507

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-26

DESCRIPTION *1/0 AWG STRANDED BARE COPPER MHD 250 FOOT RULING SPAN

MACRO

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*1/0 AWG STRANDED BARE COPPER MHD
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4* WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	22	20	11	13	14	15	17	18	19	22
200	38	36	20	22	25	27	29	32	34	39
250	60	57	32	35	39	42	46	50	53	60
300	87	82	45	50	56	61	66	72	77	87
350	118	111	62	69	77	83	90	98	105	118
FINAL TENSION (LBS.)	2000	1438	969	873	781	722	664	615	574	508

STATE OF MAINE
KENT B. POOLE
#7986
REGISTERED PROFESSIONAL ENGINEER

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DESIGNED	BCB
DRAWN	RFW
DATE	1/26/94

DESIGNED	CS
DRAWN	CMH
DATE	8/24/01

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/11/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7738
REGISTERED PROFESSIONAL ENGINEER

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*1/0 AWG STRANDED WP COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4* WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	12	11	5	5	6	7	8	9	10	12
125	18	17	7	8	9	11	12	14	15	19
150	26	25	10	12	14	15	17	19	22	27
175	36	34	14	16	18	21	23	27	30	36
200	46	44	19	21	24	27	31	35	39	47
FINAL TENSION (LBS.)	2000	1528	1374	1219	1057	945	831	735	655	537

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
*1/0 AWG STRANDED WP COPPER MHD
150 FOOT RULING SPAN

PAGE
354-27

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/10/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7903
REGISTERED PROFESSIONAL ENGINEER

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#2 SOLID BARE COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	11	10	3	3	4	4	5	6	7	9
125	18	15	5	5	6	7	8	9	11	14
150	26	21	7	7	9	10	11	13	15	20
175	35	29	9	10	12	13	15	18	21	28
200	46	38	12	13	15	17	20	23	27	36
FINAL TENSION (LBS.)	1446	1061	1026	916	795	707	611	525	449	338

MACRO

DESCRIPTION
#2 SOLID BARE COPPER MHD
150 FOOT RULING SPAN

PAGE
354-29

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*2 SOLID BARE COPPER MHD
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	25	23	12	14	15	16	18	19	20	23
200	45	41	22	24	27	29	32	34	36	40
250	70	63	35	38	42	46	49	53	57	63
300	101	91	50	55	61	66	71	76	81	91
350	138	125	68	75	83	90	97	104	111	124
FINAL TENSION (LBS.)	1470	1000	550	498	449	417	386	360	338	302

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	CS		8/24/01 DATE
DRAWN	CMH		

DESIGNED	BCB	1/20/94 DATE
DRAWN	RFW	

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/10/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7880
REGISTERED PROFESSIONAL ENGINEER

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#2 SOLID WP COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	13	12	4	5	5	6	7	8	9	11
125	21	18	7	7	8	9	11	12	14	17
150	30	26	9	11	12	14	16	18	20	25
175	40	36	13	14	17	19	21	24	27	34
200	53	47	17	19	22	24	28	31	36	44
FINAL TENSION (LBS.)	1470	1097	930	828	720	643	564	496	438	353

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#2 SOLID WP COPPER MHD
150 FOOT RULING SPAN

PAGE
354-31

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-32

DESCRIPTION *2 SOLID WP COPPER MHD 250 FOOT RULING SPAN

MACRO

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*2 SOLID WP COPPER MHD
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	30	28	19	20	21	22	24	25	26	28
200	53	50	34	36	38	40	42	44	46	49
250	83	78	53	56	60	62	65	69	72	77
300	119	112	76	80	86	90	94	99	103	111
350	162	153	103	110	117	122	128	134	140	152
FINAL TENSION (LBS.)	1470	1037	466	438	411	392	374	357	343	318

STATE OF MAINE
KENT B. POOLE
7938
REGISTERED PROFESSIONAL ENGINEER

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DATE	1/20/94

DESIGNED	CS	
DRAWN	CMH	
DATE	8/24/01	

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/17/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#4 SOLID BARE COPPER MHD
150 FOOT RULING SPAN

PAGE
354-33

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#4 SOLID BARE COPPER MHD
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE # WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	16	13	4	5	6	7	8	9	10	12
125	25	21	7	8	9	10	12	14	16	19
150	35	30	9	11	13	15	17	20	23	28
175	48	41	13	15	18	20	24	27	31	38
200	63	53	17	20	23	27	31	36	40	50
225	80	67	21	25	29	34	39	45	51	63
FINAL TENSION (LBS.)	950	638	449	388	326	285	245	213	188	153

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE OISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#4 SOLID BARE COPPER MHD
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	35	32	18	20	22	23	25	27	28	31
175	48	43	25	27	30	32	34	36	38	42
200	63	57	32	35	39	42	45	47	50	55
225	80	72	41	45	49	53	56	60	64	70
250	99	88	50	55	61	65	70	74	78	87
FINAL TENSION (LBS.)	950	602	236	215	195	183	171	160	152	138

STATE OF MAINE
KENT B. POOLE
PROFESSIONAL ENGINEER

DESIGNED	BCB
DRAWN	RFW
DATE	2/17/94

DESIGNED	CS
DRAWN	CMH
DATE	8/24/01

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/16/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7810
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#4A COPPER COPPERWELD CONDUCTOR
150 FOOT RULING SPAN

PAGE
354-35

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#4A COPPER COPPERWELD CONDUCTOR
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	10	7	2	2	2	2	2	3	3	4
125	15	11	3	3	3	3	4	4	5	6
150	22	16	4	4	5	5	6	6	7	9
175	29	22	5	6	6	7	8	8	9	12
200	38	29	7	8	8	9	10	11	12	16
FINAL TENSION (LBS.)	1691	1339	1388	1286	1171	1084	984	885	788	604

DESCRIPTION
*4A COPPER COPPERWELD CONDUCTOR
250 FOOT RULING SPAN

MACRO

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*4A COPPER COPPERWELD CONDUCTOR
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	19	15	4	4	5	5	6	6	7	9
200	33	26	7	8	8	9	10	11	12	15
250	52	41	11	12	13	14	16	17	19	24
300	74	59	16	17	19	21	22	25	28	34
350	101	80	22	24	26	28	31	34	37	47
FINAL TENSION (LBS.)	1969	1505	1356	1257	1147	1064	970	879	792	634

STATE OF MAINE
KENT B. POOLE
7938
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

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DATE	1/21/94

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DRAWN	CMCH
DATE	8/24/01

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/10/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
REGISTERED PROFESSIONAL ENGINEER

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#6A COPPER COPPERWELD CONDUCTOR
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
100	12	9	2	2	2	2	2	3	3	4
125	19	14	3	3	3	3	4	4	5	6
150	28	20	4	4	4	5	5	6	7	8
175	38	28	5	6	6	7	7	8	9	12
200	49	36	7	7	8	9	9	10	12	15
FINAL TENSION (LBS.)	1215	928	901	837	765	709	646	584	522	404

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#6A COPPER COPPERWELD CONDUCTOR
150 FOOT RULING SPAN

PAGE
354-37

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-38

DESCRIPTION *6A COPPER COPPERWELD CONDUCTOR 250 FOOT RULING SPAN

MACRO

NOTE

NO NEW COPPER OR COMPOSITE COPPER CONDUCTORS ARE BEING INSTALLED ON THE DISTRIBUTION SYSTEM. THEREFORE, ONLY THE FINAL SAGS, FOR THIS CONDUCTOR, ARE BEING PRESENTED HERE. THESE SAGS ARE FOR THE LINEWORKERS USE WHEN TRANSFERRING OR MAKING REPAIRS. THEY ARE ALSO FOR THE USE OF DESIGNERS WHEN LAYING OUT JOBS THAT REQUIRE THE TRANSFER OF THIS CONDUCTOR TO NEW POLES. IT IS ASSUMED THAT DUE TO ITS AGE THIS CONDUCTOR HAS BEEN LOADED TO HEAVY LOADING CONDITIONS.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

*6A COPPER COPPERWELD CONDUCTOR
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
150	23	17	4	4	5	5	5	6	6	8
200	40	31	7	7	8	9	9	10	11	14
250	63	48	11	12	13	14	15	16	18	22
300	91	69	15	17	18	19	21	23	26	32
350	124	94	21	23	25	26	29	32	35	44
FINAL TENSION (LBS.)	1478	1085	891	828	758	706	646	588	531	428

STATE OF MAINE
KENT B. POOLE
REGISTERED PROFESSIONAL ENGINEER

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DRAWN	RFW
DATE	1/24/94

DESIGNED	CS	
DRAWN	CMH	
DATE	8/24/01	

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	ORIGINAL
DESIGNED	BCB
DRAWN	RFW
DATE	2/01/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
3 PHASE 15kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

PAGE
354-39

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
100	2	2	2	2	3	3	4
125	3	3	3	4	4	5	6
150	4	4	5	5	6	7	8
200	7	7	8	9	10	12	14
250	10	11	13	14	16	19	22
STRINGING TENSION (LBS.)	3096	2823	2548	2273	2000	1731	1471

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 15kV 336.4 AL SPACER CABLE WITH DS2 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
100	8	9	10	11	13
125	13	14	16	18	20
150	18	20	23	25	28
200	32	36	40	45	50
250	50	56	63	70	78
STRINGING TENSION (LBS.)	3676	3283	2926	2613	2346

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 15kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN OEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 OEG. 1/2" ICE	0	32	60	90	120
100	18	17	9	10	12	13	15
125	28	26	14	16	18	21	23
150	40	38	21	23	26	30	33
200	72	67	36	41	47	52	58
250	112	105	57	65	73	82	91
FINAL TENSION (LBS.)	6004	4830	3222	2833	2507	2239	2022

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-40

DESCRIPTION 3 PHASE 15kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER 200 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
125	3	3	3	4	4	5	5
150	4	4	5	5	6	7	8
200	7	7	8	9	10	12	14
250	11	12	13	14	16	19	22
300	15	17	18	21	23	27	31
STRINGING TENSION (LBS.)	3068	2798	2529	2262	2000	1746	1506

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 15kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
125	12	13	14	15	17
150	17	18	20	22	24
200	30	33	36	39	43
250	47	51	56	61	67
300	67	73	80	88	96
STRINGING TENSION (LBS.)	3950	3598	3279	2996	2749

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 15kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	32	60	90	120
125	24	23	13	15	16	18	19
150	35	33	19	21	24	26	28
200	62	58	34	38	42	46	50
250	97	91	54	59	65	71	77
300	140	131	77	86	94	103	112
FINAL TENSION (LBS.)	6911	5568	3410	3082	2803	2567	2369

STATE OF MAINE
KENT B. POOLE
#8886
REGISTERED PROFESSIONAL ENGINEER

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

DESIGNED	BCB	DATE	2/01/94
DRAWN	RFW		

DESIGNED	CS	DATE	8/24/01
DRAWN	CMH		

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DESIGNED	BCB
DRAWN	RFW
DATE	2/01/94

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DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7982
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
3 PHASE 35 kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

PAGE
354-41

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
100	1	2	2	2	2	2	3
125	2	2	3	3	3	4	4
150	3	3	4	4	5	5	6
200	6	6	7	7	8	9	11
250	9	10	11	12	13	15	17
STRINGING TENSION (LBS.)	3591	3321	3048	2775	2500	2225	1953

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 35 kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
100	9	10	11	12	13
125	15	16	17	19	21
150	21	23	25	27	30
200	37	41	45	49	53
250	58	64	70	76	83
STRINGING TENSION (LBS.)	4379	4003	3656	3342	3062

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 35 kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	32	60	90	120
100	19	18	11	12	13	14	15
125	30	28	16	18	20	22	24
150	42	40	24	26	29	32	35
200	76	72	42	47	51	56	61
250	118	112	66	73	80	88	96
FINAL TENSION (LBS.)	6778	5650	3884	3505	3175	2894	2656

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-42

DESCRIPTION 3 PHASE 35 kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER 200 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
125	2	2	3	3	3	4	4
150	3	4	4	4	5	5	6
200	6	6	7	7	8	9	11
250	9	10	11	12	13	14	17
300	13	14	15	17	19	21	24
STRINGING TENSION (LBS.)	3575	3307	3038	2769	2500	2233	1972

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 35 kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
125	13	14	16	17	18
150	19	21	22	24	26
200	34	37	40	43	46
250	54	58	62	67	72
300	77	83	89	96	103
STRINGING TENSION (LBS.)	4752	4415	4104	3820	3563

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 35 kV 336.4 AL SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	32	60	90	120
125	26	24	15	17	18	19	21
150	37	35	22	24	26	28	30
200	66	62	39	42	46	49	53
250	103	98	61	66	72	77	83
300	148	140	88	96	103	111	119
FINAL TENSION (LBS.)	7796	6509	4162	3839	3555	3307	3092

STATE OF MAINE
KENT B. POOLE
#7880
REGISTERED PROFESSIONAL ENGINEER

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DATE	2/01/94

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DRAWN	CMH
DATE	8/24/01

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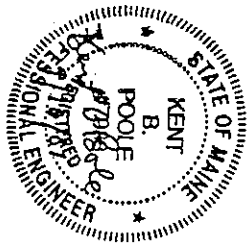
DRAWN	RFW
DATE	1/31/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	08/24/01		



STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
100	2	2	2	2	3	3	4
125	3	3	3	4	4	5	6
150	4	4	5	5	6	7	8
200	7	7	8	9	10	12	14
250	10	11	13	14	16	19	22
STRINGING TENSION (LBS.)	3096	2823	2548	2273	2000	1731	1471

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
100	5	6	7	8	10
125	8	9	11	13	15
150	12	13	16	19	22
200	20	24	28	33	39
250	32	37	44	52	61
STRINGING TENSION (LBS.)	3322	2856	2426	2049	1739

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	30	60	90	120
100	16	15	6	7	9	10	12
125	25	23	9	11	14	16	19
150	36	33	13	16	20	23	27
200	64	58	24	29	35	41	48
250	101	91	37	45	54	65	75
FINAL TENSION (LBS.)	5465	4199	2847	2362	1962	1651	1419

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
3 PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

PAGE
354-43

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-44

DESCRIPTION 3 PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER 200 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
125	3	3	3	4	4	5	5
150	4	4	5	5	6	7	8
200	7	7	8	9	10	12	14
250	11	12	13	14	16	19	22
300	15	17	18	21	23	27	31
STRINGING TENSION (LBS.)	3068	2798	2529	2262	2000	1746	1506

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
125	8	9	10	12	13
150	11	13	15	17	19
200	20	23	26	30	34
250	31	35	41	47	53
300	45	51	58	67	76
STRINGING TENSION (LBS.)	3438	3012	2626	2290	2009

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	32	60	90	120
125	22	20	9	11	13	14	16
150	32	29	13	16	18	21	23
200	56	51	24	28	32	37	42
250	88	80	37	44	50	58	65
300	127	115	54	63	73	83	93
FINAL TENSION (LBS.)	6246	4792	2852	2445	2113	1851	1646

STATE OF MAINE
KENT B. POOLE
REGISTERED PROFESSIONAL ENGINEER

DESIGNED	BCB	DATE	1/31/94
DRAWN	RFW		

DESIGNED	CS	DATE	8/24/01
DRAWN	CMH		

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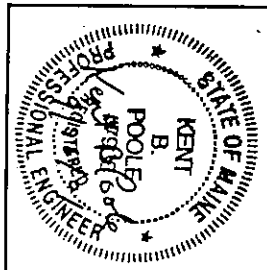
DRAWN	RFW
DATE	1/31/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		



MACRO

DESCRIPTION
3 PHASE 35 KV 1/0 AAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

PAGE
354-45

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
100	1	2	2	2	2	2	3
125	2	2	3	3	3	4	4
150	3	3	4	4	5	5	6
200	6	6	7	7	8	9	11
250	9	10	11	12	13	15	17
STRINGING TENSION (LBS.)	3591	3321	3048	2775	2500	2225	1953

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 35 KV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
100	6	7	8	9	11
125	10	11	13	15	16
150	14	16	18	21	24
200	26	29	33	37	42
250	40	45	51	58	66
STRINGING TENSION (LBS.)	3956	3516	3105	2734	2409

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 35 KV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	32	60	90	120
100	17	16	7	9	10	11	13
125	27	25	12	13	15	18	20
150	38	35	17	19	22	25	29
200	68	63	29	34	39	45	51
250	106	98	46	53	61	70	79
STRINGING TENSION (LBS.)	6196	4985	3437	2975	2580	2254	1993

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-46

DESCRIPTION 3 PHASE 35 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER 200 FOOT RULING SPAN

MACRO

STRINGING SAG CHART.- FOR MESSENGER ONLY

052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
125	2	2	3	3	3	4	4
150	3	4	4	4	5	5	6
200	6	6	7	7	8	9	11
250	9	10	11	12	13	14	17
300	13	14	15	17	19	21	24
STRINGING TENSION (LBS.)	3575	3307	3038	2769	2500	2233	1972

INITIAL SAG CHART - AT INSTALLATION

3 PHASE 35 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
125	10	11	12	13	14
150	14	15	17	19	21
200	24	27	30	33	37
250	38	42	47	52	57
300	55	61	67	75	83
STRINGING TENSION (LBS.)	4157	3757	3388	3054	2761

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

3 PHASE 35 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
200 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	32	60	90	120
125	23	22	11	13	14	16	17
150	34	31	16	18	20	23	25
200	60	55	29	32	36	40	44
250	93	86	45	50	57	63	69
300	134	124	65	73	82	90	100
FINAL TENSION (LBS.)	7077	5690	3521	3131	2799	2521	2291

STATE OF MAINE
KENT B. POOLE
#7988
REGISTERED PROFESSIONAL ENGINEER

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DATE	1/31/94

DESIGNED	CS
DRAWN	CMH
DATE	8/24/01

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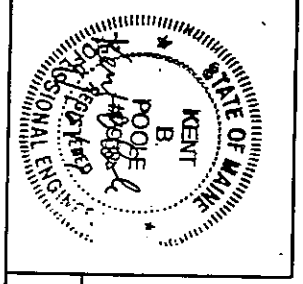
DESIGNED	BCB
DRAWN	RFW
DATE	2/16/94

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		



CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
SINGLE PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

PAGE
354-47

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
100	2	2	2	2	3	3	4
125	3	3	3	4	4	5	6
150	4	4	5	5	6	7	8
200	7	7	8	9	10	12	14
250	10	11	13	14	16	19	22
STRINGING TENSION (LBS.)	3096	2823	2548	2273	2000	1731	1471

INITIAL SAG CHART - AT INSTALLATION

SINGLE PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
100	3	4	4	6	7
125	5	6	7	9	11
150	7	8	10	12	16
200	12	14	17	22	29
250	18	22	27	35	45
STRINGING TENSION (LBS.)	3152	2629	2123	1661	1283

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

SINGLE PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	32	60	90	120
100	11	10	3	4	5	7	9
125	16	15	5	6	8	11	14
150	24	21	7	9	12	15	20
200	42	38	13	16	21	28	35
250	66	60	20	25	32	43	55
STRINGING TENSION (LBS.)	4116	3164	2935	2328	1783	1346	1041

STRINGING SAG CHART - FOR MESSENGER ONLY

052 AWA MESSENGER
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90
150	4	4	5	5	6	7	8
200	7	8	8	9	10	12	13
250	11	12	13	14	16	18	21
300	15	17	19	21	23	26	30
350	21	23	25	28	32	36	41
STRINGING TENSION (LBS.)	3032	2768	2507	2249	2000	1763	1543

STRINGING SAG CHART - AT INSTALLATION

SINGLE PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	30	60	90	120
150	7	8	9	11	13
200	12	14	16	20	23
250	18	21	25	30	36
300	26	31	37	44	52
350	36	42	50	60	71
STRINGING TENSION (LBS.)	3180	2708	2273	1896	1592

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

SINGLE PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
250 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	30	60	90	120
150	20	18	7	9	11	13	16
200	35	32	13	16	20	24	28
250	55	50	21	25	31	37	44
300	79	72	30	36	44	53	63
350	107	98	40	49	60	72	85
FINAL TENSION (LBS.)	4946	3791	2801	2298	1882	1562	1327

KENT B. POOLE #7938 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE

PAGE 354-48

DESCRIPTION
SINGLE PHASE 15 kV 1/0 AAAC SPACER CABLE WITH 052 AWA MESSENGER
250 FOOT RULING SPAN

MACRO

		DATE
		8/24/01
		DRAWN CMH
		DESIGNED CS

	DATE
BCB	2/17/94
RFW	DRAWN
	DESIGNED

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DESIGNED	BCB
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	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	CMH	REC	
DATE	8/24/01	01/31/02	

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

MACRO

DESCRIPTION
#1/0 ALUMINUM TRIPLEX SECONDARY CABLE
150 FOOT RULING SPAN

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354-49

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

INITIAL SAG CHART - AT INSTALLATION

#1/0 ALUMINUM TRIPLEX SECONDARY CABLE WITH #1/0 AAAC MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
75	2	2	3	3	3	4	4	6
100	4	4	5	5	6	7	8	10
125	6	7	8	8	9	11	12	15
150	9	10	11	12	14	15	17	22
175	12	13	15	16	18	21	24	30
200	16	17	19	22	24	27	31	39
225	20	22	24	27	31	34	39	50
250	25	27	30	34	38	43	48	62
STRINGING TENSION (LBS.)	1507	1373	1242	1116	995	882	779	609

NOTE: This chart is for sagging pole to pole spans only. Chart 354-52 shall be used for sagging service drops

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#1/0 ALUMINUM TRIPLEX SECONDARY CABLE WITH #1/0 AAAC MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
75	8	7	2	3	3	4	4	5	6	7
100	14	13	4	5	6	7	8	9	10	13
125	21	21	7	8	9	10	12	14	16	20
150	31	30	10	11	13	15	17	20	23	28
175	42	40	14	15	18	20	23	27	31	39
200	55	53	18	20	23	26	30	35	40	51
225	70	67	22	25	30	33	38	44	51	64
250	86	82	28	31	36	41	47	55	63	79
FINAL TENSION (LBS.)	2000	1562	1351	1196	1029	912	790	686	600	476

DESCRIPTION
#2 ALUMINUM TRIPLEX SECONDARY CABLE
150 FOOT RULING SPAN

MACRO

STRINGING SAG CHART - AT INSTALLATION

#2 ALUMINUM TRIPLEX SECONDARY CABLE WITH #4 ACSR MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0	15	30	45	60	75	90	120
75	3	3	3	3	3	4	4	5
100	5	5	5	6	6	7	7	8
125	7	8	8	9	9	10	11	13
150	10	11	12	13	14	15	16	19
175	14	15	16	17	19	20	22	25
200	19	20	21	22	24	26	28	33
STRINGING TENSION (LBS.)	765	720	674	630	586	544	503	426

NOTE: This chart is for sagging pole to pole spans only. Chart 354-53 shall be used for sagging service drops.

FINAL SAG CHART - FOR DESIGN & MAINTENANCE

#2 ALUMINUM TRIPLEX SECONDARY CABLE WITH #4 ACSR MESSENGER
150 FOOT RULING SPAN

TEMPERATURE IN DEGREES F
CONDUCTOR SAG IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	0	15	32	45	60	75	90	120
75	13	12	5	5	6	6	7	7	8	9
100	23	21	8	9	10	11	12	13	14	17
125	36	32	13	14	16	17	19	21	22	26
150	51	47	19	21	23	25	27	30	32	37
175	70	64	25	28	31	34	37	41	44	51
200	91	83	33	37	41	45	49	53	58	66
FINAL TENSION (LBS.)	1010	770	426	386	346	318	291	267	247	215

PROFESSIONAL ENGINEER
STATE OF MAINE
KENT B. POOLE
#7938

	DATE
DESIGNED	8/24/01
DRAWN	CMH
	REC
	CS
	01/31/02

	DATE
DESIGNED	
DRAWN	

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DATE	8/24/01		

STATE OF MAINE
KENT B. POOLE
#7881
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION: 336,400 CM ALUMINUM TRIPLEX SERVICE DROP CABLE

PAGE 354-51

SAG CHART

336,400 CM ALUMINUM TRIPLEX SERVICE DROP CABLE WITH #4/0 AAAC MESSENGER

TEMPERATURE IN DEGREES F
CONDUCTOR SAGS IN INCHES

	DESIGN			INSTALLATION							
SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	120	0	15	30	45	60	75	90	120
50	15	17	20	14	15	16	16	17	18	19	20
75	34	36	40	33	34	35	36	36	37	38	40
100	62	63	67	61	62	62	63	64	65	66	67
125	98	100	104	97	98	99	100	100	101	102	104
				TENSION (LBS.)							
50	700	539	200	287	271	257	245	234	225	217	202
75	700	564	229	273	266	260	254	249	244	239	230
100	700	574	243	268	265	261	258	255	252	249	244
125	700	579	250	266	264	262	260	258	256	254	250

DISTRIBUTION CONSTRUCTION STANDARDS

CENTRAL MAINE POWER CO.

PAGE 354-52

DESCRIPTION: #1/0 ALUMINUM TRIPLEX SERVICE DROP CABLE

MACRO

SAG CHART

#1/0 ALUMINUM TRIPLEX SERVICE DROP CABLE WITH #1/0 AAAC MESSENGER

TEMPERATURE IN DEGREES F
CONDUCTOR SAGS IN INCHES

SPAN FEET	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	120	0	15	30	45	60	75	90	120
	DESIGN			INSTALLATION							
50	10	11	15	5	6	8	9	10	11	12	14
75	22	23	28	17	18	20	21	22	24	25	27
100	40	41	45	34	36	37	38	40	41	42	45
125	62	64	68	57	58	60	61	62	64	65	67
	TENSION (LBS.)										
50	700	472	103	305	241	199	170	150	135	124	108
75	700	495	123	200	184	171	161	152	144	137	127
100	700	506	134	176	169	163	157	152	148	144	136
125	700	512	140	166	163	159	156	153	150	147	142

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KENT R. POOLE
#7936
REGISTERED PROFESSIONAL ENGINEER

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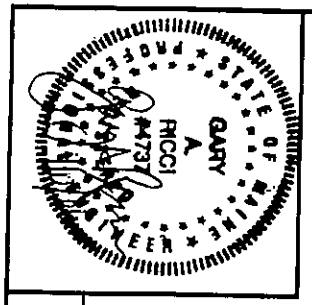

SAG CHART
#2 ALUMINUM TRIPLEX SERVICE DROP CABLE
WITH #4 AAAC NEUTRAL

SPAN FEET	DESIGN			INSTALLATION							
	DEGREES (FAHRENHEIT)										
	0 DEG. 1/2" ICE 4# WIND	32 DEG. 1/2" ICE	120	0	15	30	45	60	75	90	120
	SAG (INCHES)										
75	18	16	16	4	5	5	6	7	8	10	12
100	31	30	30	12	13	15	17	19	21	22	26
125	49	47	47	28	30	32	34	36	38	40	43
150	71	69	69	50	52	54	56	58	60	61	65
	TENSION (LBS.)										
75	700	512	112	433	383	336	292	252	218	188	145
100	700	501	109	271	240	213	191	172	157	145	126
125	700	495	107	180	167	157	148	140	133	127	117
150	700	490	106	146	140	135	130	126	122	119	113

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO

DESCRIPTION
#2 ALUMINUM TRIPLEX SERVICE DROP CABLE

PAGE
354-53

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GENERAL

It shall be the responsibility of the Distribution Field Engineer to design the configuration of all URD and UG systems for all single and three phase installations.

(1) URD cables shall be installed in as straight and direct a line as practical.

(2) URD cables shall be routed so as to allow safe access for construction, inspection and maintenance.

(3) URD cables shall be located where the cable will be subjected to the least amount of disturbances.

(4) Supply cables shall not be installed directly under building or storage tank locations.

(5) Supply cables shall not be installed within 5 feet of a swimming pool or its auxiliary equipment.

(6) The open point in the loop feed system shall normally be in the cable compartment of a pad-mounted transformer, located there so to divide customers or transformers of the loop so that all cable is energized and customer exposure to outages are minimized.

(7) Loop feed system using two different phases should be avoided when load conditions permit. If a loop feed system is constructed with two different phases, the open point shall be the same as above and a "DON'T TIE ALIVE" sign shall be placed in the cable compartment where the open point exists.

(8) Supply cables crossing under railroad beds shall be no less than 60" below the top of the rail.

(9) Pad-mounted equipment, pedestals, and other above ground enclosures should be located not less than 1.2m (4 ft) from fire hydrants.

MACRO	DESCRIPTION URD AND UG SYSTEMS (cont' d)	PAGE 360-1

(10) Minimum clearances to buildings and other obstructions (including trees, shrubs, and fences) shall be 3 feet from the rear, 5 feet from the sides, and 10 feet from the front of the transformer pad. There shall be no openings in the building wall in back of, beside, or over the transformer, unless the transformer is a minimum of 10 feet from the building. Side clearances from doors or windaws shall not be less than 10 feet.

(11) Padmount transformer locations shall be graded for proper drainage and be readily accessible by truck. They are to be located far enough away from the building overhang sa that they will not be subject to damage by falling ice and snow. Where danger of plow or traffic damage exists, barriers consisting of concrete filled 4 inch IPS steel post or full length treated 6 X 6 inch timber posts set 4 feet deep must be provided for protection. The protective posts shall be located so as not to interfere or restrict access to the transformer cabinet.

(12) When installing inner duct into approved CMP duct space, as many inner ducts as possible must be installed. (Min. of 1 1/4" inner duct)

(13) All fiber aptics installed into a duct system must be racked to the wall when run through a manhole. Any slack fiber must be neatly stored and racked so not to interfere with entry or exit of the manhale.

(14) On single or three phase primary, secondary and service URD risers that are attached directly ta the pole, schedule 80 PVC, rigid steel or steel IMC may be used. Far three phase risers attached directly ta pole, see page 361-2A note 6. Single phase and three phase risers using standoff brackets shall be installed as described in nates an Page 361-3A.

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DANIEL R. LITTLEFIELD
No. 11440
8/22/08
LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	PRIMARY CABLE CONDUIT/RISER SIZES	361

TABLE 1: Conduit Sizes for Jacketed Coble
Minimum size required in inches.

Cable Type		Cable Size	Number of Conductors 1	2	3	4
15KV	URD	#2 Stranded (1)	2 1/2"	3"	4"	5"
		4/0 XLP	2 1/2"	4"	5"	5"
	Power	500 KCM XLP	3"	5"	5"	6"
		750 KCM XLP	3"	5"	6"	6"
35KV	URD	1/0 XLP	2 1/2"	4"	5"	5"
		4/0 XLP	3"	5"	6"	6"
	Power	500 KCM XLP	3"	5"	*	*

Notes:

(1) On any straight runs (no bends including no bend at the base of the pole) less than 200 ft - 2 inch conduit moy be substituted for 2 1/2 inch conduit.

* Contact local CMP Distribution Engineer

TABLE 2: Minimum wire sizes for connections between system neutral and urd cable neutral

CABLE SIZE	POLE NEUTRAL CU
#2	C6UDCU4TWAS
1/0	C6UDCU2TWAS
4/0	C6UDCU2/0TWAS
Larger Than 4/0	C6UDCU4/0TWAS

Notes:

1. Minimum cleorance between top of pin terminal and primary conductor shall be 16" for 7.2KV and 21" for 19.9KV to allow grounding of cable
2. If all steel conduit, insulated ground bushing is required.
3. All cutouts on riser pole feeding urd cables shall be normally closed

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1	Moved to opposite page	08/18/08	

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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
361-1A	SECONDARY OR SERVICE URD RISER SINGLE CONDUIT	

1. Seal top of conduit with polyurethane sealer. Top of conduit must extend 4" above the neutral. If all steel, top of conduit must have an insulated grounding bushing.

2. If top section of riser is less than 5 feet in length, it must be supported with at least one steel U clip with 5/16th inch holes. If top section of riser is PVC and greater than 5 feet in length, it must be supported with no less than two steel U clips with 5/16th inch holes.

3. Coupling of same material as upper conduit is not required if using conduit with belled end installed dawn over lower conduit.

4. If steel conduit, a conduit ground connector made of either copper alloy or galvanized steel material of suitable design shall be used. Install pole ground if one doesn't exist.

5. Two hole steel U clips with 5/16" holes are required at top and middle of each section of PVC conduit that is over 60 inches in length. If the riser is all steel, two hole U clips with 5/16th inch holes are required at the bottom and top of first section and at the top of each section, there after. The steel U clips shall be secured to the pole with 5/16th X 3 inch lag screws.

Bottom Section: (2) clips if steel conduit,
(3) clips if schedule 80 pvc conduit
Middle Section: (1) clip if steel conduit,
(2) clips if pvc conduit
Top Section: (1) clip if steel conduit,
(1) clip if pvc conduit less than 5ft.,
(2) clips if pvc conduit greater than 5ft.

6. Rigid steel, steel IMC, Schedule 80 PVC, or Schedule 40 PVC rated for outdoor use may be used on riser. However first section of riser shall be rigid steel or schedule 80 PVC.

7. Use threaded/non-threaded coupling or insulated bushing at the bottom of riser.

8. Standoff brackets will be required where future customers are likely to be served from the same pole.

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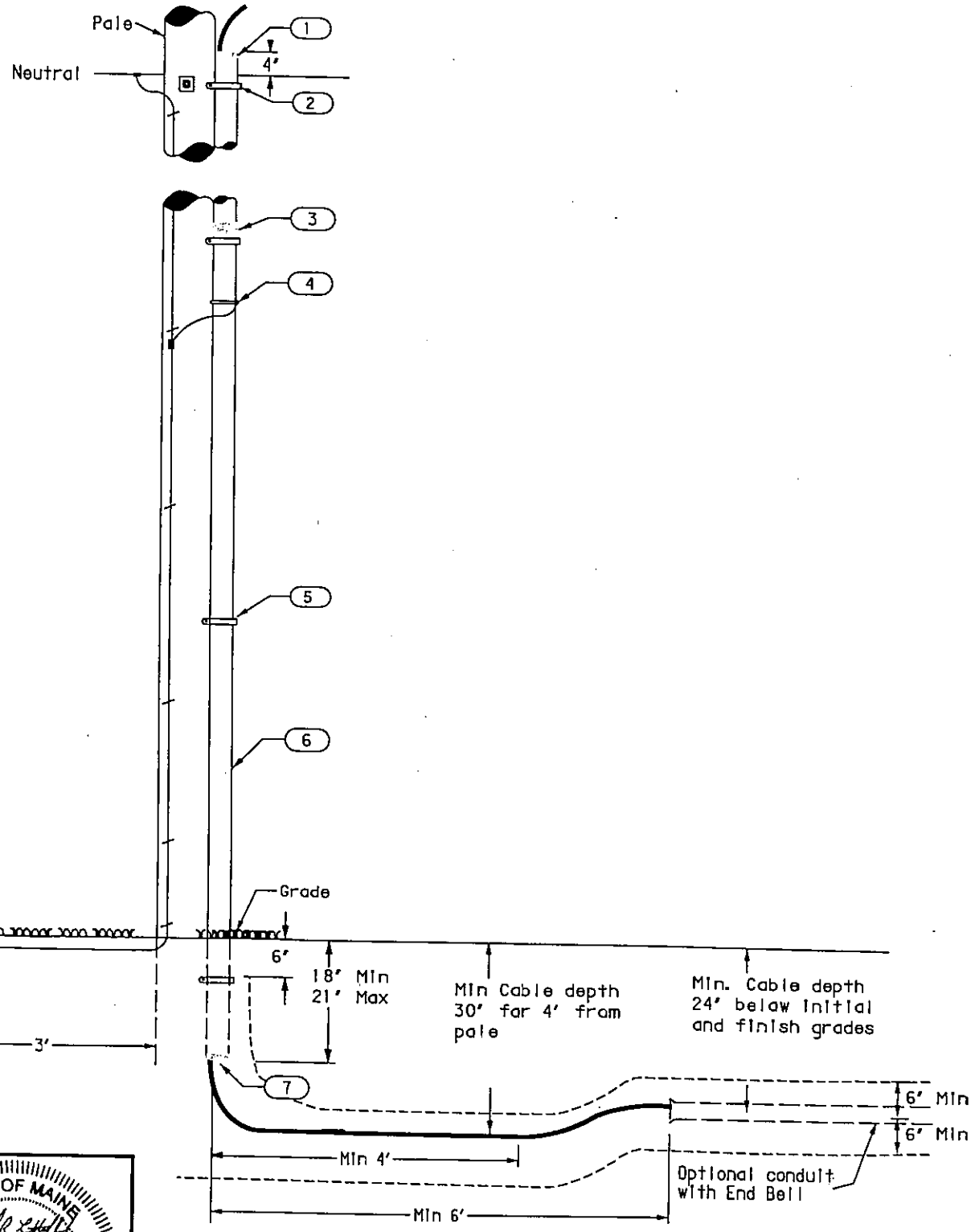
MACRO	DESCRIPTION SECONDARY OR SERVICE URD RISER SINGLE CONDUIT	PAGE 361-1B

NO.	REVISION	DATE	CK.
1.	Changed text & moved to second page	08/18/08	



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PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
361-2A	PRIMARY URD RISER SINGLE CONDUIT	

1. Seal top of conduit with polyurethane sealer. Top of conduit must extend 4" above the neutral. If all steel, top of conduit must have an insulated grounding bushing.

2. If top section of riser is less than 5 feet in length, it must be supported with at least one steel U clip with 5/16th inch holes. If top section of riser is PVC and greater than 5 feet in length, it must be supported with no less than two steel U clips with 5/16th inch holes.

3. Coupling of same material as upper conduit is not required if using conduit with belled end installed down over lower conduit.

4. If steel conduit, a conduit ground connector made of either copper alloy or galvanized steel material of suitable design shall be used. Install pole ground if one doesn't exist.

5. Two hole steel U clips with 5/16" holes are required at top and middle of each section of PVC conduit that is over 60 inches in length. If the riser is all steel, two hole U clips with 5/16th inch holes are required at the bottom and top of first section and at the top of each section, there after. The steel U clips shall be secured to the pole with 5/16th X 3 inch lag screws.

Bottom Section: (2) clips if steel conduit,
(3) clips if schedule 80 pvc conduit
Middle Section: (1) clip if steel conduit,
(2) clips if pvc conduit
Top Section: (1) clip if steel conduit,
(1) clip if pvc conduit less than 5ft.,
(2) clips if pvc conduit greater than 5ft.

6. Rigid steel, steel IMC, Schedule 80 PVC, or Schedule 40 PVC rated for outdoor use may be used on riser. However first section of riser shall be rigid steel or schedule 80 PVC. All three phase primary risers shall be rigid steel for the first section.

7. Use threaded/non-threaded coupling or insulated bushing at the bottom of riser.

8. Standoff brackets will be required where future customers are likely to be served from the same pole.

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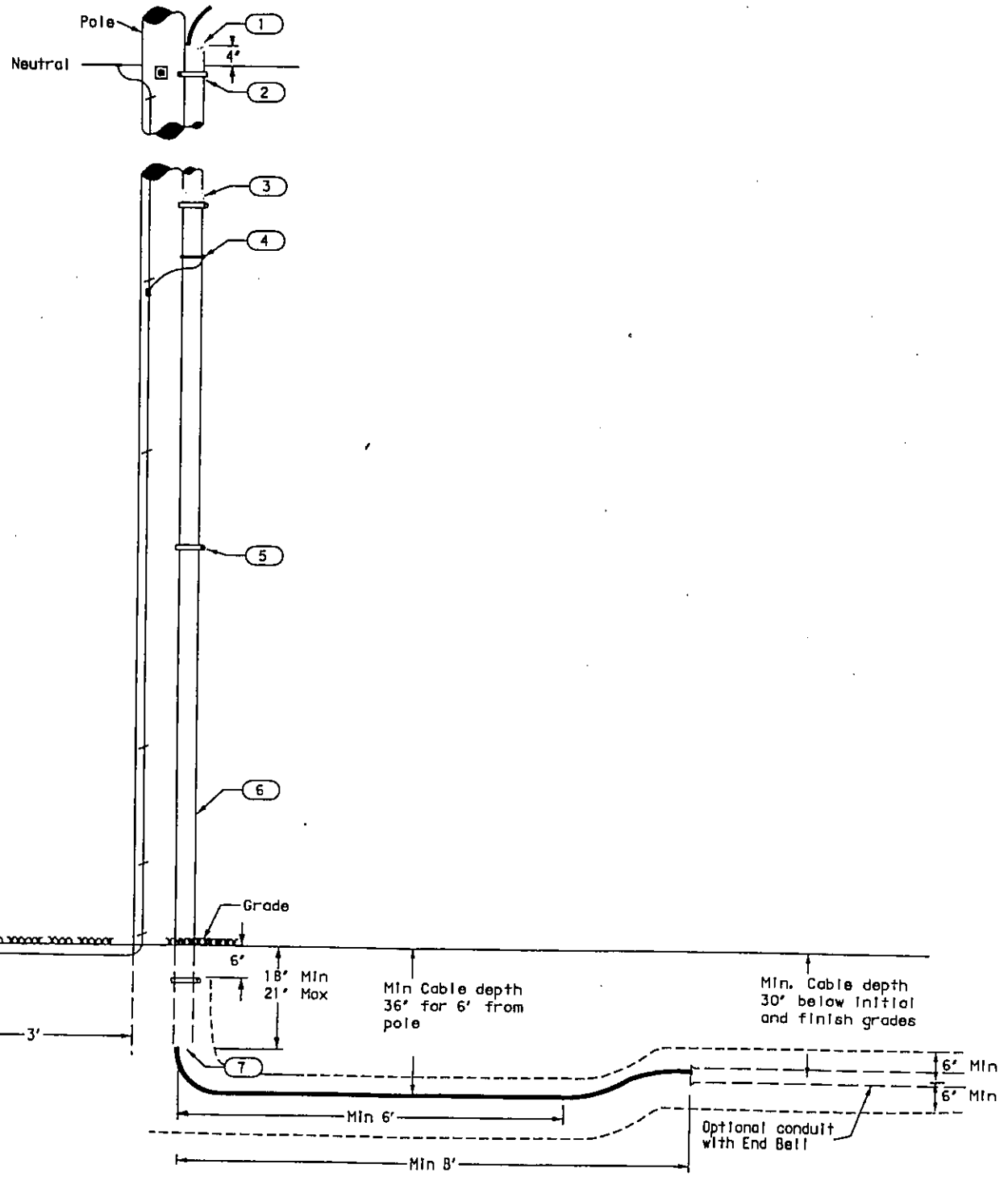
MACRO	DESCRIPTION	PAGE
	PRIMARY URD RISER SINGLE CONDUIT	361-2B

NO.	REVISION	DATE	CK.
1	Note 3, all 3 pri risers must be steel 1st sect	06/20/07	
2	Rewrote notes, and moved to second page	08/18/08	



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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

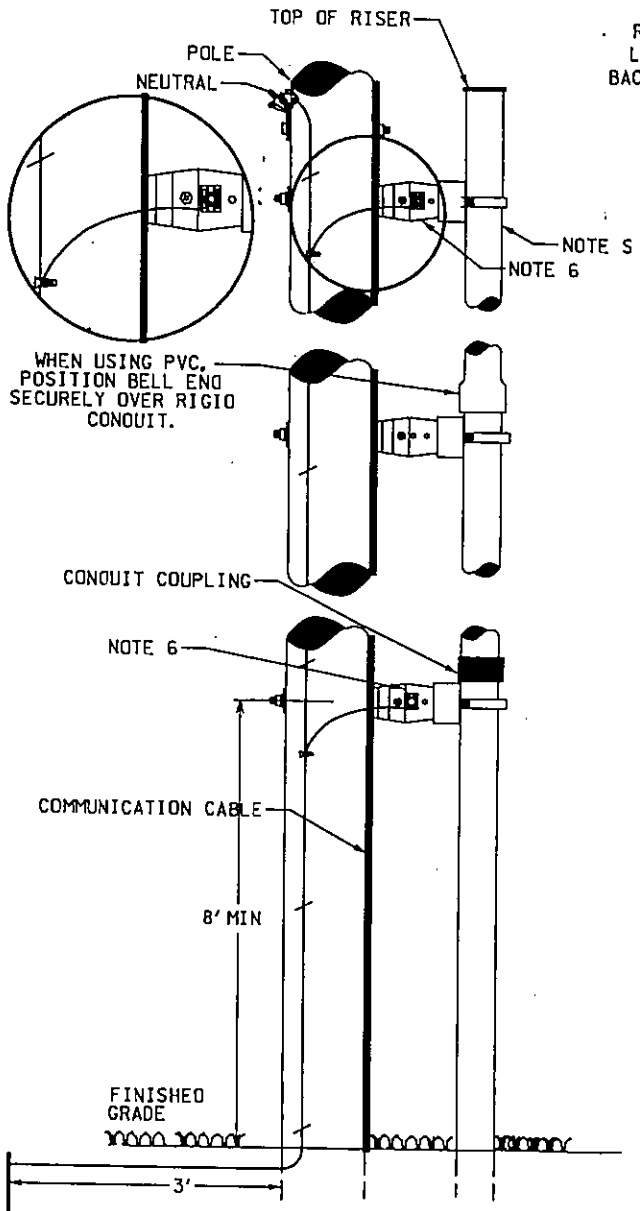
PAGE	DESCRIPTION	MACRO
361-3A	CONDUIT STANDOFF BRACKET FOR MULTIPLE RISERS ON 1 POLE	

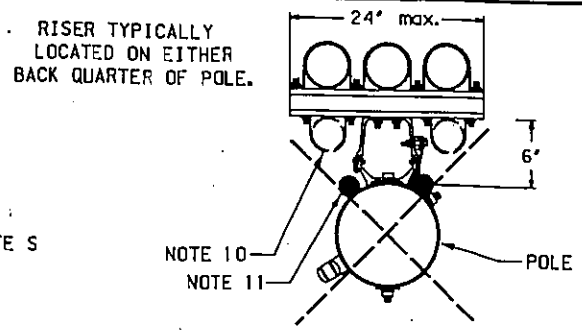
NOTES

1. Standoff brackets are required when more than one conduit per utility is to be installed on a pole.
2. All three phase primary risers, whether stand off brackets are used or not, shall be rigid steel for the first section.
3. On single phase primary, secondary and service URD risers using stand off brackets, rigid steel or schedule 80 may be used.
4. Where rigid steel or schedule 80 PVC is used for the riser, one bracket shall be used to support each section of conduit up to 10 feet in length. Each bracket is to be placed just below the riser conduit coupling.
5. Conduit sections for single phase or three phase risers using stand off brackets shall be rigid steel or schedule 80 PVC conduit only (See note #2), with the exception that schedule 40 PVC sunlight resistant conduit may be used for the top section of the riser (not longer than 10'). If top section is longer than 24" it must be supported with a minimum of one stand off bracket. If top section is schedule 40 PVC and longer than 72" it must be supported by no fewer than two stand off brackets.
6. Where PVC is used for the riser, each stand off bracket supporting the PVC shall be grounded. Where steel is used for the riser one stand off bracket supporting the steel is required to be grounded.
7. Sweeps, when used, are required to be steel.
8. If riser is all steel conduit, install insulated grounding bushing at top of riser.
9. Lowest bracket shall be a minimum of 8 feet above finished grade.
10. Alternate location for communication cable if run in metal conduit or schedule 80.
11. Communication cable may be attached directly to pole adjacent to brackets.

MACRO	DESCRIPTION CONDUIT STANDOFF BRACKET FOR MULTIPLE RISERS ON 1 POLE	PAGE 361-3B

NO.	REVISION	DATE	CK.
1	Corrected spelling in text	05/16/07	BB
2	Moved notes to separate page	08/19/08	





MATERIALS:

Stand Off Brackets	Aluma-Farm 6CSO-12 6CSO-24	Hubble C6-CSO-12 C6-CSO-24	Ceran (Porcelain Products) 8610
Channel	Channel Included	Channel Included	Super strut A-1200-HS B-Line B-22

Conduit Strap Kit	Aluma-Farm	Hubble	Super Strut
2	STK-2	CSTK-2	702-2-STR
2.5	STK-2.5	CSTK-2.5	702-2 1/2
3	STK-3	CSTK-3	702-3
3.5	STK-3.5	CSTK-3.5	702-3 1/2
4	STK-4	CSTK-4	702-4
5	STK-5	CSTK-5	702-5
6	STK-6	CSTK-6	702-6

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No. 11440
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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6CDPC	3		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCO	1		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIOC	1		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR2	1		INST CONDUIT RISER ON POLE 2-3 IN	
C6UDLA	1		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	1		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	6		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU1 PRPT	1 PH RISER FROM POLE TOP INST	361 - 4B

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DRAWN	REC	REC	REC
DATE	08/23/01	08/20/04	06/22/06

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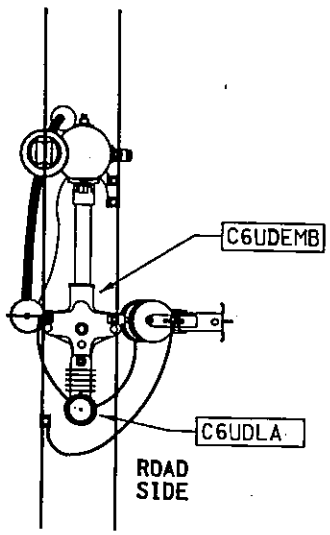

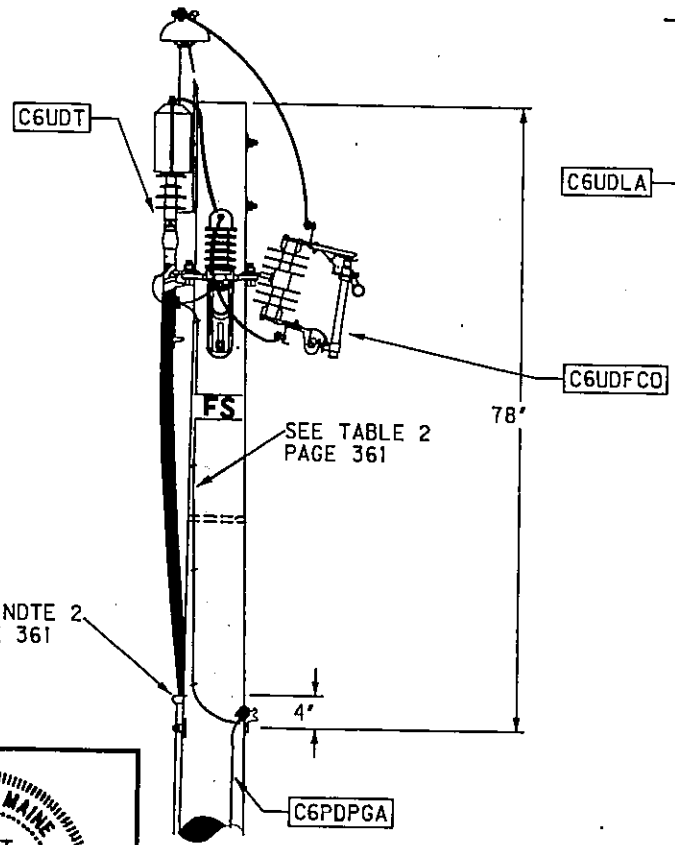

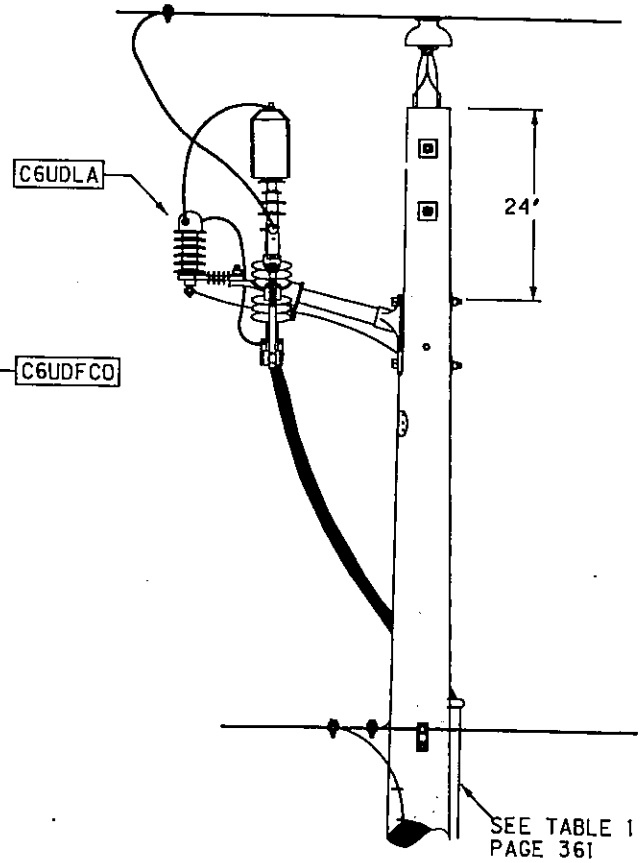

STATE OF MAINE
BRENT C. BROOKS #8209
REGISTERED PROFESSIONAL ENGINEER
11/13/2006

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

Distribution Construction Standards - CMP Co.

Page 361-5A *1 PH RISER FROM DEADEND INST* **Macro: C6MU1PRDE**

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCO	1		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIQC	1		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR2	1		INST CONDUIT RISER ON POLE 2-3 IN	
C6UDLA	1		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	1		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	6		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU1 PRDE	1 PH RISER FROM DEADEND INST	361-5B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	08/23/01	08/13/04	06/22/06

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	8/26/93

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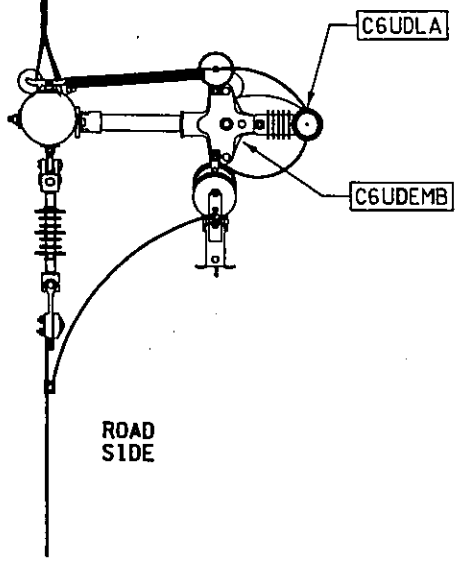
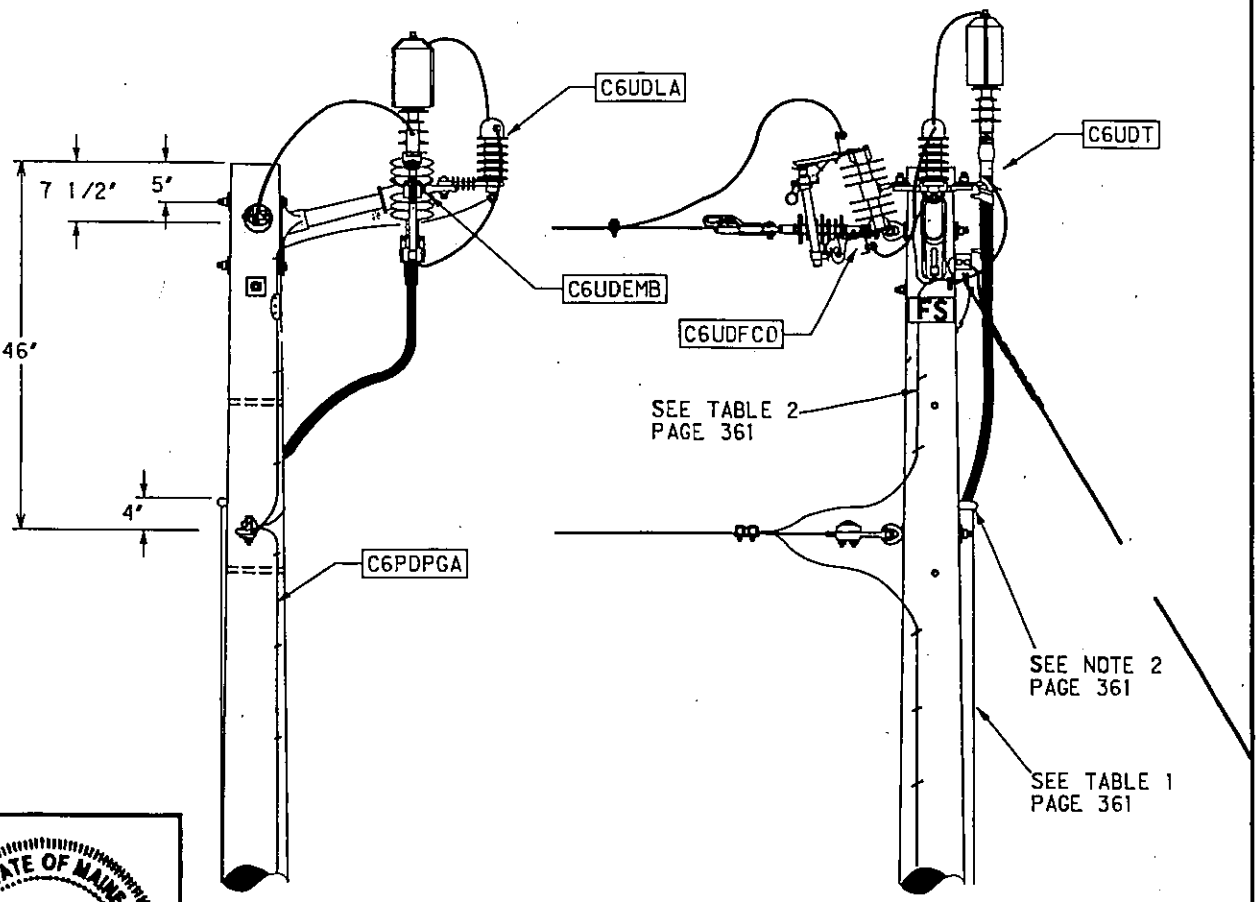




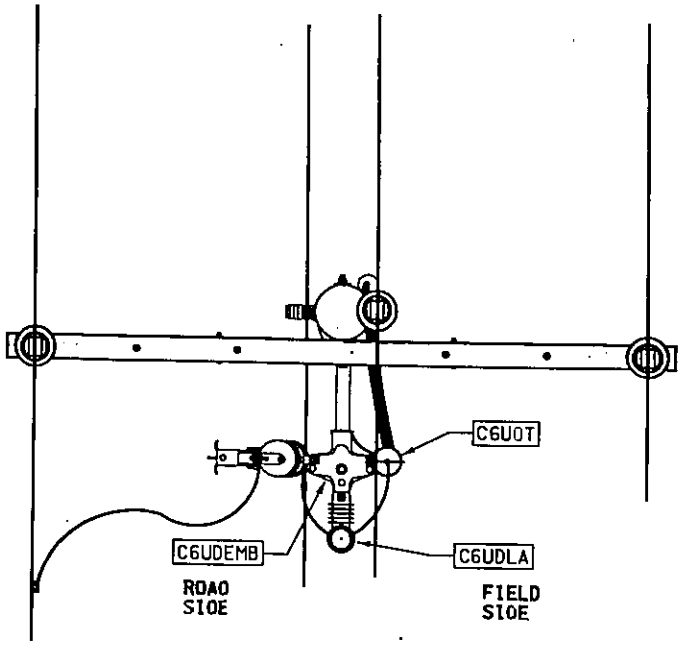
STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
11/13/2006

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

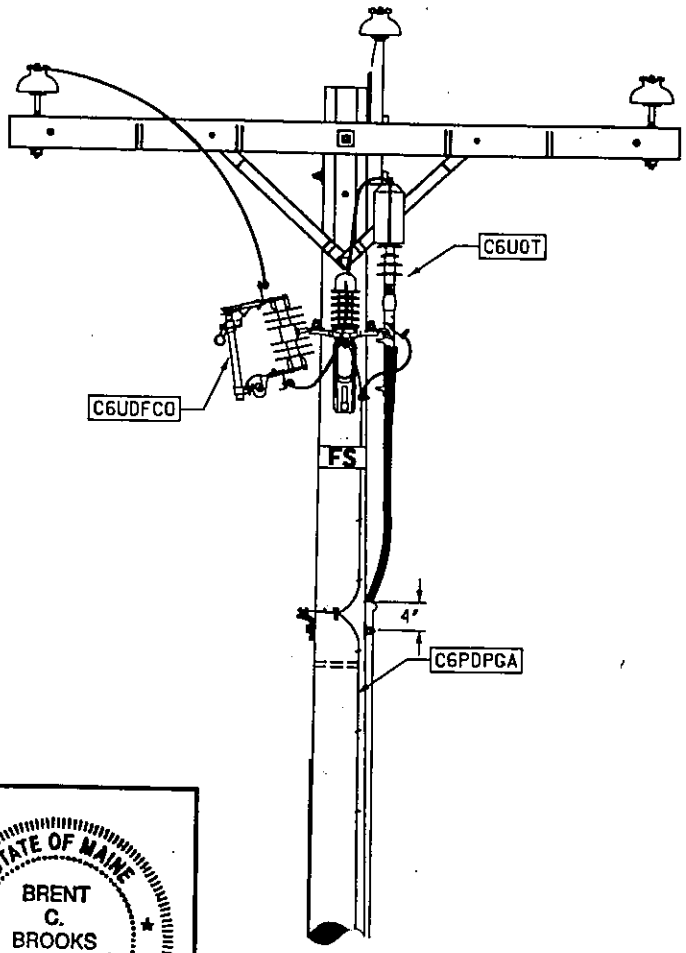
CU Number	*Quantity - CU/Matl*		*Descriptian*	*Material ID*
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	1		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCO	1		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIOC	1		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR2	1		INST CONDUIT RISER ON POLE 2-3 IN	
C6UDLA	1		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	1		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	6		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

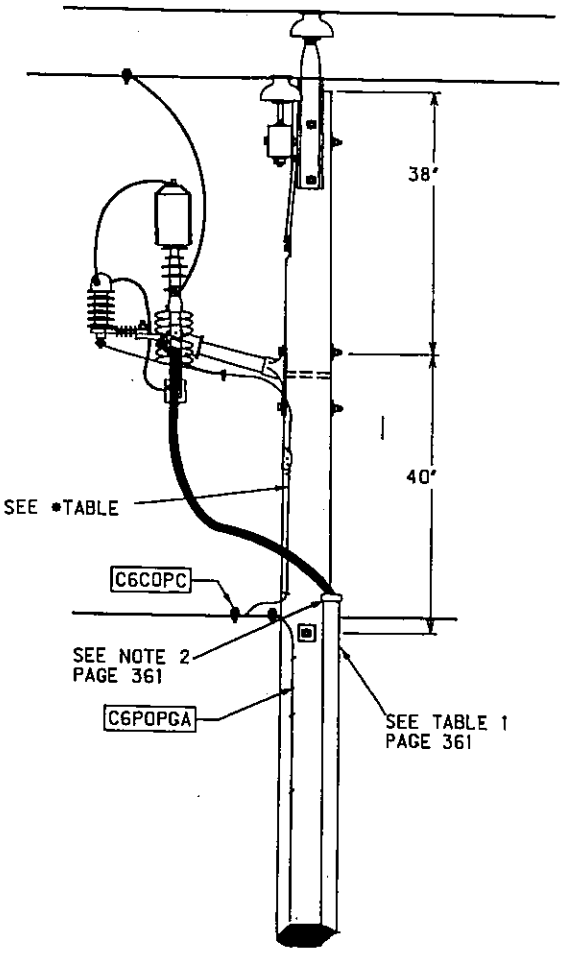
MACRO	DESCRIPTION	PAGE
C6MU1PRSX	1 PH RISER FROM SX STRUCTURE	361-6B



* TABLE
* USE PROPER SIZE NEUTRAL ON A POLE BETWEEN SYSTEM NEUTRAL AND URD CABLE NEUTRAL

CABLE SIZE	POLE NEUTRAL CU
#2	C6U0CU4TWAS
1/0	C6UDCU2TWAS
4/0	C6U0CU2/0TWAS
Larger Than 4/0	C6U0CU4/0TWAS





	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	08/23/01	08/13/04	06/22/06

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	8/25/93

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
11/13/2006

CENTRAL MAINE POWER CO.

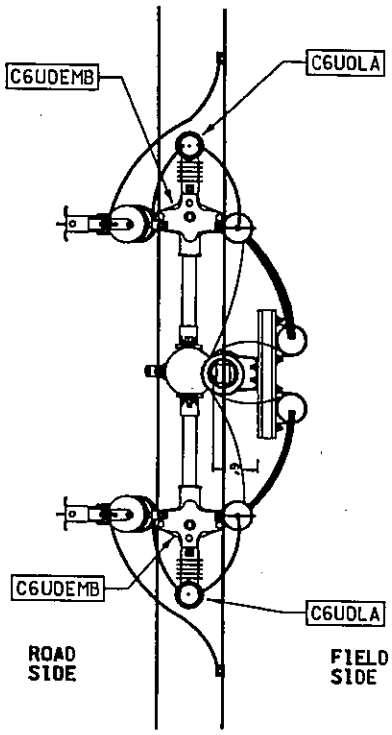
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD RDD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	2		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCO	2		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIOC	2		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR2	2		INST CONDUIT RISER ON POLE 2-3 IN	
C6UDLA	2		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	2		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	10		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU1PRLFPT	1 PH RISER LOOP FEED FROM POLE TOP	361-7B

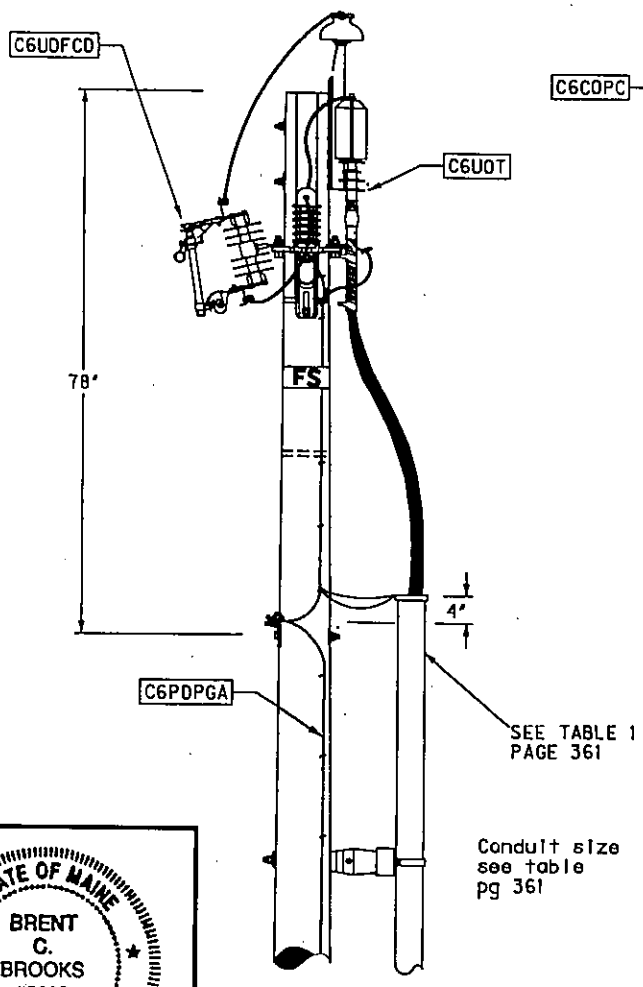
	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	01/22/02	08/16/04	06/22/06

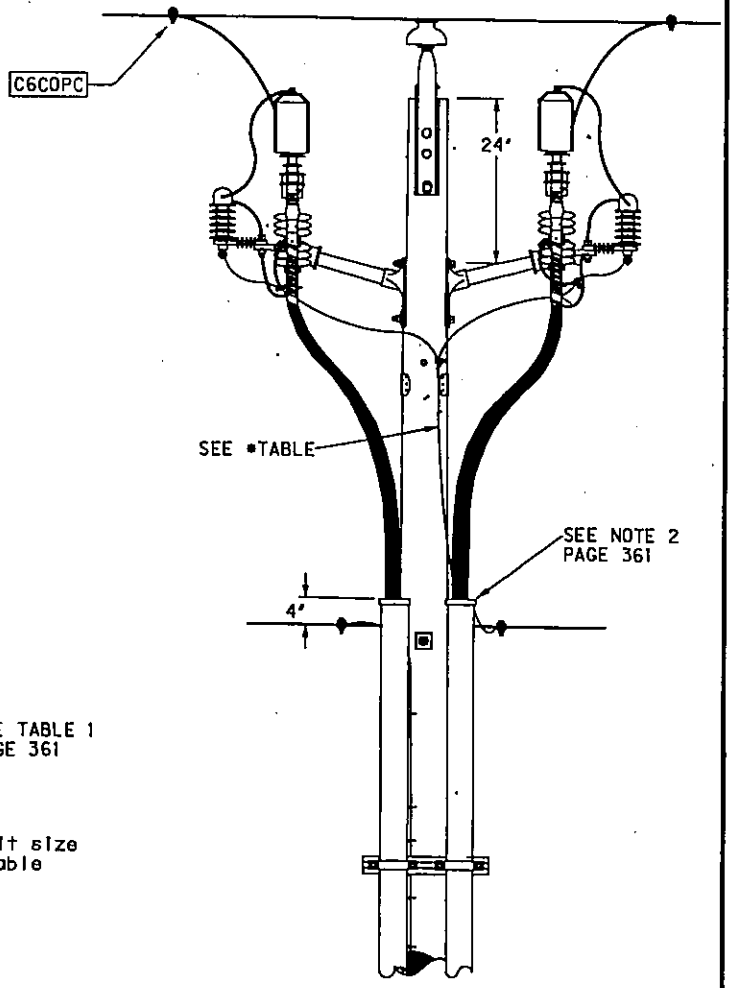
	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	8/27/93



* TABLE
* USE PROPER SIZE NEUTRAL ON A POLE BETWEEN SYSTEM NEUTRAL AND URD CABLE NEUTRAL

CABLE SIZE	POLE NEUTRAL CU
#2	C6UDCU4TWAS
1/0	C6UDCU2TWAS
4/0	C6UDCU2/0TWAS
Larger Than 4/0	C6UDCU4/0TWAS





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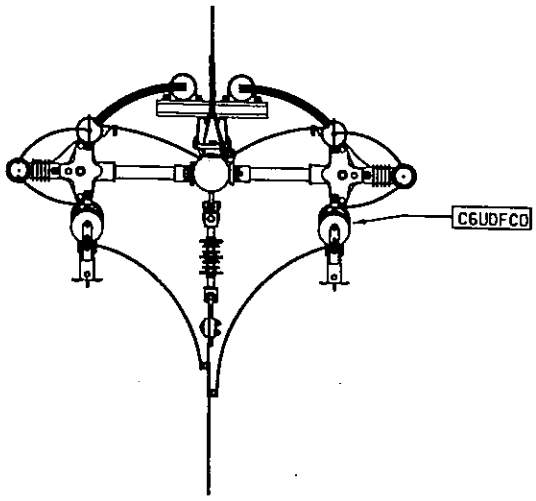
STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
11/13/2006

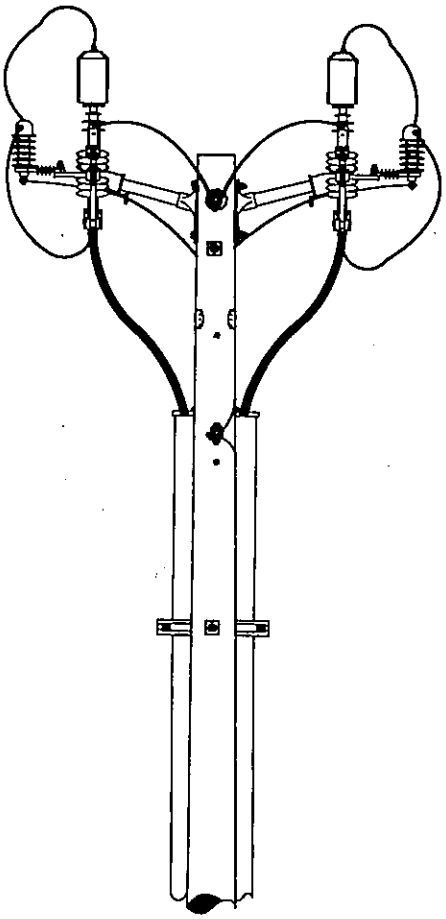
CENTRAL MAINE POWER CO.

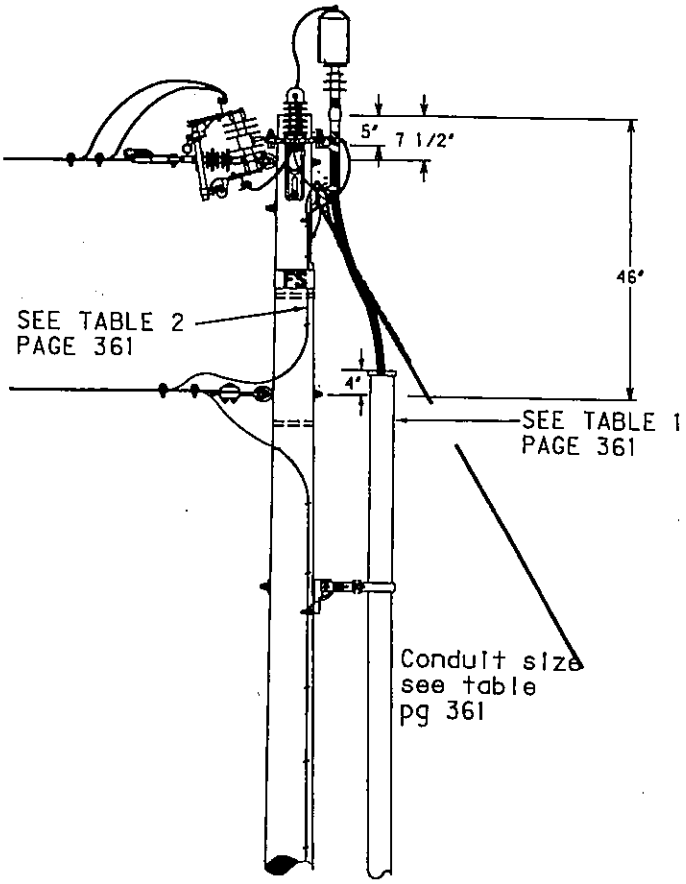
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRO WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	2		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCO	2		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIOC	2		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR2	2		INST CONDUIT RISER ON POLE 2-3 IN	
C6UDLA	2		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTDR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	2		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	10		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU1 PRLFDE	1 PH RISER LOOP FEED FROM DEAD END	361-7.1B







	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			

EnergyEast

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	03/01/06

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STATE OF MAINE
GARY A. RICCI #4737
PROFESSIONAL ENGINEER

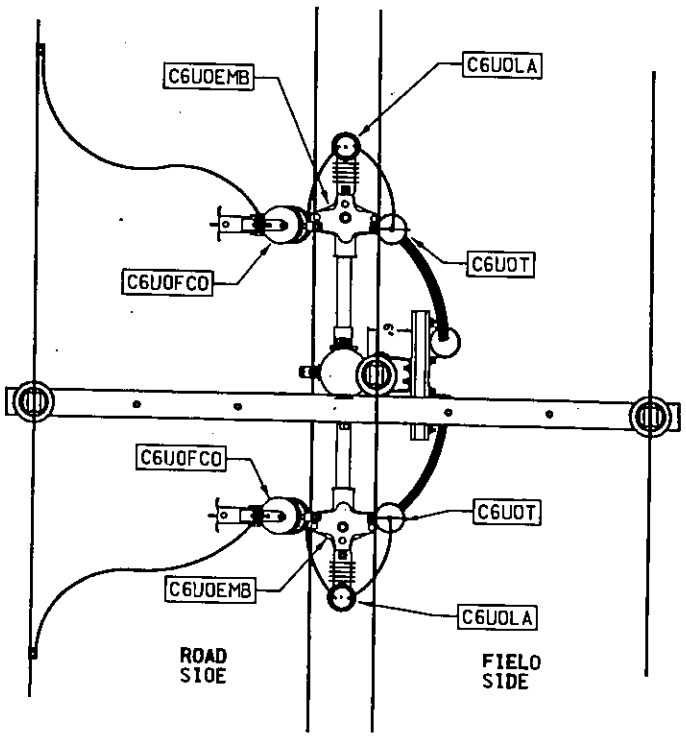
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	2		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCO	2		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIOC	2		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR2	2		INST CONDUIT RISER ON POLE 2-3 IN	
C6UDLA	2		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	2		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	10		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU1PRLFSX	1 PH RISER LOOP FEED FROM SX STRUCT	361-8B

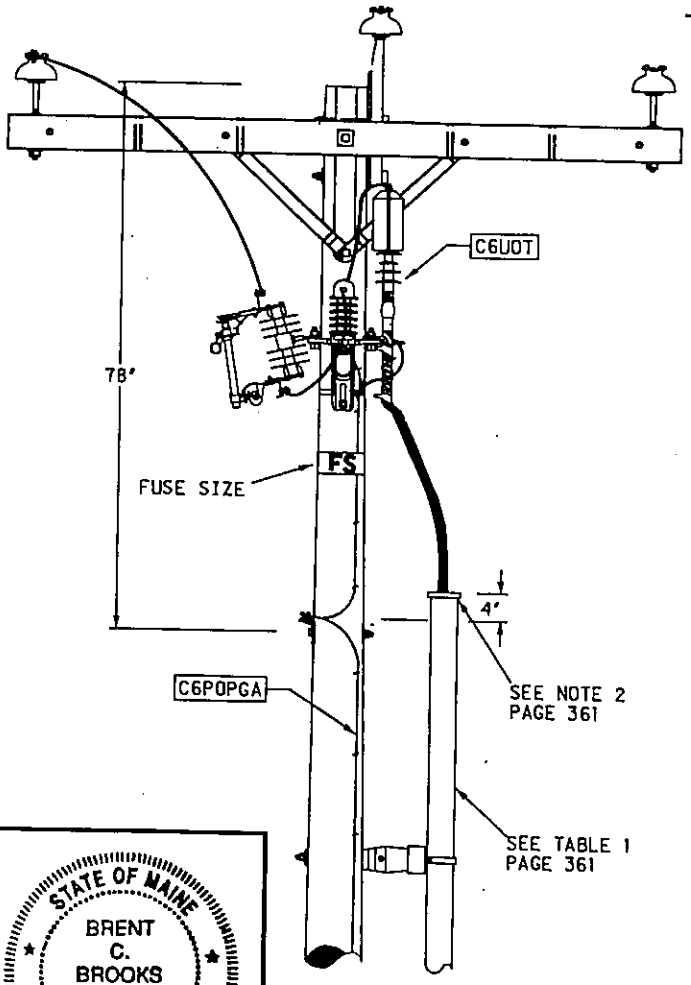
	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	10/22/02	08/20/04	06/22/06

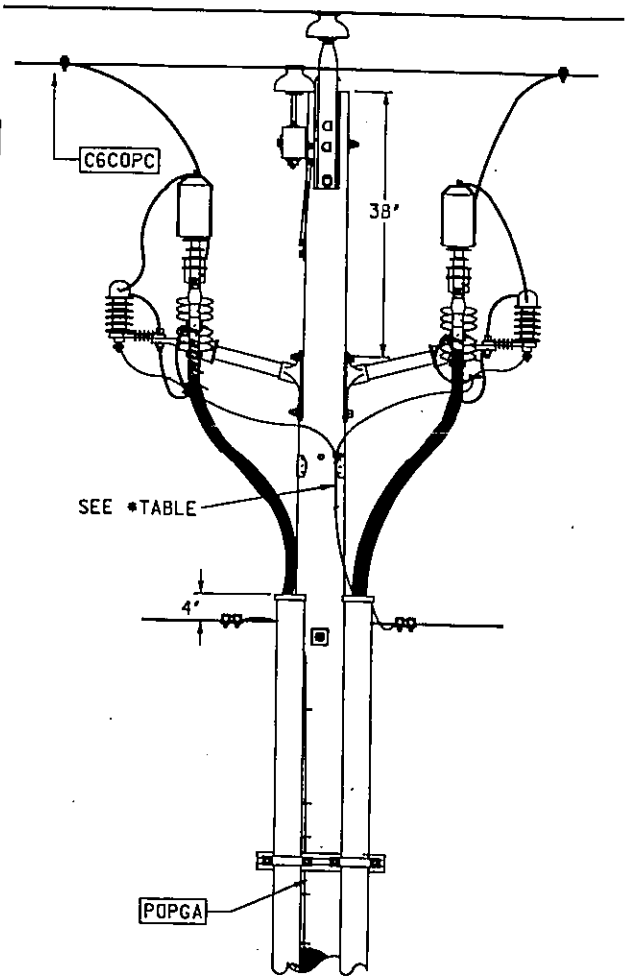


NOTE:
BOTH CABLES SHALL BE CONNECTED TO THE SAME PHASE

* TABLE
* USE PROPER SIZE NEUTRAL ON A POLE BETWEEN SYSTEM NEUTRAL AND URD CABLE NEUTRAL

CABLE SIZE	POLE NEUTRAL CU
#2	C6U0CU4TWAS
1/0	C6U0CU2TWAS
4/0	C6U0CU2/0TWAS
Larger Than 4/0	C6U0CU4/0TWAS





	ORIGINAL	REDRAWN
DESIGNED		
DRAWN	GRG	
DATE	8/27/93	

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STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
11/13/2006

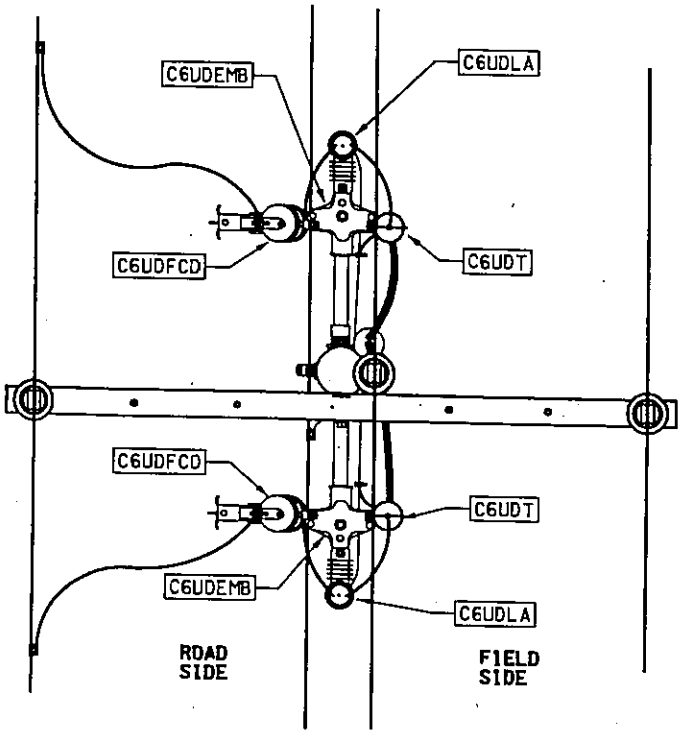
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	2		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCO	2		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIOC	1		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR3	1		INST CONDUIT RISER ON POLE 3 1/4-7 IN	
C6UDLA	2		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	2		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	10		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU1 PRLFSX1 CON	1 PH RISER LOOP FEED FROM SX STRUCT SGL CONDUIT	361-8.1B

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			



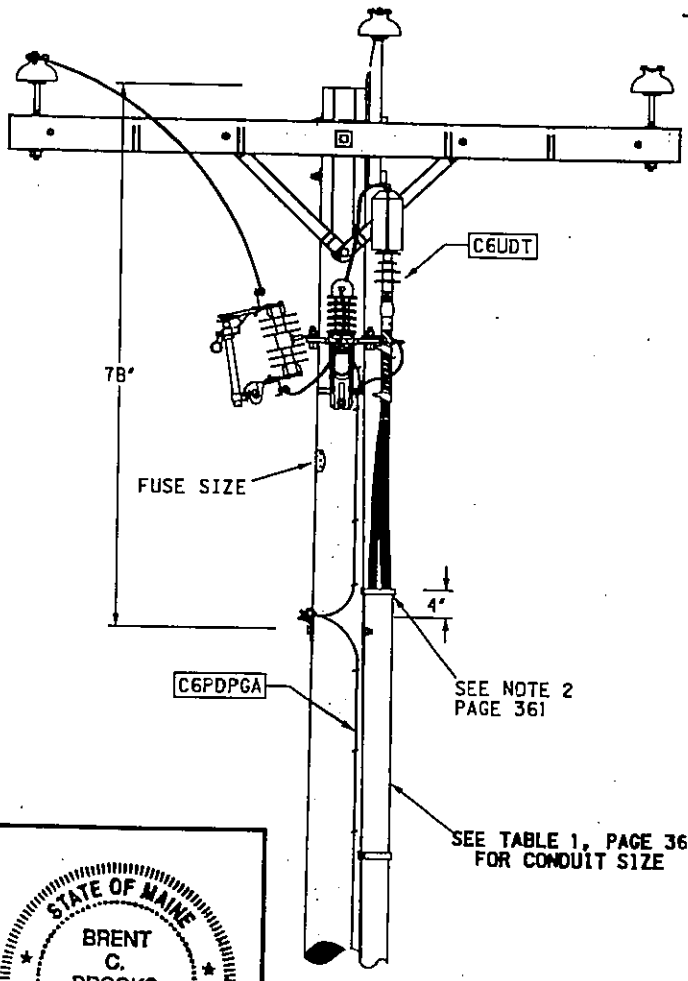
NOTE:
BOTH CABLES SHALL BE CONNECTED TO THE SAME PHASE

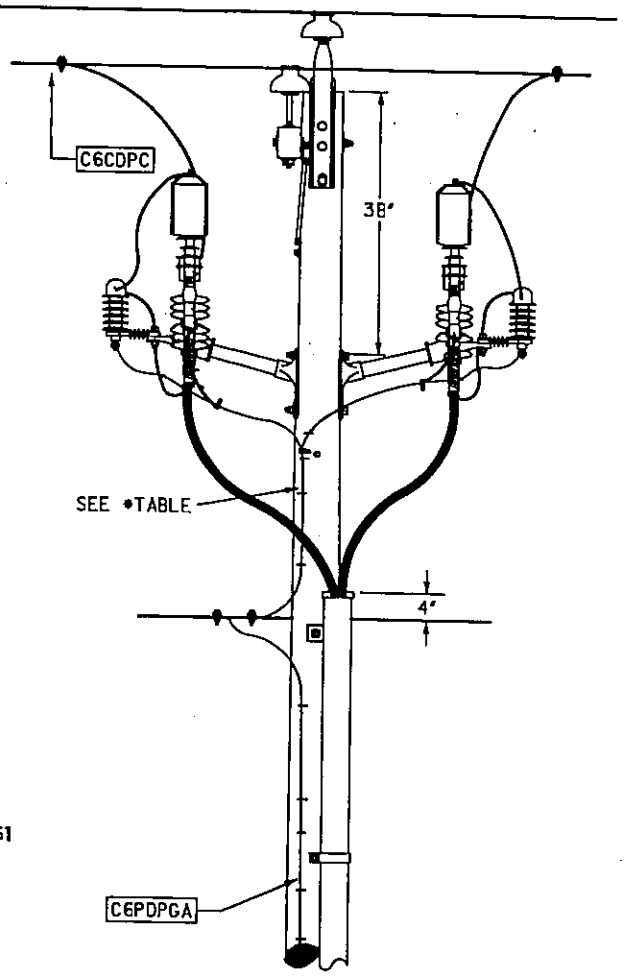
* TABLE
USE PROPER SIZE NEUTRAL ON A POLE BETWEEN SYSTEM NEUTRAL AND URD CABLE NEUTRAL

CABLE SIZE	POLE NEUTRAL CU
#2	C6UDCU4TWAS
1/0	C6UDCU2TWAS
4/0	C6UDCU2/DTWAS
Larger Than 4/0	C6UDCU4/DTWAS

EnergyEast

	ORIGINAL	
DESIGNED	CS	
DRAWN	REC	
DATE	06/23/06	





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STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
12/6

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CODE	4		DEADEND COND GENERIC (SELECT FROM CUCT)	
		1	DEADEND PRI (SELECT FROM CUCT)	60001106XX
C6COEB5/8	4		EYE BOLT ROUND 5/8 INCH VARIOUS LENGTHS	
		1	BOLT, EYE 5/8 INCH ALL LENGTHS	600027045X
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
C8COHS1/2	2		SHACKLE 1/2IN W 5/8IN PIN	
		1	SHACKLE 1/2 IN W/5/8PIN	6000274320
C6CDINSS	2		INS DEADEND GENERIC (SELECT FROM CUCT)	
		1	INSULATORS	6000310XXX
C6PD	2		POLE GENERIC (SELECT FROM CUCT)	
		1	POLES (SLECT FROM CUCT)	800074XXXX
C6PDA	2		ANCHOR, GENERIC (SELECT FROM CUCT)	
		1	ANCHORS (SELECT FROM CUCT)	6000250XXX
C6PDG	2		GUY,GENERIC (SEE TABLE PAGE 309-6)	
		1	GUYS (SEE TABLE PAGE 309-6)	60002527XX
C6PDPGA	2		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDEMB	4		EQUIP MOUNTING BRACKET 18IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT EQUIP MTG 18 IN	6000620140
C6UDFCD	2		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIDC	4		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR2	4		INST CONDUIT RISER ON POLE 2-3 IN	
C6UDLA	4		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000490XXX
C6UDSEAL	2		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	4		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	20		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU1 PRLFTRANS	1 PH RISER LOOP FEED TRANSITIONAL	361-8.2B

	REVISED	REVISED	REVISED
DESIGNED			
DRAWN			
DATE			

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	12/06/06

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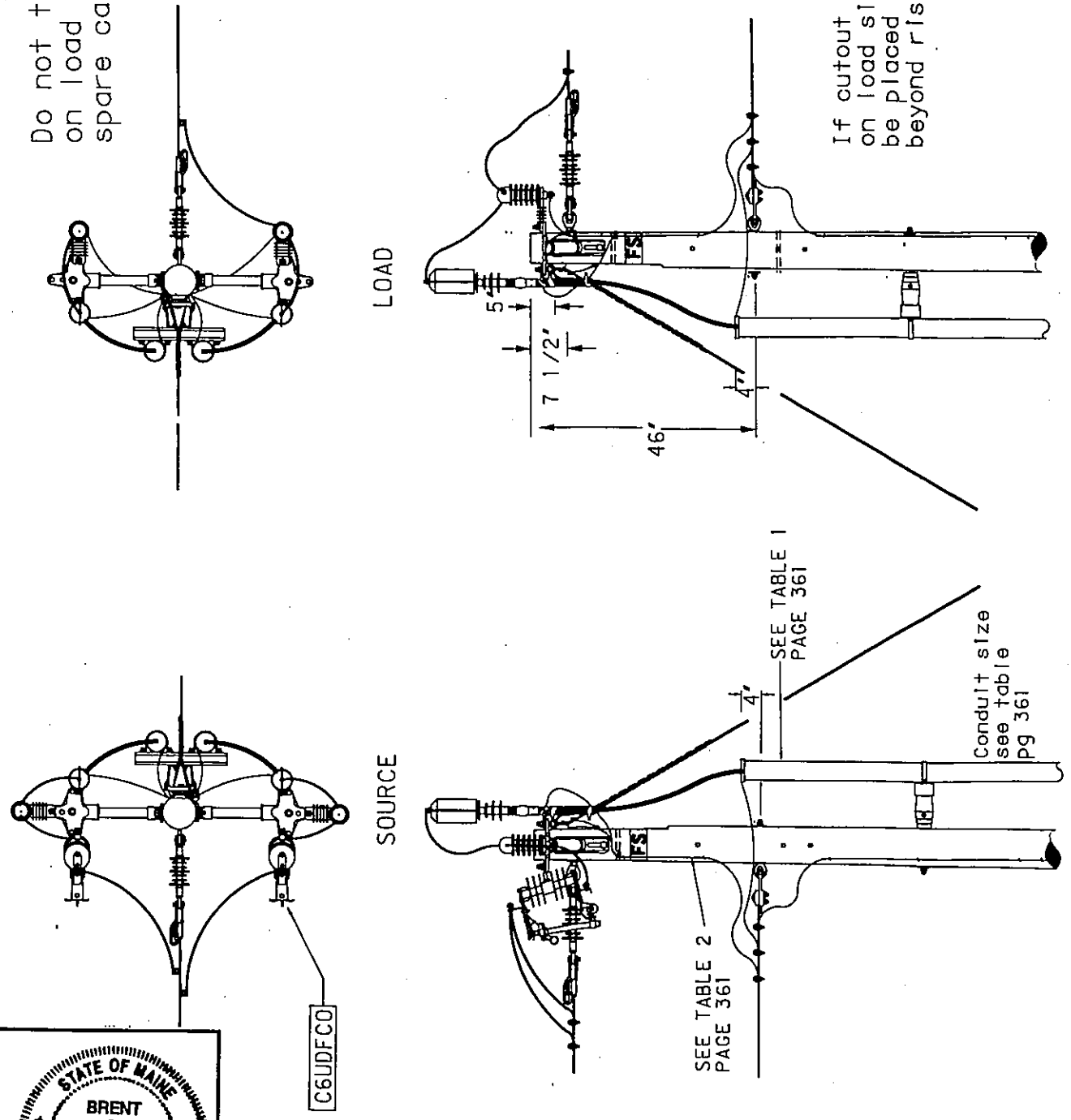

STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
12/6/2006

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDPC	3		CONNECTDR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSBD27600U	3		SWITCH DISCONNECT 27KV 600AMP UNDERARM	
		2	CONNECTORS	600011XXXX
		10	WIRE 600V XHHW 4/0 COPPER STRANDED	6000207429
		1	SW DISC 27KV UNDER ARM	6000642885
C6CDTC2E2-350	6		TERM CONN 2 EYEBOLTS 2-350KCM CU 2 BDLT	
		1	CONN TERM 350CU-BAR	6000117976
C6PDGSLFA36	1		GUY STRAIN LINK ASSEMBLY, F/G 36IN	
		1	INS STRAIN 21000LBX36IN	6000251620
		1	PLATE GUY ATT FG INS	6000251800
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	B LAG GALV FET 1/2 X 4	6000272540
		1	WSH 2 TURN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002746XX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA10	1		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B CARR GALV 3/8 X 5	6000270310
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	B LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6UDIDC	1		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR3	1		INST CONDUIT RISER ON POLE 3 1/4-7 IN	
C6UDLA	3		UNDERGROUND LIGHTNING ARREST (GENERIC)	
		1	WILDLIFE PROTECTOR	60003128XX
		1	LIGHTNING ARRESTOR GENERIC	6000480XXX
C6UDLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6UDT	3		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	20		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU3PSR3W	3 PH STATION RISER 3 WIRE 34KV	361-9B

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	08/16/04	04/08/05	06/22/06

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRC
DATE	9/7/94

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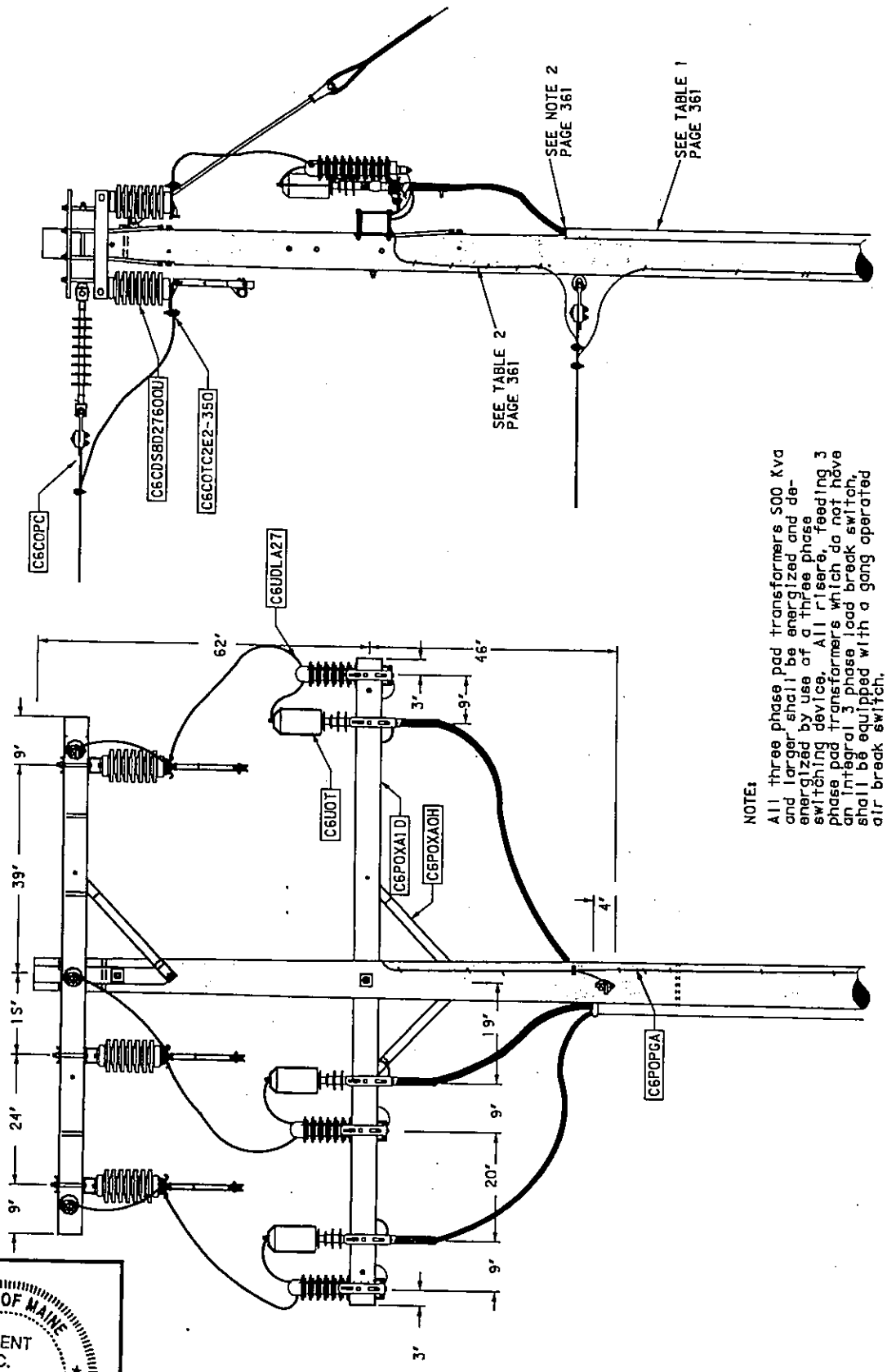


STATE OF MAINE
BRENT C. BROOKS #8209
REGISTERED PROFESSIONAL ENGINEER
11/3/2006

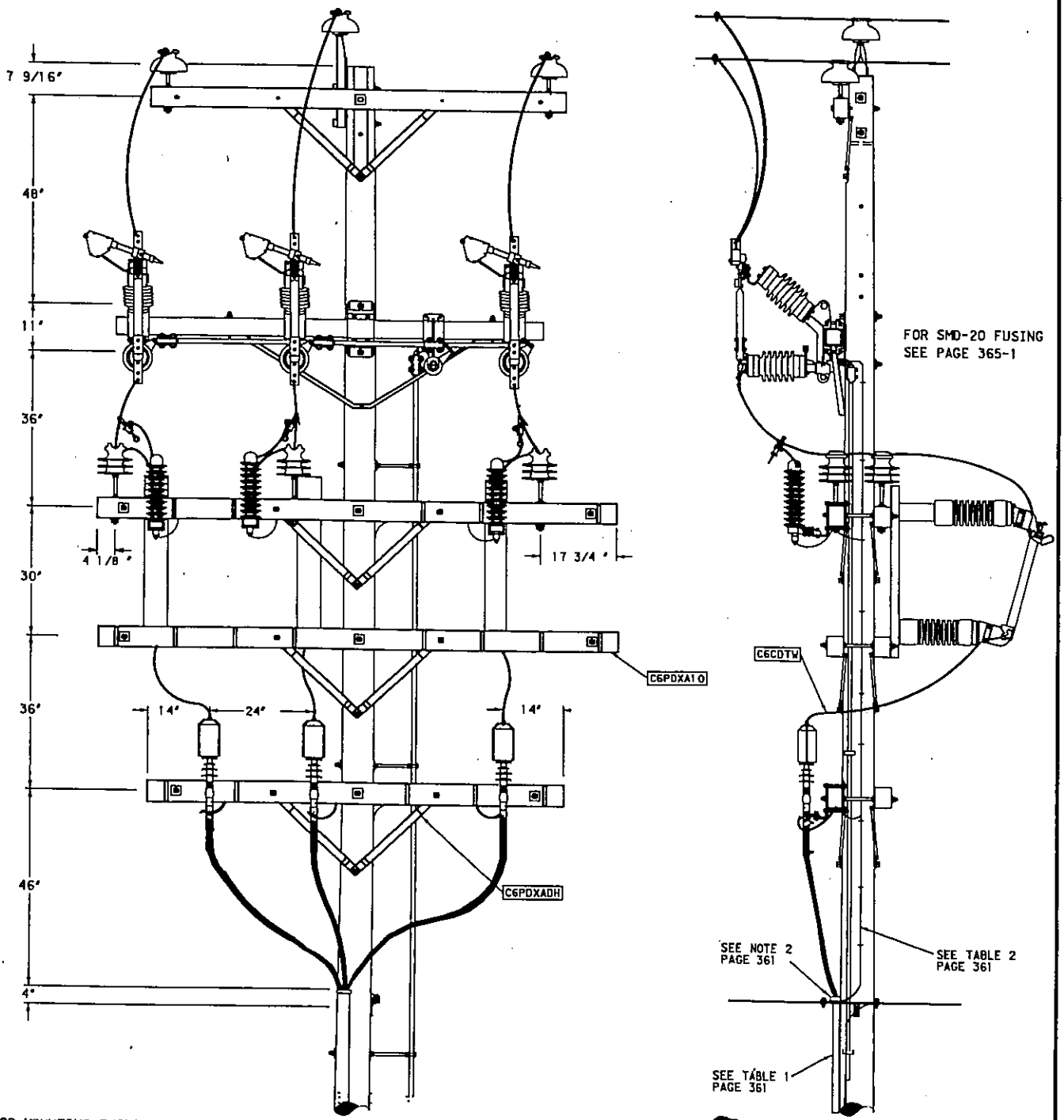
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

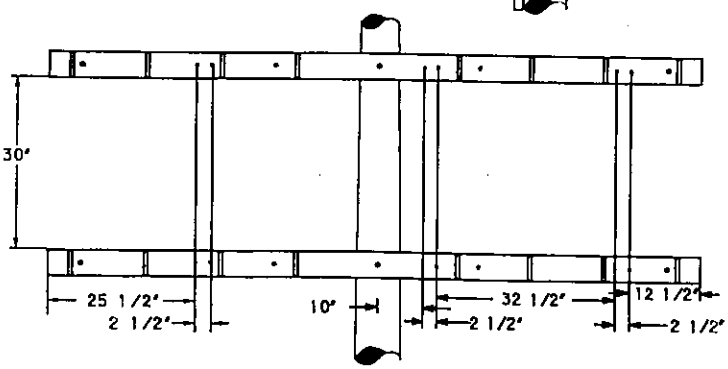
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C8CDFEF	6		FUSE END FITTINGS F/SMD20 7.2 TO 34.5KV	
		1	FU END FIT7.2-34SMD20	6000498600
C6CDFMSMD20	3		FUSE MOUNTING SMD 20 34.5KV	
		1	FUSE PWR MTG F/SMD-20	6000492560
C6CDFU	3		FUSE UNIT FOR SMD 20 MOUNT	
		1	SMD 20 FUSE UNIT,GENERIC	600049058X
C8CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	3		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	6000274600
C6COPC	10		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C8CDSAB34600VS	1		SWITCH, A/B 34KV 600AMP VERT SIDEBREAK	
		2	BOLT, THRU 5/8 IN, ALL LENGTHS	600027208X
		4	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	SW A/B34KV VERT/SIDEBRK	6000640675
C6CDTC2E2-350	9		TERM CONN 2 EYEBOLTS 2-350KCM CU 2 BOLT	
		1	CONN TERM 350CU-BAR	6000117976
C6CDTW	45		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA10	4		XARM, 6PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6POXADH	3		XARM, OOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6UDLA27	3		LIGHTNING ARRESTOR 27KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD, RHW, USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARRESTER, DISTRIBUTION	6000490120
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6UDT	3		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	15		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MT3PR3W/AB34	3PH RISER 3 WIRE WITH AIR BREAK 34KV	361-10B

NO.	REVISION	DATE	BY	CK.
11	Moved SMD switch	04/17/09		



FOR MOUNTING F/SMD-20 34.5KV FUSE LINK UNITS, USE TWO (2) 10' 8 PIN CROSSARMS (MIO*6000740S40). USING THE DIMENSIONS TO THE RIGHT DRILL 11/16" HOLES, FOUR (4) PER FUSE HOLDER AND MOUNT WITH 5/8" X 7" BOLTS (MIO*6000272081).



	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
4/23/09
LICENSED PROFESSIONAL ENGINEER

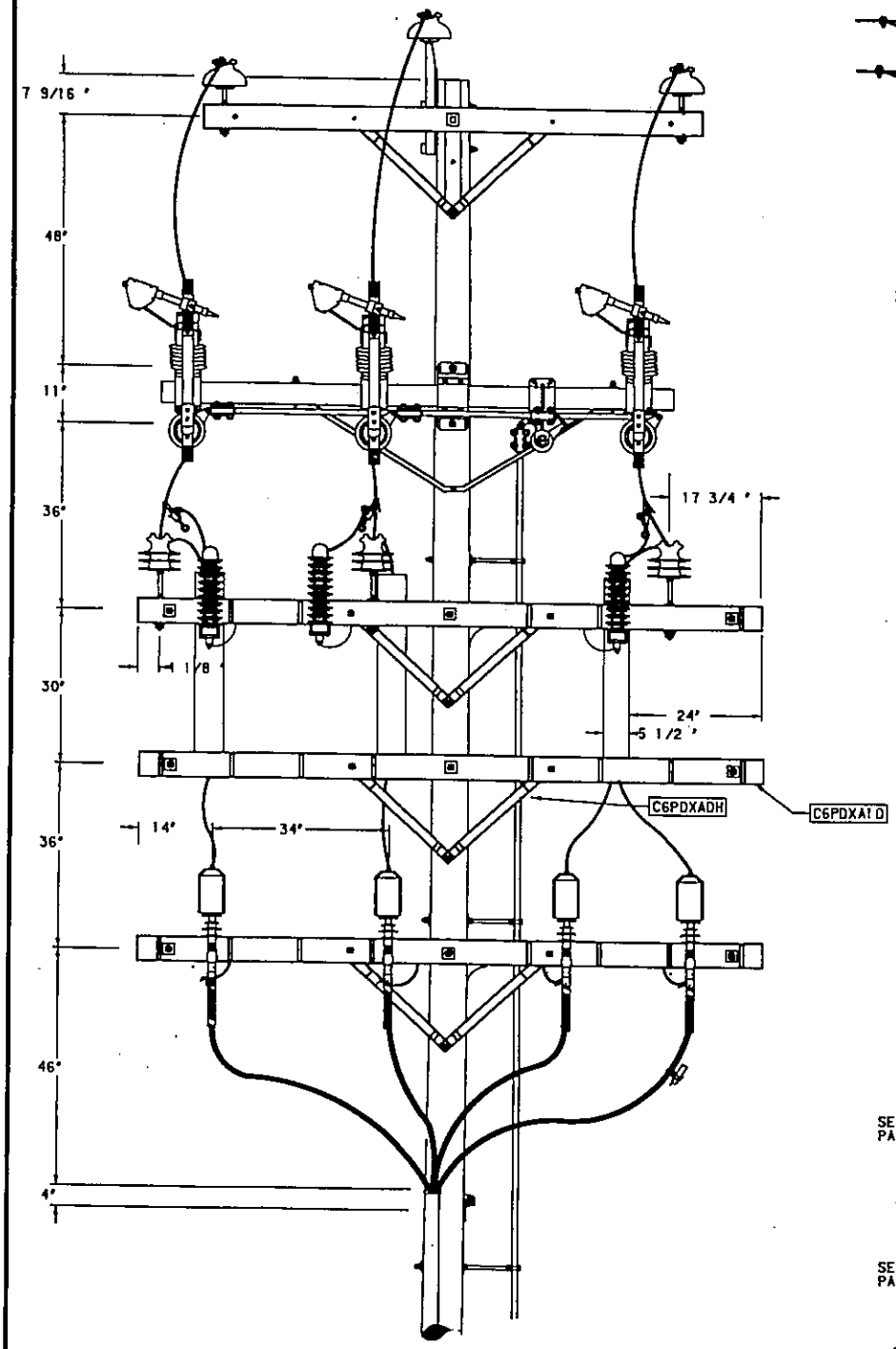
CENTRAL MAINE POWER CO.

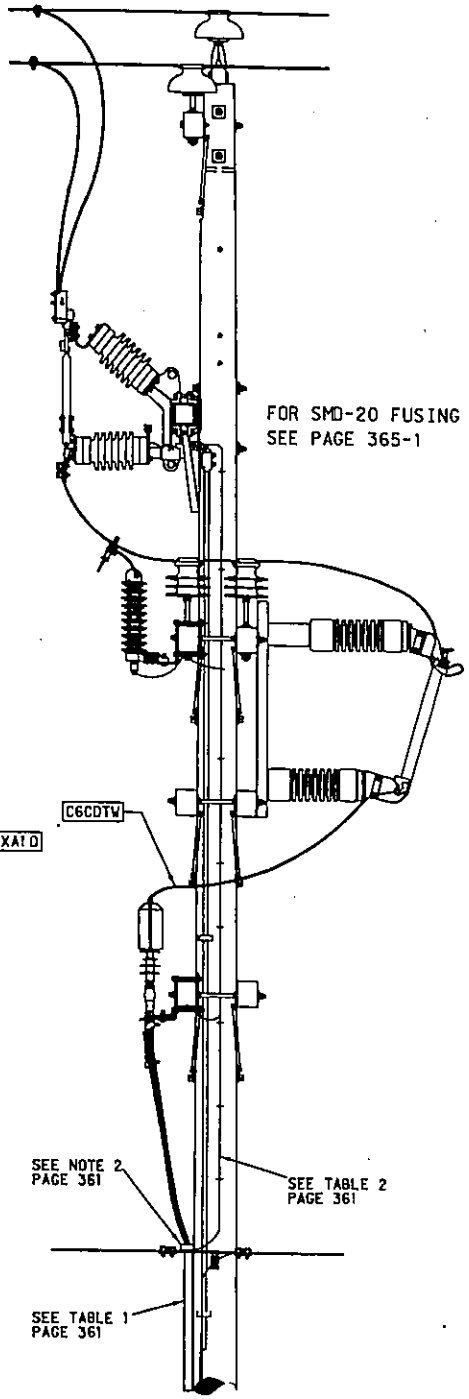
DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDFEF	6		FUSE END FITTINGS F/SMD20 7.2 TO 34.5KV	
		1	FU END FIT7.2-34SMD20	6000498600
C6CDFMSMD20	3		FUSE MOUNTING SMD 20 34.5KV	
		1	FUSE PWR MTG F/SMD-20	6000492560
C6CDFU	3		FUSE UNIT FOR SMD 20 MOUNT	
		1	SMD 20 FUSE UNIT,GENERIC	600049058X
C6CDINSPT	3		INSULATOR PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	3		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH 2 TURN SPR GALV 5/8	8000274600
C6CDPC	10		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSAB34600VS	1		SWITCH, A/B 34KV 600AMP VERT SIDEBREAK	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027206X
		4	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	SW A/B34KV VERT/SIDEBRK	6000640675
C6CDTC2E2-350	9		TERM CONN 2 EYEBOLTS 2-350KCM CU 2 BOLT	
		1	CONN TERM 350CU-BAR	6000117976
C6CDTW	45		TAPWIRE GENERIC (SELECT FROM CUCT)	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES,GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6PDXA10	4		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXA8	2		XARM, 6PINB, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXADH	3		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6UDFILT	1		INDICATOR, FAULT, URD, LOAD TRACKER	
		1	INDICATOR, FAULT, URD, LOAD TRACKER	751482
C6UDLA27	3		LIGHTNING ARRESTOR 27KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD, RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARRESTER, DISTRIBUTION	6000490120
		3	WIRE NO. 4 CU GROUND BARE STRANDED S D	751182
C6UDLAMB	6		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6UDT	4		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	15		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

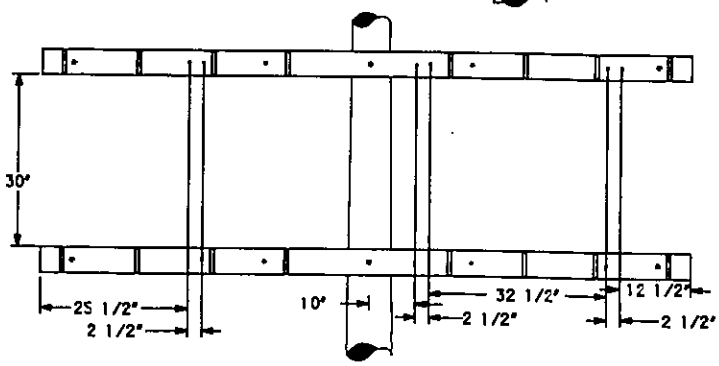
MACRO	DESCRIPTION	PAGE
C6MT3PR4W/AB34	3 PH RISER 4 WIRE WITH FUSED AIR BREAK 34KV	361-11B

NO.	REVISION	DATE	CK.
1	Moved center sw, chgd lower xarm to 10ft	04/17/09	





FOR MOUNTING F/SMD-20 34.5KV FUSE LINK UNITS, USE TWO (2) 10' 8 PIN CROSSARMS (MID#600074DS40). USING THE DIMENSIONS TO THE RIGHT DRILL 11/16" HOLES, FOUR (4) PER FUSE HOLDER AND MOUNT WITH 5/8" X 7" BOLTS (MID#6D00272081).



	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	09/03/01

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

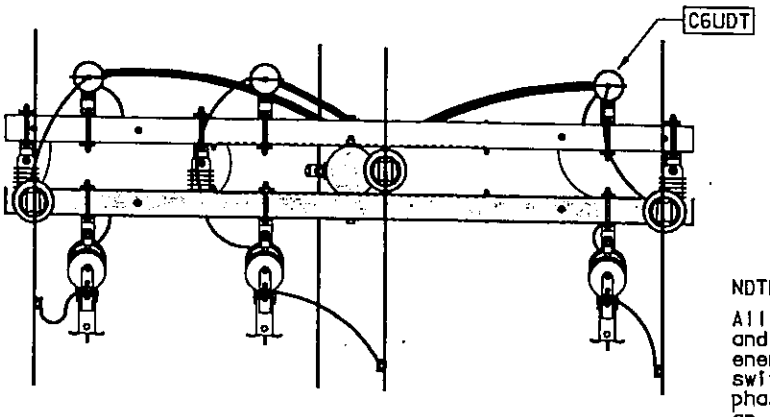
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
4/23/09
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

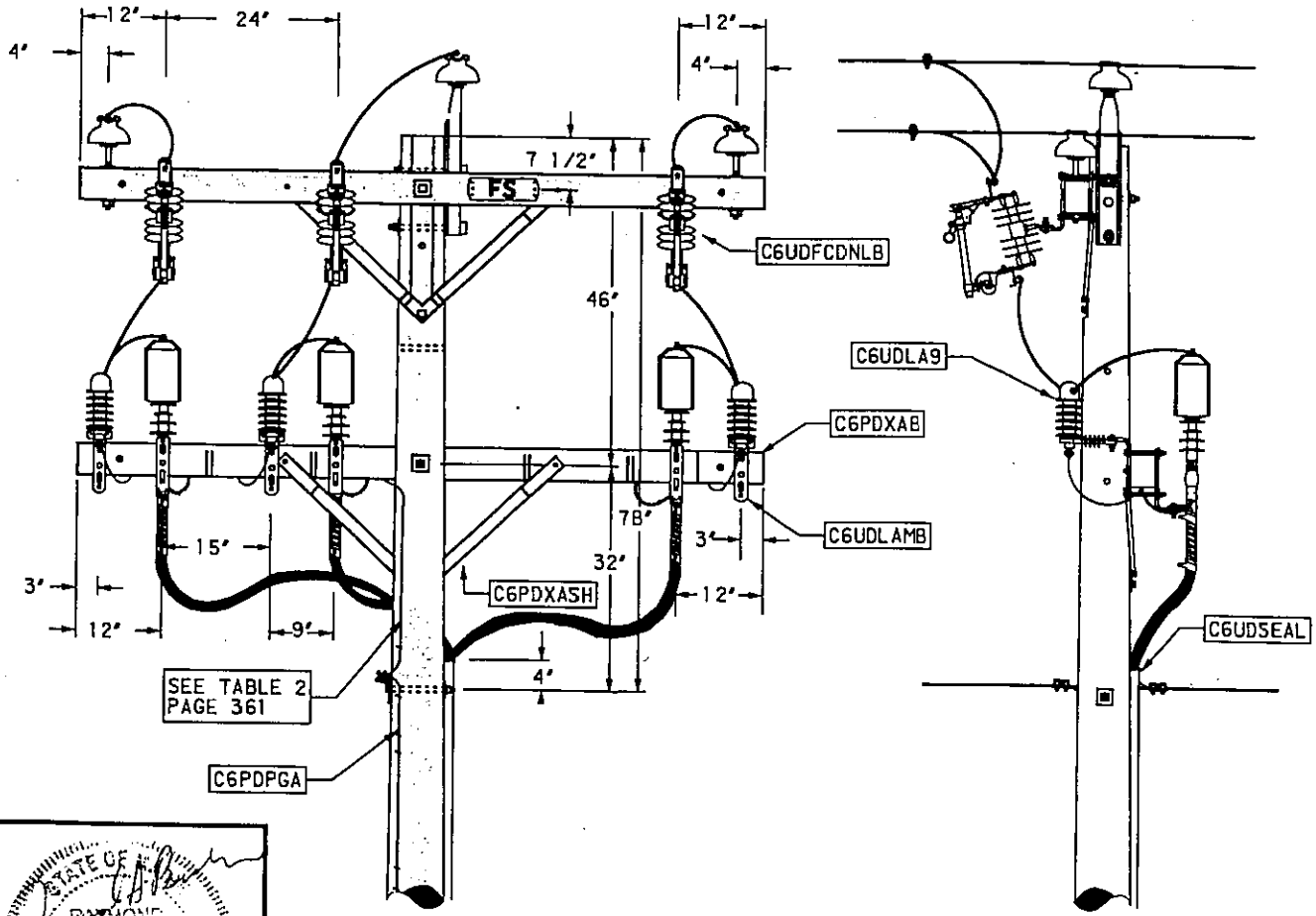
CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDPC	3		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING PLAS 1/2 IN GR	6000251680
		1	ROD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GROUND BARE STRANDED S D	751162
C6PDXA8	1		XARM, 6PIN8, 8FT	
		1	XARM 6PIN 8	6000740510
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	8 CARR GALV 3/8 X 5	6000270310
		1	8OLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	8 LAG GALV FET 1/2 X 4	6000272540
		2	BRACE XARM 28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6UDFCO	3		UNDERGROUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FROM CUCT)	6000491XXX
C6UDIOC	3		INST OF 1C CA8LE IN CONDUIT PER 50FT	
C6UDIOR3	1		INST CONDUIT RISER ON POLE 3 1/4-7 IN	
C6UDLA9	3		LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SD RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GROUND 8ARE STRANDED S D	751182
C6UDLAM8	9		XARM MOUNTING 8RACKET	
		1	BKT EQUIP MTG CROSSARM	6000620100
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600081063X
C6UDT	3		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FROM CUCT)	60002158XX
C6UDTW	20		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FROM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU3PR3W12	3 PH RISER 3 WIRE 12KV	361-12B



NOTE:

All three phase pad transformers 500 Kva and larger shall be energized and de-energized by use of a three phase switching device. All risers, feeding 3 phase pad transformers which do not have an integral 3 phase load break switch, shall be equipped with a gang operated air break switch.



	REVISED	REVISED	REVISED
DESIGNED	CS	CS	CS
DRAWN	REC	REC	REC
DATE	08/23/01	8/17/04	12/04/06

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	11/24/93

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EnergyEast

STATE OF MAINE — PROFESSIONAL ENGINEER

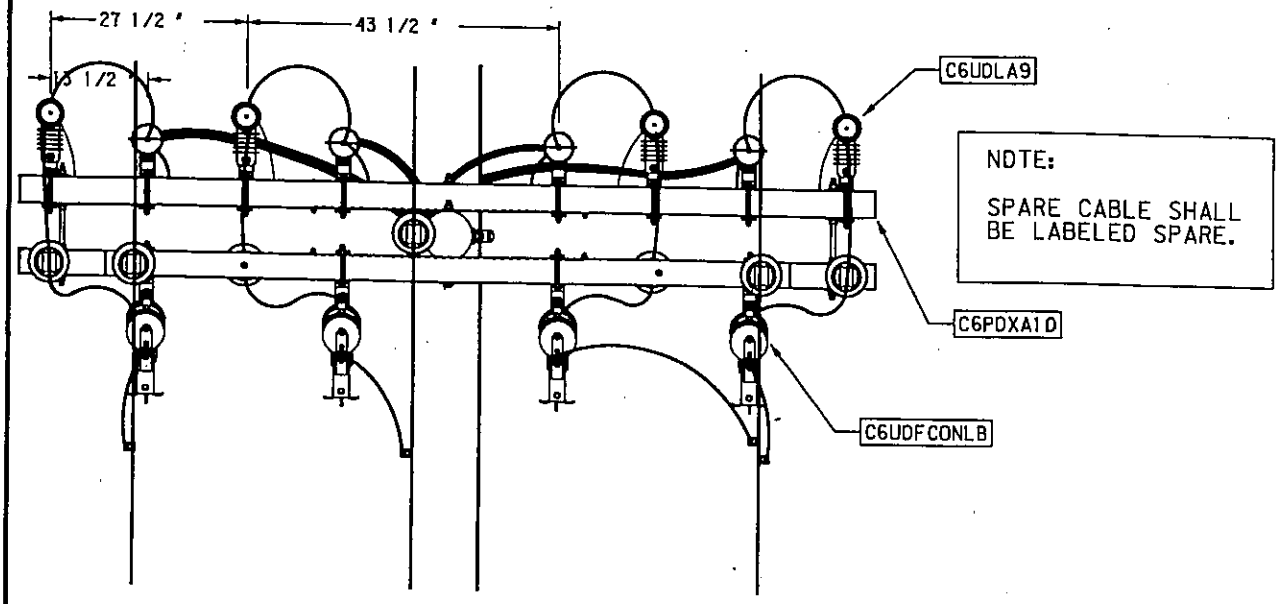
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Matl*		*Description*	*Material ID*
C6CDINSPT	7		INSULATOR,PIN TYPE,GENEBIC,(SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDIPIN	6		INSULATOR,PINS,VARIOUS SIZES,LOBBY	
		1	XARM,PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH,2 TURN,SPR,GALV,5/8	6000274600
C6CDNB	1		NEUTRAL,BRACKET,STEEL	
		4	TIE WIRE,AL,LOBBY	6000205XXX
		1	BOLT, THRU,5/8 IN, ALL LENGTHS	600027208X
		1	WSH,2 TURN,SPR,GALV,5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		1	BKT,NEUTRAL CLAMP,STEEL	6000620230
C6CDPC	4		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDPTP	1		POLE TOP PIN,24 INCH,STEEL	
		2	BOLT, THRU,5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN,24X1.3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN,SPRING,ALL SIZES	6000274XXX
C6PD	1		POLE,GENERIC,(SELECT FROM CUCT)	
		1	POLES,(SLECT FROM CUCT)	600074XXXX
C6PDPGA	1		POLE,GROUND,ASSEMBLY	
		1	CONN,GRD,ROD,3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING,PLAS,1/2 IN,GR	6000251680
		1	ROD,GROUND,GALV,3/4X8FT	6000251860
		9	STAPLES,GALV,F/4 GRD WR	6000274402
		6	STAPLE F/ 1/2IN MOLDING	6000274410
		40	WIRE,ND_4 CU,GROUND,BARE,STRANDED,S.D	751182
C6PDXA10	2		XARM, 8PINB, 10 FT	
		1	XARM,8 PIN,B	6000740540
C6PDXA8	1		XARM, 6PINB, 8FT	
		1	XARM,6PIN,8	6000740510
C6PDXADH	1		XARM, DDUBLE, HAROWARE ONLY	
		4	B,CARR,GALV,3/8,X,5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B,LAG,GALV,FET,1/2,X,4	6000272540
		4	BRACE,XARM,28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN,SPRING,ALL SIZES	6000274XXX
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B,CARR,GALV,3/8,X,5	6000270310
		1	BOLT, THRU,5/8 IN, ALL LENGTHS	600027208X
		1	B,LAG,GALV,FET,1/2,X,4	6000272540
		2	BRACE,XARM,28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN,SPRING,ALL SIZES	6000274XXX
C6UDECO	4		UNDERGROUND,FUSED,CUTOUT,(GENERIC)	
		1	FUSED,CUTOUT,(SELECT FROM CUCT)	6000491XXX
C6UDIOC	4		INST,OF,1C,CABLE,IN,CONDUIT,PER,50FT	
C6UDIOR3	1		INST,CONDUIT,RISER,ON,POLE,3,1/4-7 IN	
C6UDLA9	4		LIGHTNING ARRESTOR,10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE,#2,CU,7 STRAND, SD, RHW, USE OR RHH	6000207360
		4	STAPLES,GALV,F/4 GRD WR	6000274402
		1	WILDLIFE,PROTECTOR	60003128XX
		1	ARR,DIST,10KV	6000490060
		3	WIRE,NO_4,CU,GROUND,BARE,STRANDED,S.D	751182
C6UDLAMB	12		XARM,MOUNTING,BRACKET	
		1	BKT,EQUIP,MTG,CROSSARM	6000620100
C6UDSEAL	1		POLYURETHANE,SEALANT,(PURCHASE LOCALLY)	
		1	POLY,SEALANT,PURCHASE LOCALLY	600081063X
C6UDT	4		TERMINATOR,GENERIC,(SELECT FROM CUCT)	
		1	TERMINATORS,(SELECT FROM CUCT)	60002158XX
C6UDTW	20		TAP,WIRE, GENEBIC	
		1	TAP,WIRE,(SELECT FROM CUCT)	600020XXXX

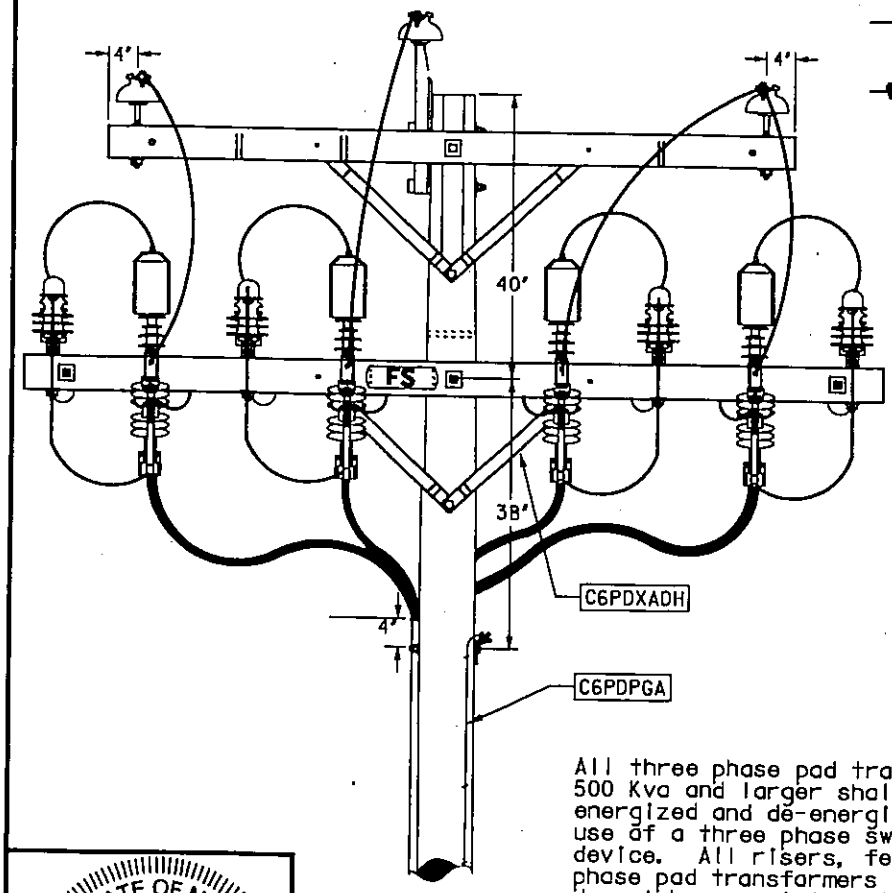
MACRO	DESCRIPTION	PAGE
C6MU3PR4W12	3 PH RISER 4 WIRE 12KV	361-13B

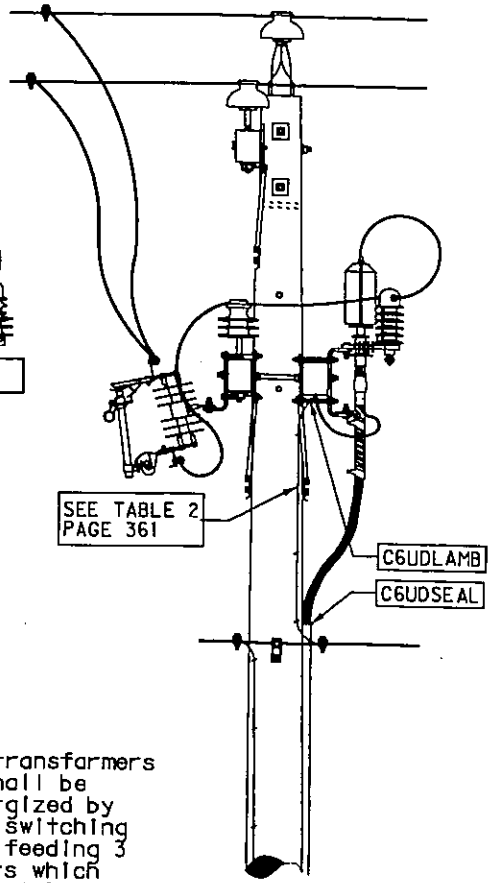
NO.	REVISION	DATE	CK.
1	Chgd to 4 c/0a from 3, rem fault indicator	12/28/07	



NOTE:

SPARE CABLE SHALL BE LABELED SPARE.





All three phase pad transformers 500 Kva and larger shall be energized and de-energized by use of a three phase switching device. All risers, feeding 3 phase pad transformers which do not have an integral 3 phase load break switch, shall be equipped with a gang operated air break switch.

EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	5/18/94

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
BRENT C. BROOKS
No. 8209
LICENSED PROFESSIONAL ENGINEER
12/31/2007

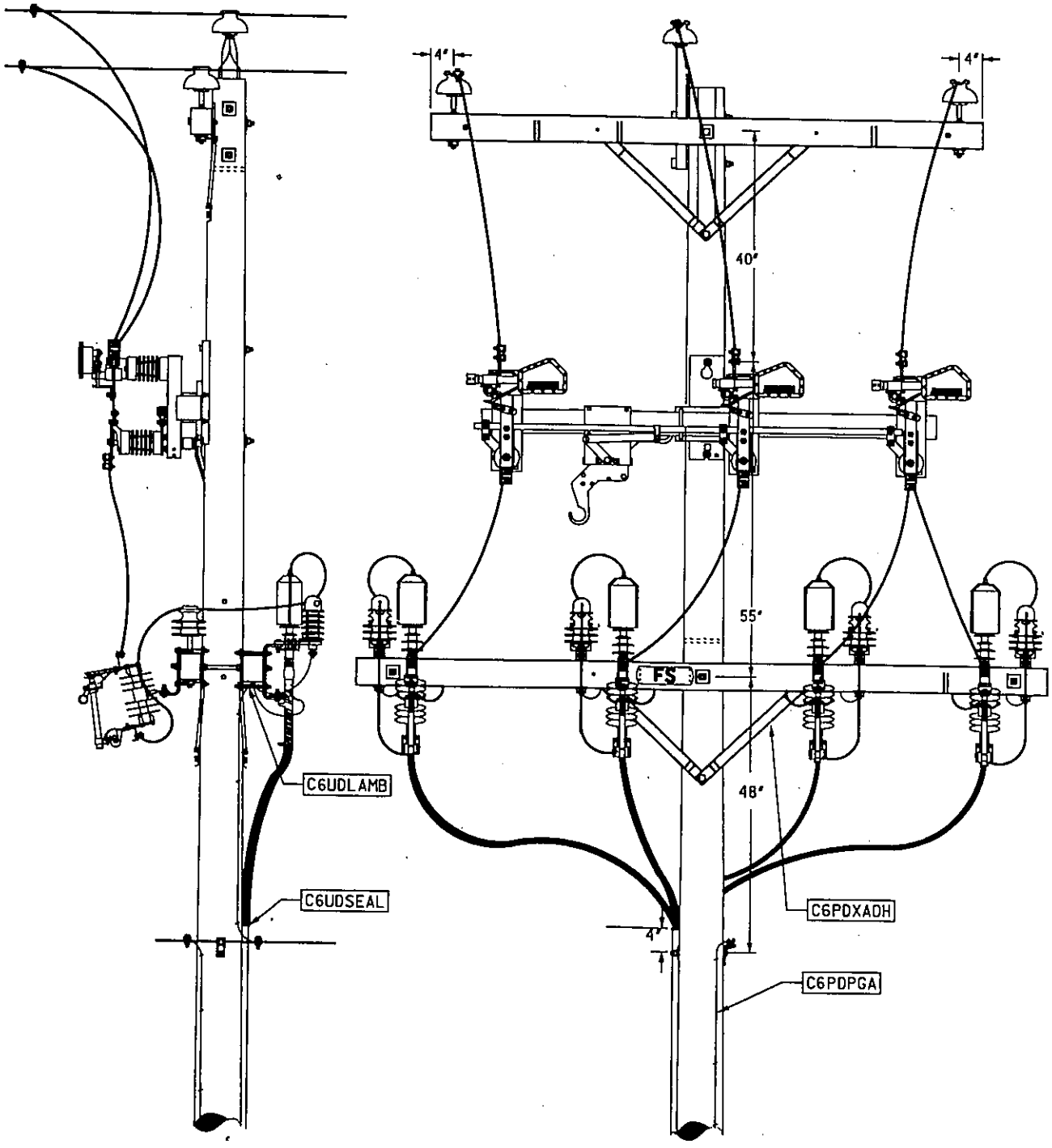
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	Quantity - CU/Matl		Description	Material ID
C6CDINSPT	7		INSULATOR,PIN TYPE,GENERIC,(SELECT FROM	
		1	INSULATORS	6000310XXX
C6CQIPIN	6		INSULATOR,PINS,VARIOUS SIZES,LOBBY	
		1	XARM,PINS, USE APPROPRIATE SIZE	6000273XXX
		1	WSH,2 TURN,SPR,GALV,5/8	6000274600
C6CONB	1		NEUTRAL,BRACKET,STEEL	
		4	TIE WIRE,AL,LOBBY	6000205XXX
		1	BOLT, THRU,5/8 IN, ALL LENGTHS	600027208X
		1	WSH,2 TURN,SPR,GALV,5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		1	8KT,NEUTRAL CLAMP,STEEL	6000620230
C6COPTP	1		POLE TOP PIN,24 INCH,STEEL	
		2	BOLT, THRU,5/8 IN, ALL LENGTHS	600027208X
		1	POLE TOP PIN,24X1 3/8INCH	6000274170
		2	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		2	WASHER, GALV, TWO TURN,SPRING,ALL SIZES	6000274XXX
C6CDTC2E2-350	2		TERM,CONN,2 EYE BOLTS,2-350KCM,CU,2 BOLT	
		1	CONN,TERM,350CU-BAR	6000117976
C6PD	1		POLE,GENERIC,(SELECT FROM,CUCT)	
		1	POLES,(SLECT FROM,CUCT)	600074XXXX
C6PDPGA	1		POLE,GROUND,ASSEMBLY	
		1	CONN,GRD,ROD,3/4 IN	6000112662
		1	CONNECTORS	600011XXXX
		8	MOULDING,PLAS,1/2 IN,GR	6000251680
		1	ROD,GROUND,GALV,3/4X8FT	6000251860
		9	STAPLES,GALV,F/4 GRD WR	6000274402
		6	STAPLE,F/ 1/2IN,MOLDING	6000274410
		40	WIRE,NO. 4,CU,GROUND,BARE,STRANDED,S.D	751182
C6PDXA10	2		XA&M, 8PIN8, 10 FT	
		1	XARM,8 PIN,B	6000740540
C6PDXA8	1		XARM, 6PIN8, 8FT	
		1	XARM,6PIN,8	6000740510
C6PDXAOH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B,CARR,GALV,3/8,X 5	6000270310
		3	BOLT, SPACE, 5/8 IN, ALL SIZES	600027217X
		2	B,LAG,GALV,EET,1/2 X 4	6000272540
		4	BRACE,XARM,28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN,SPRING,ALL SIZES	6000274XXX
C6PDXASH	1		XARM, SINGLE, HARDWARE ONLY	
		2	B,CARR,GALV,3/8,X 5	6000270310
		1	BOLT, THRU,5/8 IN, ALL LENGTHS	600027208X
		1	B,LAG,GALV,EET,1/2 X 4	6000272540
		2	BRACE,XARM,28 IN	6000272670
		2	WASHER,SQUARE,GALVANIZED,ALL SIZES	60002748XX
		3	WASHER, GALV, TWO TURN,SPRING,ALL SIZES	6000274XXX
C6UDECO	4		UNDERGROUND,FUSED,CUTOUT,(GENERIC)	
		1	FUSED,CUTOUT,(SELECT FROM,CUCT)	6000491XXX
C6UDIOC	4		INST,OF,1C,CABLE IN,CONDUIT,PER,50FT	
C6UDIOR3	1		INST,CONDUIT,RISER ON,POLE,3 1/4-7 IN	
C6UDLA9	4		LIGHTNING,ARRESTOR,10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE,#2,CU,7 STRAND, SD, RHW, USE OR,RHH	6000207360
		4	STAPLES,GALV,F/4,GRD,WR	6000274402
		1	WILDLIFE,PROTECTOR	60003128XX
		1	ARR,DIST,10KV	6000490060
		3	WIRE,NO. 4,CU,GROUND,BARE,STRANDED,S.D	751182
C6UDLAM8	12		XARM,MOUNTING,BRACKET	
		1	BKT,EQUIP,MTG,CROSSARM	6000620100
C6UDSA815600VH	1		SW,A/B,15KV,600A,VERTICAL,HOOKSTICK,MECH	
		1	SWITCH, A/B,15KV,600A,110KV,BIL,VERT,H/S	6000640558
C6UDSEAL	1		POLYURETHANE,SEALANT,(PURCHASE LOCALLY)	
		1	POLY,SEALANT,PURCHASE LOCALLY	600081063X
C6UDT	4		TERMINATOR,GENERIC, (SELECT,FROM,CUCT)	
		1	TERMINATORS,(SELECT,FROM,CUCT)	60002158XX
C6UDTW	21		TAP,WIRE, GENERIC	
		1	TAP,WIRE,(SELECT,FROM,CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU3PR4W/AB12	3 PH RISER 4 WIRE WITH AIR BREAK 12KV	361-14B

NO.	REVISION	DATE	CK.
1	New drawing, riser w/vertical airbreak switch	12/18/07	



EnergyEast

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	5/18/94

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

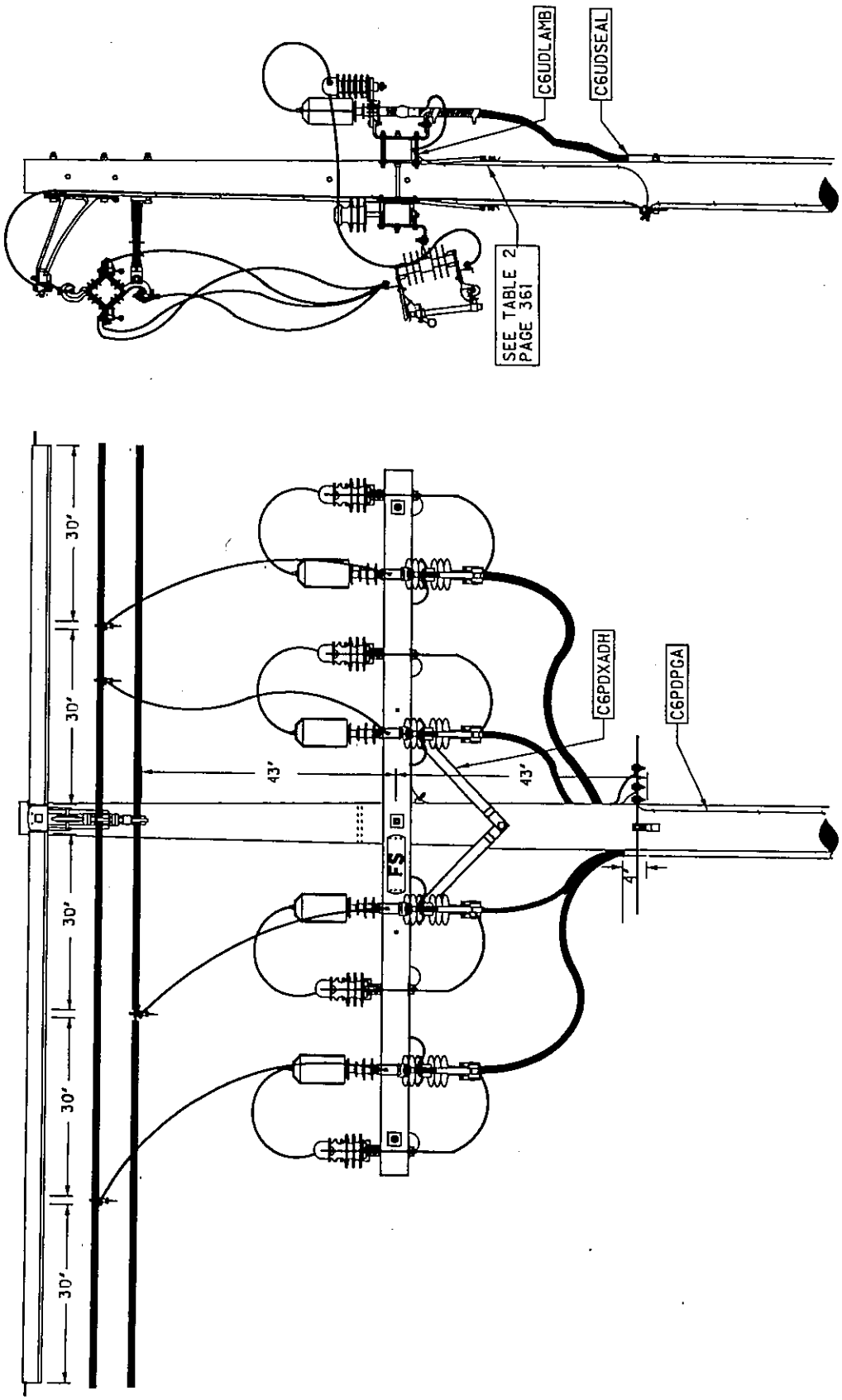
STATE OF MAINE
BRENT C. BROOKS
No. 8209
LICENSED PROFESSIONAL ENGINEER
12/18/2007

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

CU Number	*Quantity - CU/Mat'l*		*Description*	*Material ID*
C6CDINSPT	3		INSULATOR,PIN TYPE GENERIC (SELECT FROM	
		1	INSULATORS	6000310XXX
C6CDPIN	3		INSULATOR PINS VARIOUS SIZES LOBBY	
		1	XARM PINS, USE APPROPRIATE SIZE	60002Z3XXX
		1	WSH 2 TUBN SPR GALV 5/8	6000274600
C6CDNB	1		NEUTRAL BRACKET STEEL	
		4	TIE WIRE AL LOBBY	6000205XXX
		1	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		1	WSH 2 TUBN SPR GALV 5/8	6000274600
		1	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		1	BKT NEUTRAL CLAMP STEEL	6000620230
C6CDPC	4		CONNECTOR,PRIMARY	
		1	CONNECTORS	600011XXXX
C6CDSCBMT14	1		SPACER CBL BKT MESS TANGENT 14IN	
		2	BOLT, THRU 5/8 IN. ALL LENGTHS	600027208X
		2	WSH 2 TURN SPR GALV 5/8	6000274600
		2	WSHELTGALVSQ2 1/4X3/16	6000274810
		1	BKT MESS TANGENT 14 IN	6000620290
C6CDSCBMT14AS	1		BKT ANTI-SWAY 14IN USE W/CDSCBMT14	
		1	B LAG GALV FET 1/2 X 4	6000272540
		1	BRACKET - ANTI-SWAY 14"	6000620390
C6CDSCBS	1		SPACER CBL STIRRUP USE/W ANTI-SWAY BKT	
		1	BKT STIRRUP	6000620380
C6CDSCMGA#2	1		SPACER CBL MESS GROUND ASSY #2	
		2	CONNECTORS	600011XXXX
		8	WIRE 2 CU 7STR BARE SD	6000206325
		4	STAPLES GALV F/4 GRD WR	6000274402
C6CDSCS15T	7		SPACER CBL SPACER W/TIES F/15KV CABLE	
		1	SPACER W/TIES F/15KV	6000221520
C6PD	1		POLE GENERIC (SELECT FRDM CUCT)	
		1	PDLES (SLECT FRDM CUCT)	600074XXXX
C6PDPGA	1		POLE GROUND ASSEMBLY	
		1	CONN GRD ROD 3/4 IN.	6000112662
		1	CONNECTORS	600011XXXX
		8	MDULDING PLAS 1/2 IN GR	6000251680
		1	RDD GROUND GALV 3/4X8FT	6000251860
		9	STAPLES GALV F/4 GRD WR	6000274402
		6	STAPLE F/1/2IN MOLDING	6000274410
		40	WIRE NO. 4 CU GRDUND BARE STRANDED S D	751182
C6PDXA10	2		XARM, 8PINB, 10 FT	
		1	XARM 8 PIN B	6000740540
C6PDXADH	1		XARM, DOUBLE, HARDWARE ONLY	
		4	B CARR GALV 3/8 X 5	6000270310
		3	BOLT, SPACE, 5/8 IN. ALL SIZES	600027217X
		2	B LAG GALV FET 1/2 X 4	6000272540
		4	BRACE XARM 28 IN	6000272670
		10	WASHER,SQUARE,GALVANIZED ALL SIZES	60002748XX
		9	WASHER, GALV, TWO TURN SPRING ALL SIZES	6000274XXX
C6UDECO	4		UNDERGRDUND FUSED CUTOUT (GENERIC)	
		1	FUSED CUTOUT (SELECT FRDM CUCT)	6000491XXX
C6UDIOC	4		INST OF 1C CABLE IN CONDUIT PER 50FT	
C6UDIOR3	1		INST CONDUIT RISER ON POLE 3 1/4-7 IN.	
C6UDLA9	4		LIGHTNING ARRESTOR 10KV	
		2	CONNECTORS	600011XXXX
		3	WIRE #2 CU 7 STRAND SO RHW USE OR RHH	6000207360
		4	STAPLES GALV F/4 GRD WR	6000274402
		1	WILDLIFE PROTECTOR	60003128XX
		1	ARR DIST 10KV	6000490060
		3	WIRE NO. 4 CU GRDUND BARE STRANDED S D	751182
C6UDLAMB	12		XARM MOUNTING BRACKET	
		1	BKT EQUIP MTG CRDSSARM	6000620100
C6UDSEAL	1		POLYURETHANE SEALANT (PURCHASE LOCALLY)	
		1	POLY SEALANT PURCHASE LOCALLY	600061063X
C6UDT	4		TERMINATOR GENERIC (SELECT FROM CUCT)	
		1	TERMINATORS (SELECT FRDM CUCT)	60002158XX
C6UDTW	20		TAP WIRE, GENERIC	
		1	TAP WIRE (SELECT FRDM CUCT)	600020XXXX

MACRO	DESCRIPTION	PAGE
C6MU3PSC4WR12	3 PH SPACER CABLE 4 WIRE RISER 12KV	361-15B



NO.	REVISION	DATE	CK.

EnergyEast

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	05/12/09

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/23/09
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	URD RISER EXTENSION	361-16

NO.	REVISION	DATE	CK.
1	Chngd page * from 316-14 to 361-15	11/19/07	
2	Chngd page * from 361-15 to 361-16	06/25/09	

EnergyEast

	ORIGINAL
DESIGNED	EVG
DRAWN	HEP
DATE	06/21/85

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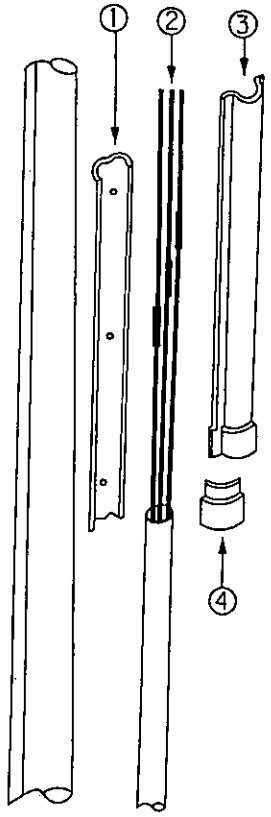
MAINTENANCE ONLY

When replacing a pole with a URD riser, it may be necessary to extend the riser (Not to be used on new riser).

(MAINTENANCE ONLY)



1. Backing plate, to protect cable from pole. Cut to required length. Run from top of existing conduit to 2 to 3 inches above neutral. Attach with MID# 6000815516 nails.

   2' backing plate MID#6000239111
   4' backing plate MID#6000239115

2. Splice out existing primary or secondary cables as necessary. Stagger splices to fit in U-Guard.

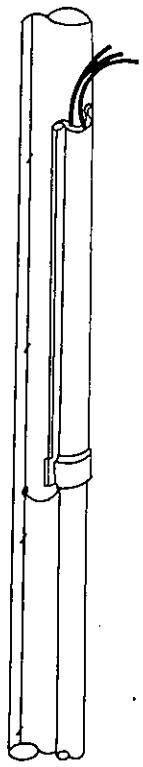
3. U-Guard. Cut to required length to lap existing conduit by 3 inches and extend 2 to 3 inches above neutral. Attach with MID# 6000272555L lag bolts.

   2' U-Guard MID#6000239011 for 2' and smaller conduit

   4' U-Guard MID#6000239015 for 4' to 5' conduit.

4. MID#6000239025 Adapter 4' conduit to 4' U-Guard only, for use with 4' salvage U-Guard without bell end on 4' conduit. Not required with smaller conduit.

5. Connect existing conduit ground to pole ground with appropriate connector.



STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/26/09
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	08/23/01		

URD CABLE INSTALLATION

Preferred location for URD cable installation is in the public way near the edge of said public way.

Central Maine Power Company recognizes three (3) different methods of Joint URD cable installation:

(1) SEPARATE TRENCH: Installation of power cables in one trench and communication cables in a second parallel trench.
(2) HORIZONTAL SEPARATION: Installation of both cables in the same trench (minimum width of 24"). Power cables are placed on one side of the trench and the communication cables are placed 12" away at the same depth on the other side of the trench.
(3) VERTICAL SEPARATION: Primary cable SHALL be buried a minimum of 36" below finish grade. Secondary or Service cable and communication cables may be buried in the same trench at the same depth without a required clearance or separation between the cables at a minimum of 12" above the primary.

URD CABLE INSTALLED UNDER TRANSMISSION LINES

All URD cable installed under or running parallel to transmission right-of-ways shall be placed in galvanized steel or heavy wall nonmetallic conduit (schedule 40 PVC or heavier). The conduit shall extend the full width of the right-of-way and shall be placed at least 30" below grade. The conduit will be at the customer's expense.

URD CABLE INSTALLATION UNDER PAVED AREAS

Conduit shall be used under public streets or ways and paved areas. Conduit shall be galvanized steel or heavy wall nonmetallic conduit (schedule 40 PVC or heavier). The conduit shall be placed at least 36" below grade and shall extend at least two (2) feet beyond the street limits or paved areas.

Conduit shall be used under private driveways and walks. The conduit shall be placed at least 30" below grade and shall extend at least two (2) feet beyond paved boundaries.

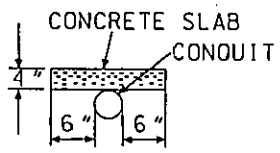
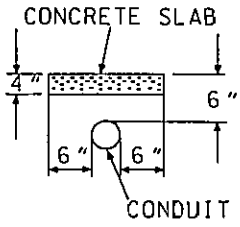
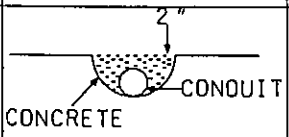
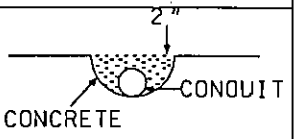
	ORIGINAL
DESIGNED	EVG
DRAWN	SGD
DATE	12/11/87

THIS DRAWING SHALL BE REVISED ON THE CAOD SYSTEM ONLY

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

PAGE	DESCRIPTION	MACRO
363-1	MIMIMUM COVER REQUIREMENTS 0 - 600 VOLTS	

MINIMUM COVER REQUIREMENTS 0 - 600 VOLTS

WIRING METHOD / LOCATION	DIRECT BURIAL CABLES	RIGID METAL CONDUIT	RIGID NONMETALLIC CONDUIT (SCHEDULE 40 MIN)
ALL LOCATIONS NOT SPECIFIED BELOW	24"	6"	18"
IN TRENCH BELOW 2" THICK CONCRETE OR EQUIVALENT	DIRECT BURIAL NOT PERMITTED SEE CONDUIT	6"	12"
UNDER A BUILDING	(IN RACEWAY ONLY EXTENDED BEYOND THE OUTSIDE WALL)		
UNDER MINIMUM OF 4" THICK CONCRETE EXTERIOR SLAB WITH NO VEHICULAR TRAFFIC AND THE SLAB SHOULD NO BE LESS THAN 6" EITHER SIDE OF CONDUIT	DIRECT BURIAL NOT PERMITTED SEE CONDUIT		
UNDER STREETS, HIGHWAYS, ROADS ALLEYS, DRIVEWAYS, PARKING LOTS, AND TRANSMISSION LINES	DIRECT BURIAL NOT PERMITTED SEE CONDUIT	24"	24"
IN SOLID ROCK WHERE COVERED BY MINIMUM OF 2" CONCRETE, EXTENDING TO THE SURFACE	DIRECT BURIAL NOT PERMITTED SEE CONDUIT		

NOTES

1. Direct buried cable shall be protected by conduit or enclosures to a minimum depth of 18 inches at riser pole, transformer pads, and service pedestals.
2. Each conduit shall contain all conductors of the same circuit including the neutral.
3. Conductors entering a building shall be protected to the point of entrance.
4. The cable or conductors should be buried according to the requirements even though the surface may not be at finished grade, both at the time of installation and subsequent thereto.
5. The separation between a conduit system and other underground structures and/or utilities paralleling it should be as large as necessary to permit maintenance of the system without damage to the paralleling structures. In no case should this distance be less than one foot.
6. Where a conduit run crosses another utility, it shall be designed to have suitable support on each side of the utility to prevent transferring any direct load onto the utility. In no case should this distance be less than one foot.

DESIGNED	CS
DRAWN	REC
DATE	10/01/01

DESIGNED	HEP
DRAWN	GRC
DATE	06/28/91

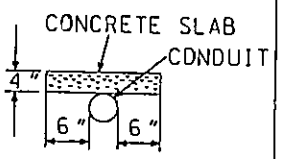
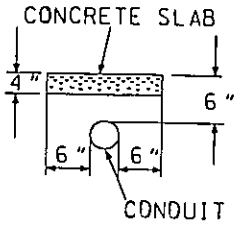
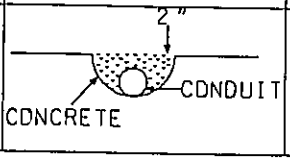
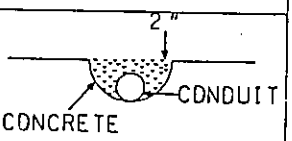
BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	MIMIMUM COVER REQUIREMENTS 600 - 22KV	363-2

MINIMUM COVER REQUIREMENTS 600 - 22 KV

WIRING METHOD / LOCATION	DIRECT BURIAL CABLES	RIDID METAL CONDUIT	RIDID NONMETALLIC CONDUIT (SCHEDULE 40 MIN)
ALL LOCATIONS NOT SPECIFIED BELOW	30"	6"	18"
IN TRENCH BELOW 2" THICK CONCRETE OR EQUIVALENT	DIRECT BURIAL NOT PERMITTED SEE CONDUIT	6"	12"
UNDER A BUILDING	(IN RACEWAY ONLY EXTENDED BEYOND THE OUTSIDE WALL)		
UNDER MINIMUM OF 4" THICK CONCRETE EXTERIOR SLAB WITH NO VEHICULAR TRAFFIC AND THE SLAB SHOULD NO BE LESS THAN 6" EITHER SIDE OF CONDUIT	DIRECT BURIAL NOT PERMITTED SEE CONDUIT		
UNDER STREETS, HIGHWAYS, ROADS ALLEYS, DRIVEWAYS, PARKING LOTS, AND TRANSMISSION LINES	DIRECT BURIAL NOT PERMITTED SEE CONDUIT	30"	30"
IN SOLID ROCK WHERE COVERED BY MINIMUM OF 2" CONCRETE, EXTENDING TO THE SURFACE	DIRECT BURIAL NOT PERMITTED SEE CONDUIT		

NOTES

1. Direct buried cable shall be protected by conduit or enclosures to a minimum depth of 30 inches at riser pole, transformer pads, and service pedestals.
2. Each conduit shall contain all conductors of the same circuit including the neutral.
3. Conductors entering a building shall be protected to the point of entrance.
4. The cable or conductors should be buried according to the requirements even though the surface may not be at finished grade, both at the time of installation and subsequent thereto.
5. The separation between a conduit system and other underground structures and/or utilities paralleling it should be as large as necessary to permit maintenance of the system without damage to the paralleling structures. In no case should this distance be less than one foot.
6. Where a conduit run crosses another utility, it shall be designed to have suitable support on each side of the utility to prevent transferring any direct load onto the utility. In no case should this distance be less than one foot.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	10/01/01		

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	06/28/91

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

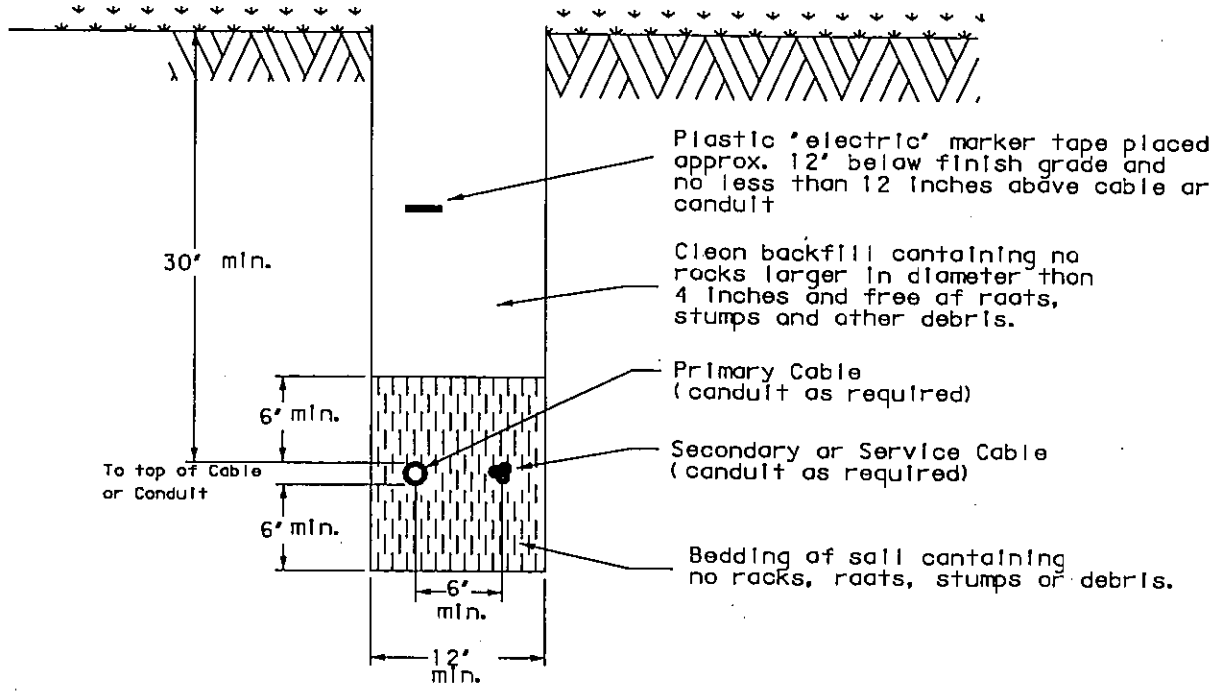
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

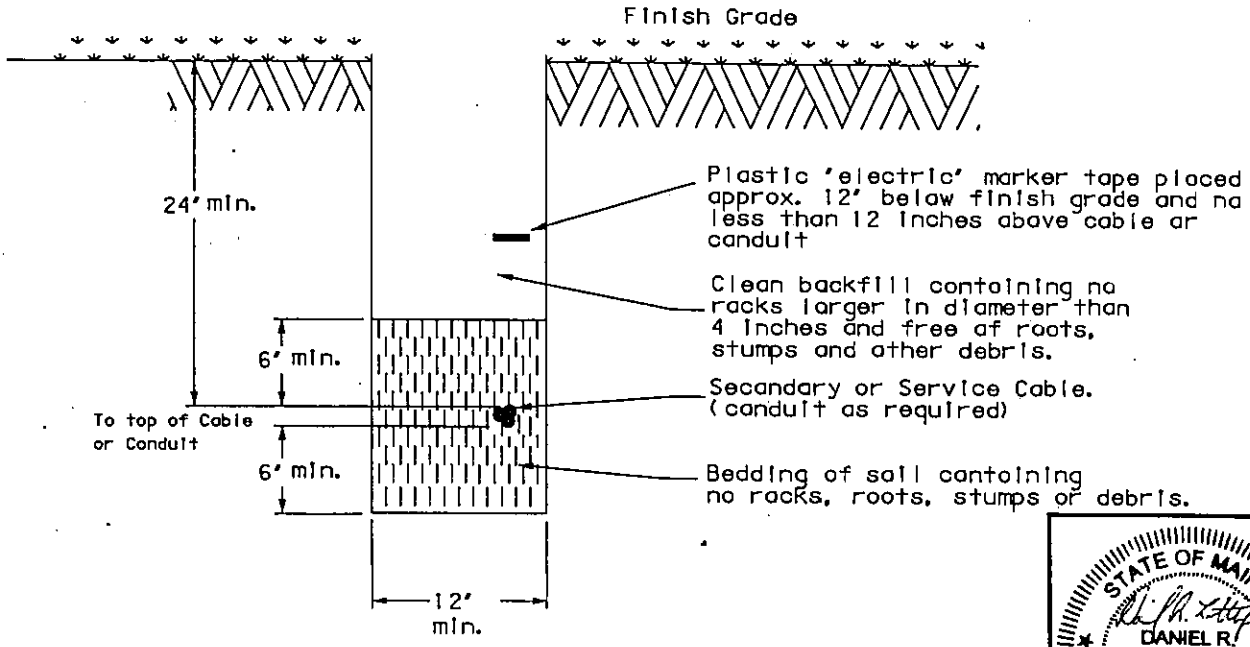
PAGE	DESCRIPTION	MACRO
363-3	UNDERGROUND CABLE TRENCH FOR POWER ONLY	

UNDERGROUND CABLE INSTALLATION
TRENCH OCCUPIED BY CENTRAL MAINE POWER COMPANY ONLY

Primary Cable Installation



Secondary or Service Cable Installation



MACRO	DESCRIPTION	PAGE
	UNDERGROUND CABLE INSTALLATION JOINTLY USED TRENCH HORIZONTAL SEPARATION	363-4

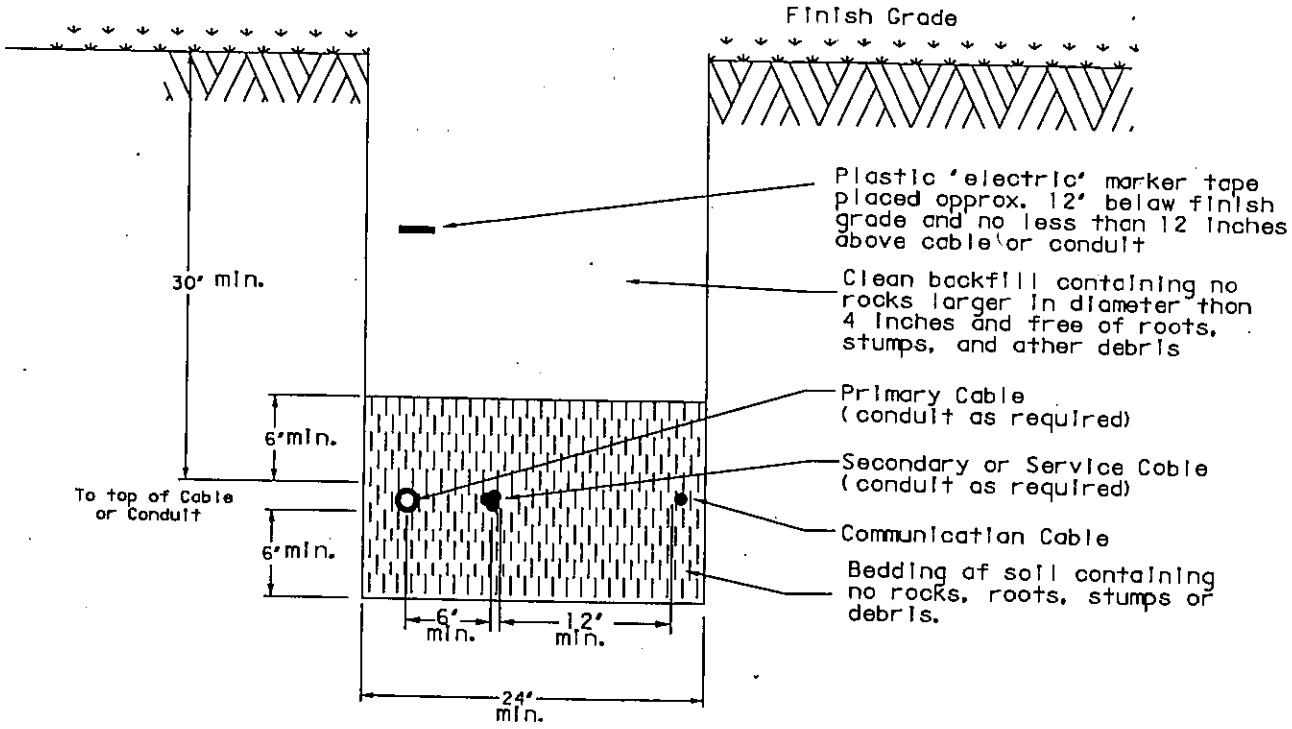
NO.	REVISION	DATE	BY	CK.
	Corrected labels & dimensions	07/30/08		

UNDERGROUND CABLE INSTALLATION

JOINTLY USED TRENCH - HORIZONTAL SEPARATION

IN SITUATIONS WHERE THE TRENCH IS TO BE SHARED AGREEMENT MUST BE OBTAINED BETWEEN JOINT USERS

Trench shall be a minimum of 24" wide



EnergyEast

	ORIGINAL
DESIGNED	
DRAWN	
DATE	

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/14/08
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
363-5	UNDERGROUND CABLE INSTALLATION JOINTLY USED TRENCH VERTICAL SEPARATION	

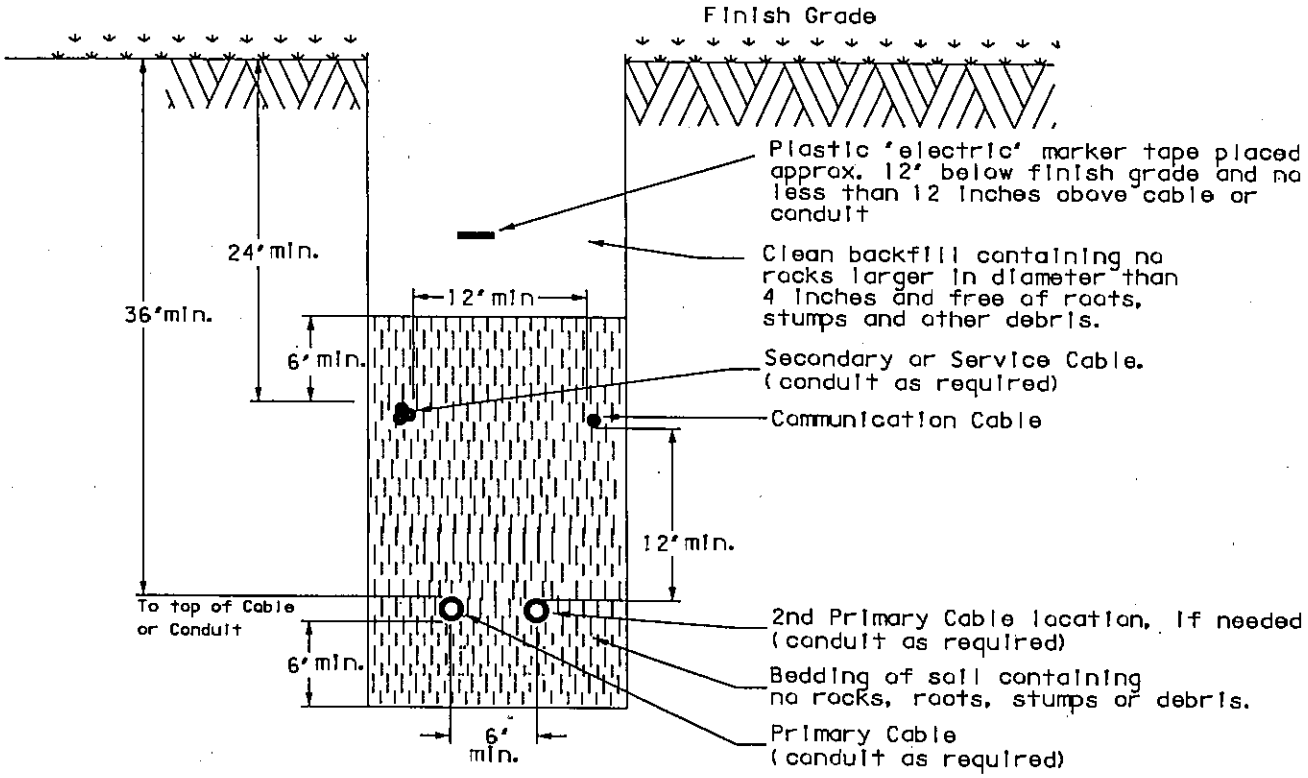
UNDERGROUND CABLE INSTALLATION

JOINTLY USED TRENCH - VERTICAL SEPARATION

IN SITUATIONS WHERE THE TRENCH IS TO BE SHARED AGREEMENT MUST BE OBTAINED BETWEEN JOINT USERS

NOTES:

1. Installation should not allow the inter-twining of cables.
2. Bedding and backfill shall be free of roots, stumps and other debris.
3. Communication cable and power cable shall have no less than 12 inches of radial separation.



STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/14/08
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

CADD SYSTEM ONLY

DRAWN	DATE
GRG	12/28/95

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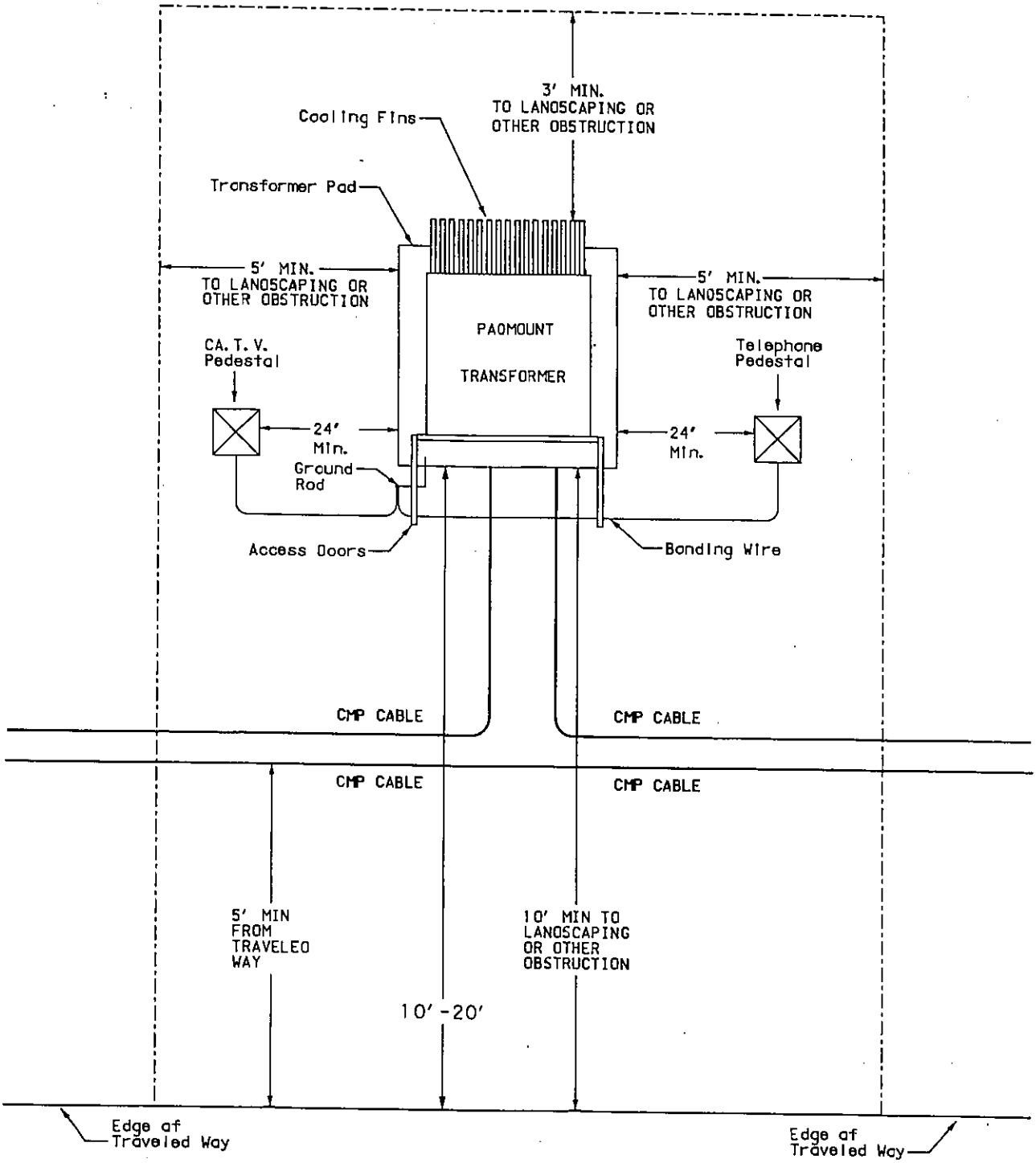
MACRO	DESCRIPTION	PAGE
	PADMOUNT TRANSFORMER AND CABLE LAYOUT FOR DIRECT BURIED SYSTEM	364

NO.	REVISION	DATE	CK.
1	Added demensions, changed title	06/04/08	



Preferred layout of a padmount transformer and direct buried underground distribution system. Prior CMP approval is required for any deviation from this layout.

At each transformer location a level 10 foot by 10 foot (minimum) area will be provided. The elevation of this area shall be sufficiently high to always be above the highest expected water level and at or above the top of any nearby ditch slope. The transformer foundation shall be installed so the top of the foundation is 6 inches above this elevation. The transformer foundation shall be installed no more than 20 feet from a road surface.

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	12/28/95

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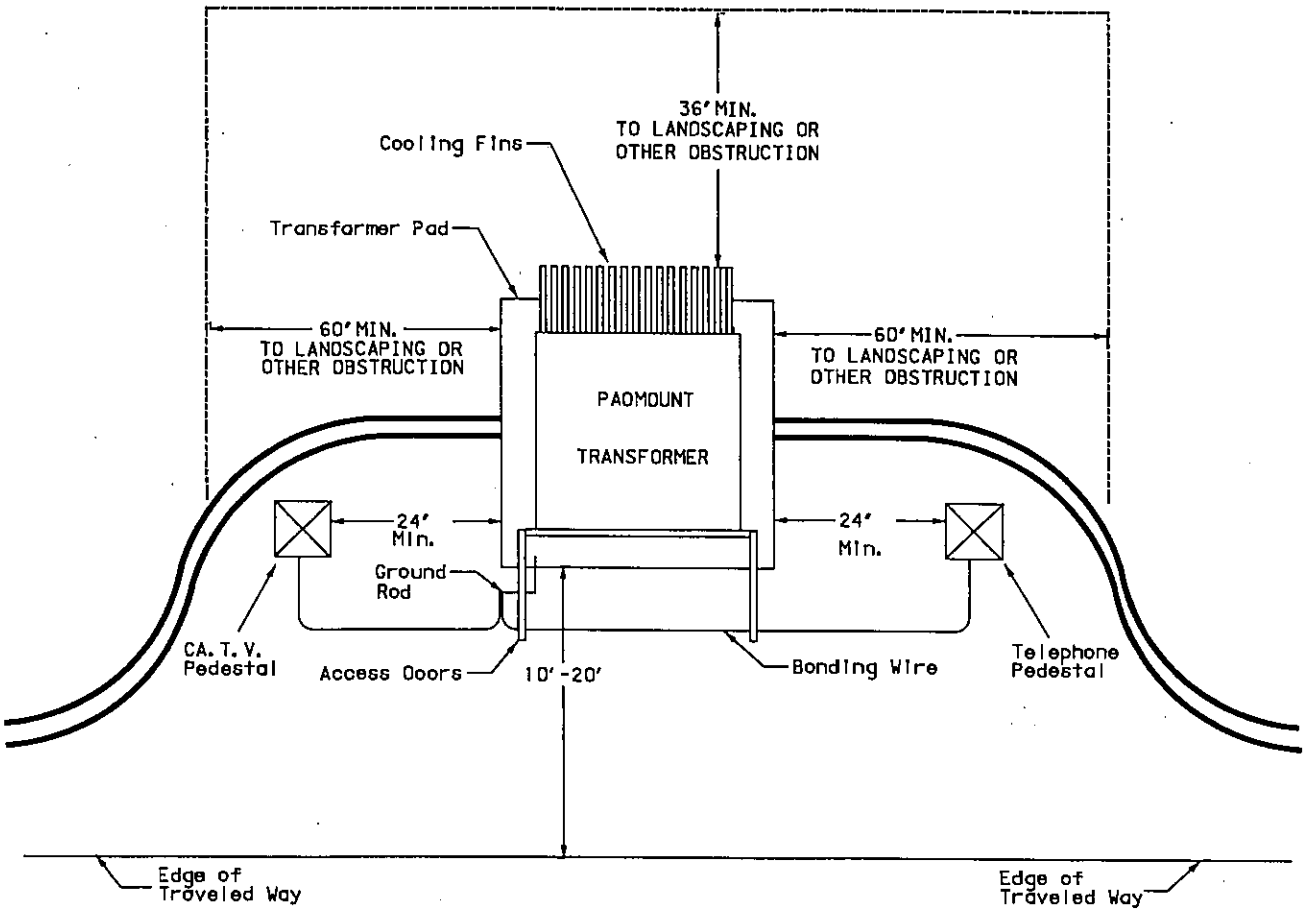
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/14/08
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
364-1	PADMOUNT TRANSFORMER LAYOUT FOR CONTINUOUS CONDUIT SYSTEM	



Preferred layout of a pad mounted transformer and continuous conduit underground. distribution system. Prior CMP approval is required for any deviation from this layout.

Both cables shall be run through the pad unless otherwise directed by the Distribution Field Engineer.

At each transformer location a level 10 foot by 10 foot (minimum) area will be provided. The elevation of this area shall be sufficiently high to always be above the highest expected water level and at or above the top of any nearby ditch slope. The transformer foundation shall be installed so the top of the foundation is 6 inches above this elevation. The transformer foundation shall be installed no more than 20 feet from a road surface.

	DESIGNED	
	DRAWN	
DATE		

	DESIGNED	CS
	DRAWN	REC
DATE		02/24/06

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STATE OF MAINE
GARY
A.
RICCI
#4737
REGISTERED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

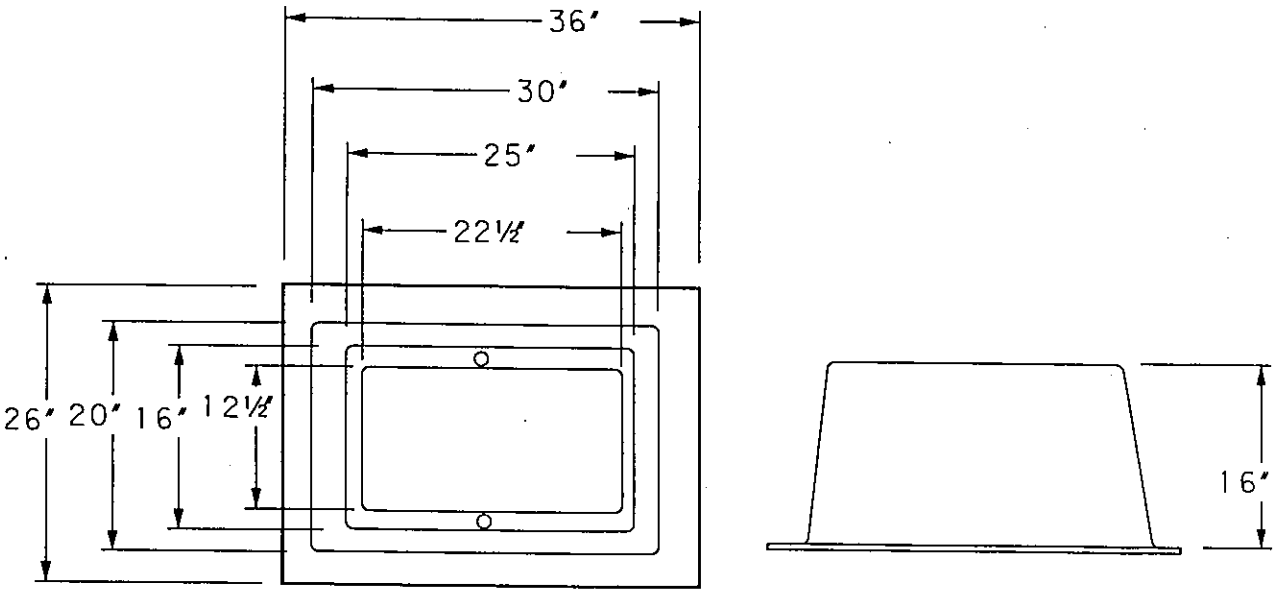
MACRO	DESCRIPTION	PAGE
	FIBERGLASS HANDHOLE W/COVER	364-2

NO.	REVISION	DATE	CK.
1	Corrected spelling error	05/12/09	

FIBERGLASS HANDHOLE W/COVER

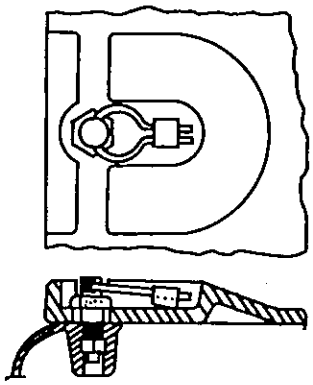
1. The fiberglass handhole (MID#6000621771) shall be used for secandary URD cable splicing.
2. The handhole shall be installed so that the cover is level with the finish grade.
3. The fiberglass cover requires 2 one time locks (MID#6000821013)

DIMENSIONS



LOCKING METHOD

CRIMP OR FARGO TYPE



	ORIGINAL
DESIGNED	EVG
DRAWN	RCE
DATE	07/01/99

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
5/14/09
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
364-3	FIBERGLASS BOX PAD	

TRANSFORMER INSTALLATIONS

1. The fiberglass 43' x 38' x 32' pad CU C6TDFB (MID*6000673961) is suitable for both 7.2/12.47kV and 20/34.5kv single phase transformer installations.

2. * FRONT denotes the side on which the access doors are located. The base shall be located so the FRONT is accessible by truck and suitably protected fram plow and traffic damage.

3. Before installing or requiring any active drainage structure (e.g., drain pipe) into the foundation or pad, the contractor, CMP Line Supervisor, or CMP Distribution Engineer must contact Central Maine Power Company's Environmental Services Department at 623-3521 ext. 3479 to request a site inspection.

4. Finish grade shall be graded in such manner to allow surface water to flow away from the pad.

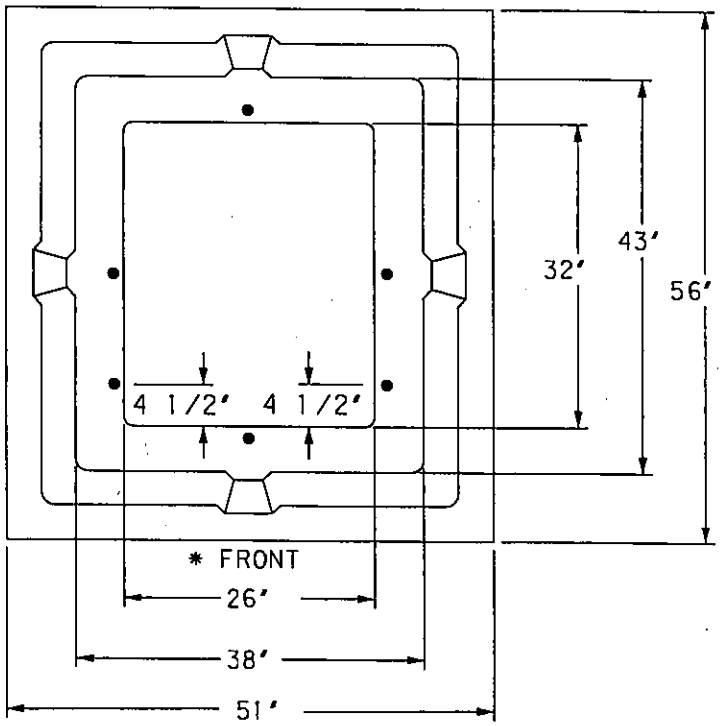
5. A 3/4 ' X 8' galvanized ground rod is to be installed 6' in front of the left corner of the transformer foundation. The top of the graund rod shall be 6' below final grade.

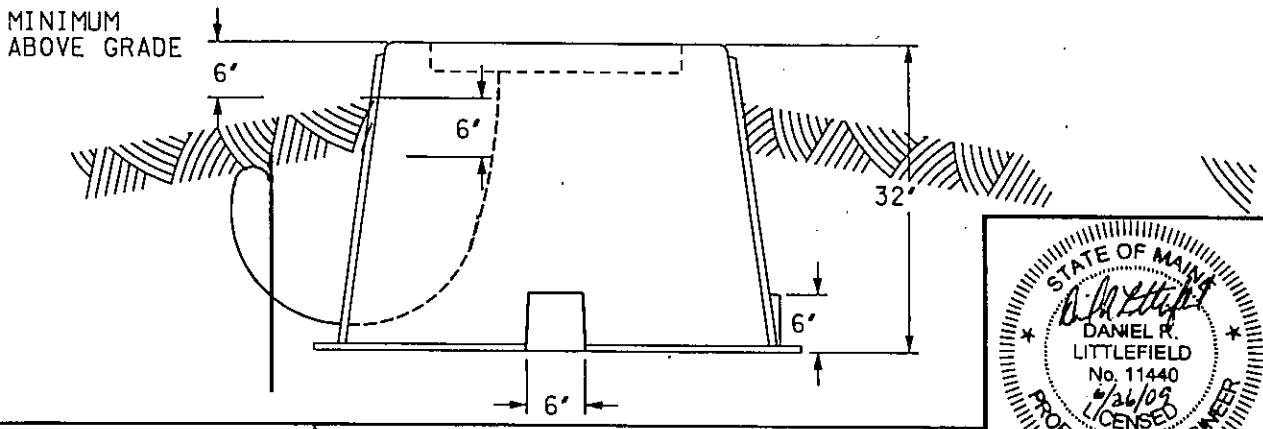
PRIMARY JUNCTION BOX

1. The fiberglass pad CU C6UOJBFP (MIO*6000673961) is suitable for both 7.2/12.47kV and 20/34.5kV single phase junction boxes.

2. Use fiberglass flat cover CU C6UDJBFCF (MID*6000673931), or URD cabinet CU C6UDCUTI (MID*6000621460) to cover the pad opening on single phase installations.

3. Finish grade shall be graded in such manner to allow surface water to flow away from the pad.





STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
LICENSED
PROFESSIONAL ENGINEER

DRAWN	DATE
GRG	11/14/94

2 Chgd Prl Jct Box note 2 09/26/08

MACRO	DESCRIPTION	PAGE
	PRIMARY JUNCTION BOX FIBERGLASS COVER	364-4

NO.	REVISION	DATE	CK.
1	Rem domed cover from note and drwg	09/26/08	

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	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	08/23/01

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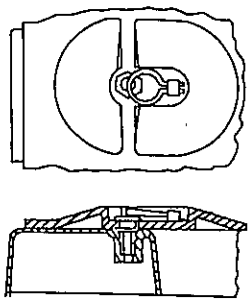
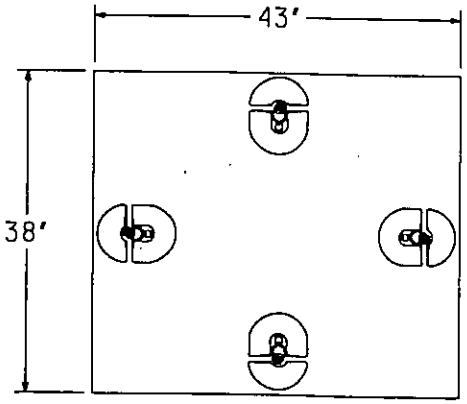
PRIMARY JUNCTION BOX FIBERGLASS COVER

1. The fiberglass pad CU C6UDJBFP (MID*6000673961) is suitable for both 7.2/12.47kv and 20/34.5kv single phase junction boxes.
2. Use fiberglass flat cover CU C6UDJBFCF (MID*6000673931)
3. Fiberglass flat cover CU C6UDJBFCF (MID*6000673931) requires a minimum of 2 one time locks (MID*6000821013) installed opposite each other.

FARGO TYPE LOCK





MID*6000673931

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
6/26/09
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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
364-5	SINGLE PHASE CONCRETE TRANSFORMER FOUNDATION 25 TO 167 Kva	

NOTES:

1. * FRONT denotes the side on which the access doors are located. The concrete base shall be set on a suitable grovel base and located so the FRONT is accessible by truck and suitably protected from plow and traffic damage.

2. Before installing or requiring any active drainage structure (e.g., drain pipe) into the foundation or pad, the contractor, CMP Line Supervisor, or CMP Distribution Engineer must contact Central Maine Power Company's Environmental Services Department at 623-3521 ext. 3479 to request a site inspection.

3. Finish grade shall be graded in such manor to allow surface water to flow away from the pad.

4. Concrete foundation is suitable for both 7200/12470 volt and 20/34.5Kv single phase transformer and primary junction box installations.

5. Provide 6" square cable holes (band out) 3' up the wall from the base. One per wall.

6. Conduit entering concrete structures shall be set back from the inside wall 1 to 2 inches and the space within the knockout surrounding the conduits completely filled with mortar to prevent soil from entering structure. Inside the structure the mortar shall be finished and beveled from the conduit ends to the inside wall face to cover and smooth the edges of the knockouts.

7. A 3/4" x 8' galvanized ground rod is to be installed 6' in front of the left front corner of transformer foundation. The top of the ground rod is to be 6' below final grade.

8. A ground wire shall be installed from the ground rod through the 1/2" ground wire hole provided or the cable hole at the bottom of the pad. 10 Feet of ground wire shall be provided so that it can be installed through the two grounding lugs and connected to the neutral spade.

9. Pulling eye insert, for use with 3/4" national course thread eye-bolt (Richmond LCB-1 or equivalent). Located opposite each cable hole and approximately 16" from the bottom.

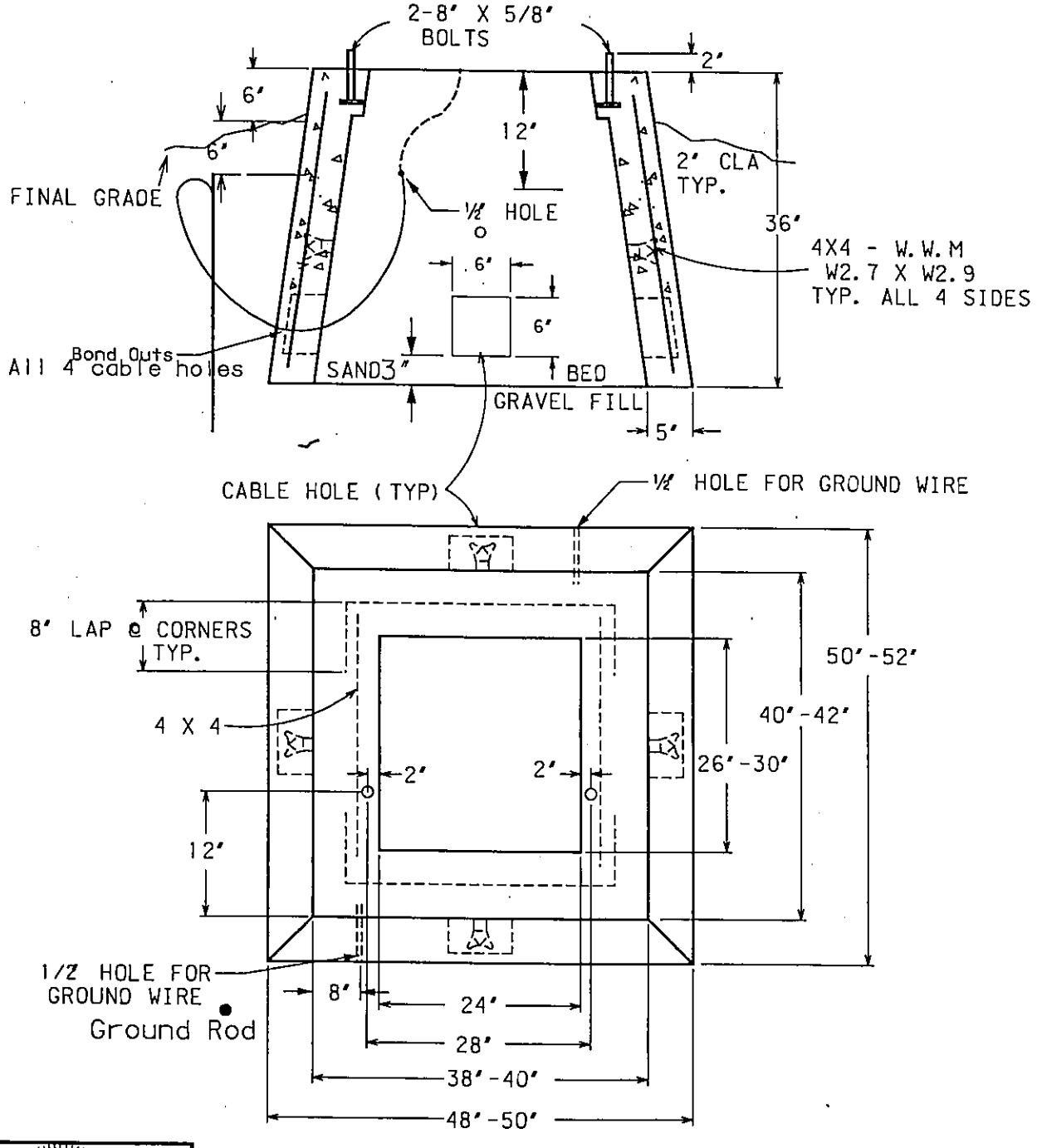
CADD SYSTEM ONLY

DRAWN	DATE
GRG	1/8/92

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/4/08
LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	1Φ CONCRETE TRANSFORMER FOUNDATION AND INSTALLATION (25 - 167KVA)	364-6

NO.	REVISION	DATE	CK.
1	Removed Note 6	08/22/08	



* FRONT

	ORIGINAL
DESIGNED	GRG
DRAWN	
DATE	12/3/91

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/22/08
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
364-7	SMALL (7' X 7') THREE PHASE TRANSFORMER FOUNDATION	

NOTES:

1. * FRONT denotes the side on which the access doors are located. The concrete base shall be set on a suitable gravel base and located so the FRONT is accessible by truck and suitably protected from plow and traffic damage.
2. Before installing or requiring any active drainage structure (e.g., drain pipe) into the foundation or pad, the contractor, CMP Line Supervisor, or CMP Distribution Engineer must contact Central Maine Power Company's Environmental Services Department at 623-3521 ext. 3479 to request a site inspection.
3. Finish grade shall be graded in such manner to allow surface water to flow away from the pad.
4. Provide 8' x 24' cable holes (bond outs) 8' up the wall from the base. Locate one cable hole per wall, more if necessary. Line up cable holes with trench.
5. Conduits entering concrete stuctures shall be set back from the inside wall 1 to 2 inches and the space within the knockout surrounding the conduits completely filled with mortar to prevent soil from entering structure. Inside the structure the mortar shall be finished and beveled from the conduit ends to the inside wall face to cover and smooth the edges of the knockouts.
6. A 3/4"X 8' galvanized ground rod is to be installed six inches in front of the left FRONT corner of the foundation. The top of the ground is to be 6 inches below final grade.
7. A ground wire shall be instaled from the ground rod through the cable hole at the bottom of the pad. 10 Feet of ground wire shall be provided so that it can be installed through the two grounding lugs and connected to the neutral spade.
8. Concrete compressive strength shall be 4000 PSI @ 28 days. For cast-in-place early high strength may be used with a minimum of seven day cure time.
9. Reinforcing steel to have: FY = 60 KSI.
10. For precast units: The precast supplier shall provide lifting lugs in the slab (foundation) and base; the precast supplier shall assemble the slab to the base prior to shipping to the site to ensure that the slab and base fit properly (with no rocking of the slab evident).
11. A 16' x 24' x 1/4' galvanized steel plate to cover a portion of the cable hole when the transformer does not completely cover it. Cut the steel plate to fit, if necessary.

a. 7-#5 Rebar evenly spaced each way top to bottom.
b. 2-#4 Corner diagonal rebar 2'-0" long top and bottom.
c. 4"x 4"x 1/2" angle 6' long with 2-3/4" diameter expansion anchors typical - 4 places (two piece precast only).
d. Chamfer typical
e. 2" Concrete cover over top rebar.
f. 3" Concrete cover over bottom rebar.
g. #5 L-Bar @ 12" (cast-in-place only)
h. 16"x 24"x1/4" galvanized steel plate. MID#6000621790
i. #5 Rebar on 12" centers.
j. Pulling eye Insert, for use with¾" national course thread eye-bolt, (Richmond LCB-1 or equivalent). Located opposite each cable hole ond 2' (two feet) from the bottom.
k. All rebar ends to be covered by 1" of concrete, minimum.

CADD SYSTEM ONLY

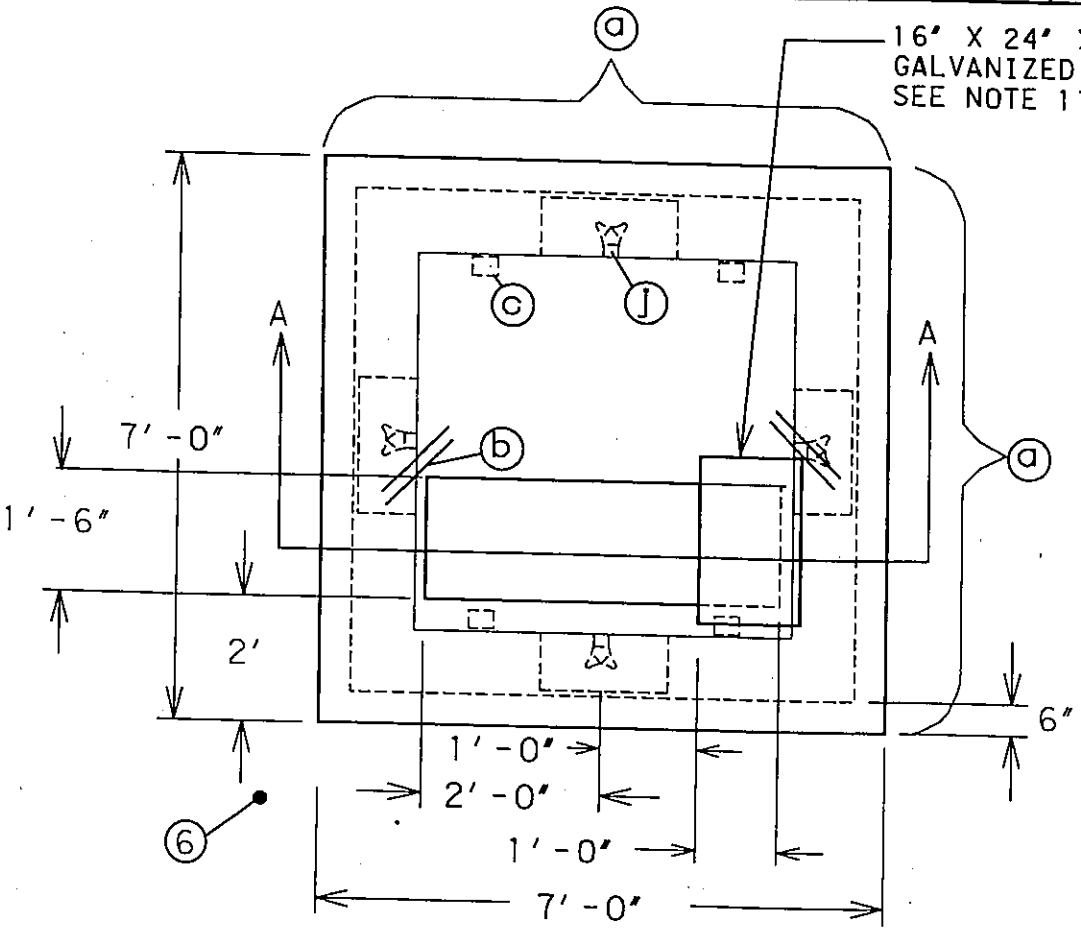
DRAWN	DRG
DATE	1/8/92

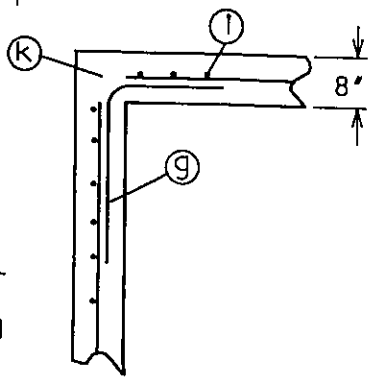
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
9/9/09
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

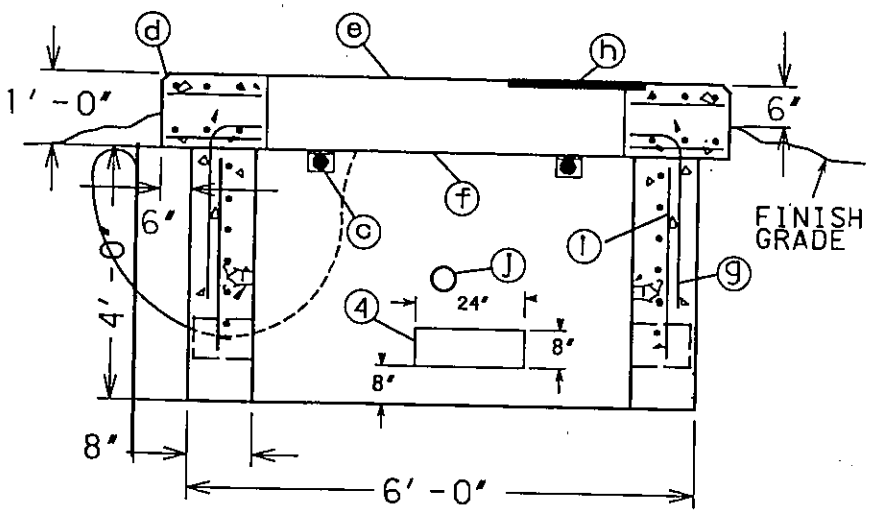
MACRO	DESCRIPTION	PAGE
	SMALL 7′ x 7′ THREE PHASE TRANSFORMER FOUNDATION	364-8

NO.	REVISION	DATE	CK.
1	Changed numbers	08/22/08	





BASE: TYPICAL CORNER VIEW



SQUARE

SECT. A-A

APPLICATION CHART

7′ X 7′ PADS:
75 - 500 KVA - 15 KV
75 - 150 KVA - 35 KV

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	CRG
DATE	12/16/91

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STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/22/08
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
364-9	LARGE (9'x9') THREE PHASE TRANSFORMER FOUNDATION	

NOTES:

1. * FRONT denotes the side on which the access doors are located. The concrete base shall be set on a suitable gravel base and located so the FRONT is accessible by truck and suitably protected from plow and traffic damage.
2. Before installing or requiring any active drainage structure (e.g., drain pipe) into the foundation or pad, the contractor, CMP Line Supervisor, or CMP Distribution Engineer must contact Central Maine Power Company's Environmental Services Department at 623-3521 ext. 3479 to request a site inspection.
3. Finish grade shall be graded in such a manner to allow surface water to flow away from the pad.
4. Provide 8" X 24" cable holes (bond outs) 8" up the wall from the base. Locate one cable hole per wall, more if necessary. Line up cable holes with trench.
5. Conduits entering concrete stuctures shall be set back from the inside wall 1 to 2 inches and the space within the knockout surrounding the conduits completely filled with mortar to prevent soil from entering structure. Inside the structure the mortar shall be finished and beveled from the conduit ends to the inside wall face to cover and smooth the edges of the knockouts.
6. A 3/4" x 8' galvanized ground rod is to be installed six inches in front of the left FRONT corner of the foundation. The top of the ground rod is to be 6 inches below final grade.
7. A ground wire shall be installed from the ground rod through the cable hole at the bottom of the pad. 20 Feet of ground wire shall be provided so that it can be installed through the two grounding lugs and connected to the neutrol spade.
8. Concrete compressive strength shall be 4000 PSI @ 28 days. For cast-in-place eorly high strength may be used with a minimum of seven day cure time.
9. Reinforcing steel to have: FY = 60 KSI.
10. For precast units: The precast suppiier shall provide lifting lugs in the slab (foundation) and base; the precast supplier shall assemble the slab to the base prior to shipping to the site to ensure thot the slab and base fit properly (with no rocking of the slab evident).
11. Use a 24" x 24" x 1/4" galvanized steel plate to cover a portion of the cable hole when the transformer does not completely cover it. Cut the steel plate to fit, if necessary.

a. 9-#5 Rebar evenly spaced each way top to bottom.
b. 2-#4 Corner diagonal rebar 2'-0" long top and battom.
c. 4" x 4" x 1/2" angle 6" long with 2-3/4" diameter expansion anchors typical - 4 places (two piece precast only).
d. Chamfer typical
e. 2" Concrete cover over top rebar.
f. 3" Concrete cover over bottom rebar.
g. #5 L-Bar @ 12" (cast-in-place only)
h. 24" x 24" x 1/4" galvanized steel plate. MID#6000621795
i. #5 Rebar on 12" centers.
J. Pulling eye Insert, for use with 3/4" national course thread eye-balt, (Richmond LCB-1 or equivolent). Located opposite each cable hole and 2' (two feet) from the bottom.
k. All rebar ends to be covered by 1" of concrete, minimum.

CADD SYSTEM ONLY

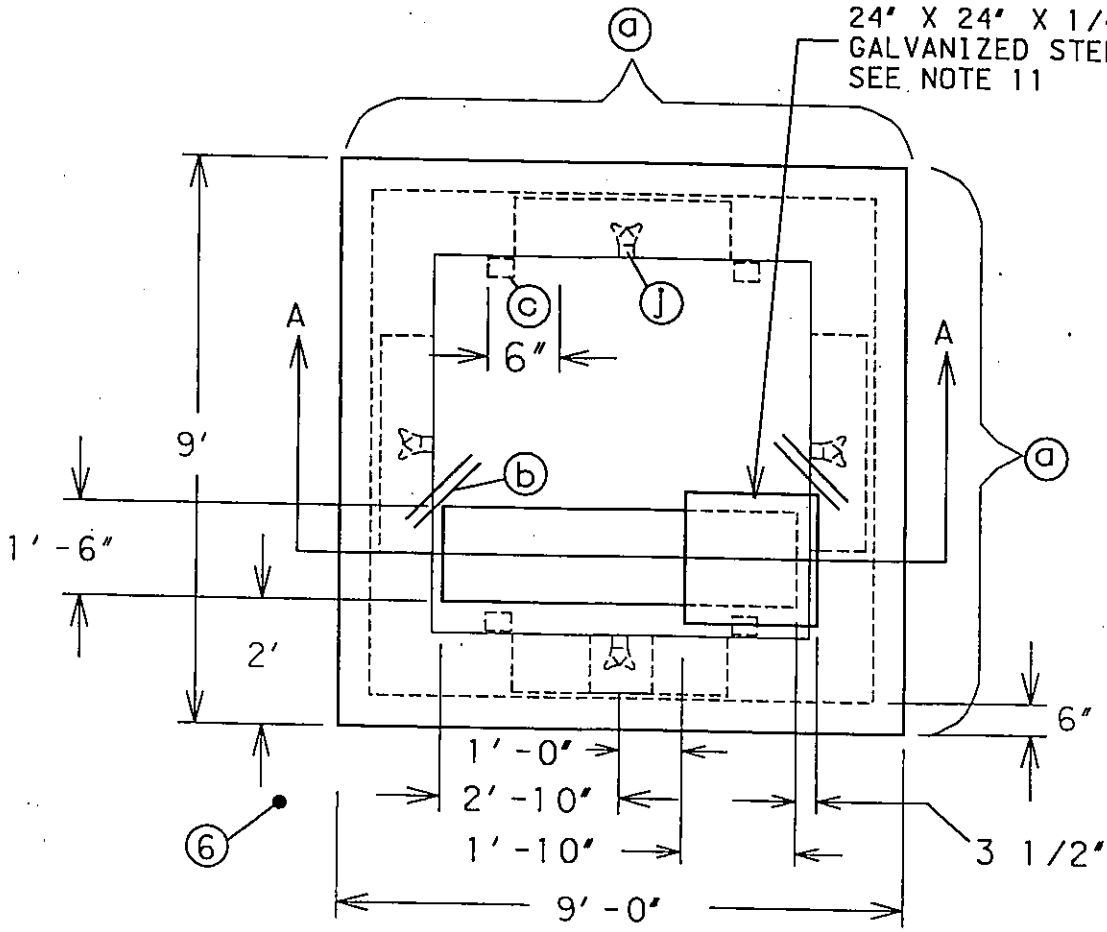
DRAWN	DATE
GRG	12/13/94

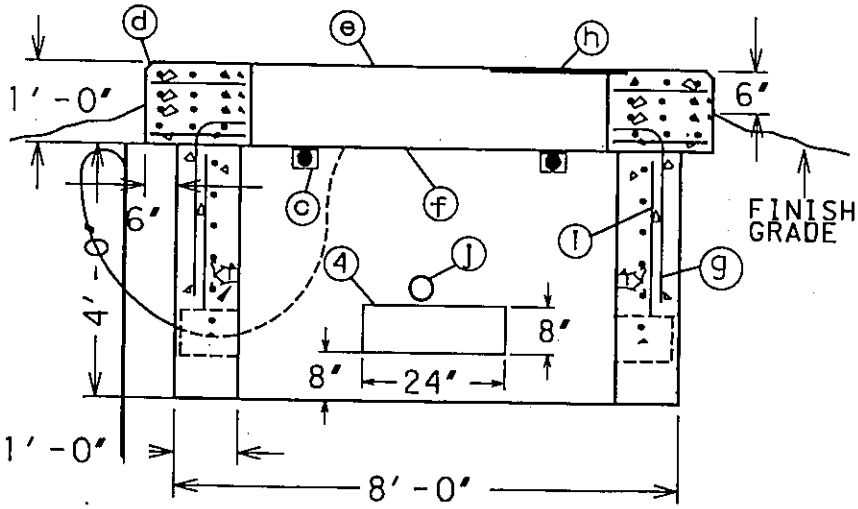
2	Removed note 1, moved letters to margin	09/08/08

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
9/9/08
LICENSED
PROFESSIONAL ENGINEER

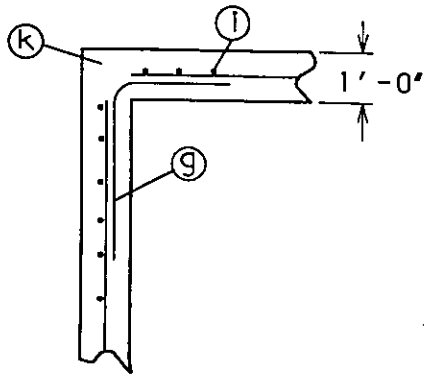
MACRO	DESCRIPTION	PAGE
	LARGE (9′ X 9′) THREE PHASE TRANSFORMER FOUNDATION	364-10

NO.	REVISION	DATE	CK.
1	Changed numbers	08/22/08	





SECT. A-A



BASE: TYPICAL CORNER VIEW

APPLICATION CHART

9′ X 9′ PADS:
750 - 5000 KVA - 15 KV
150 - 5000 KVA - 35 KV

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	12/11/91

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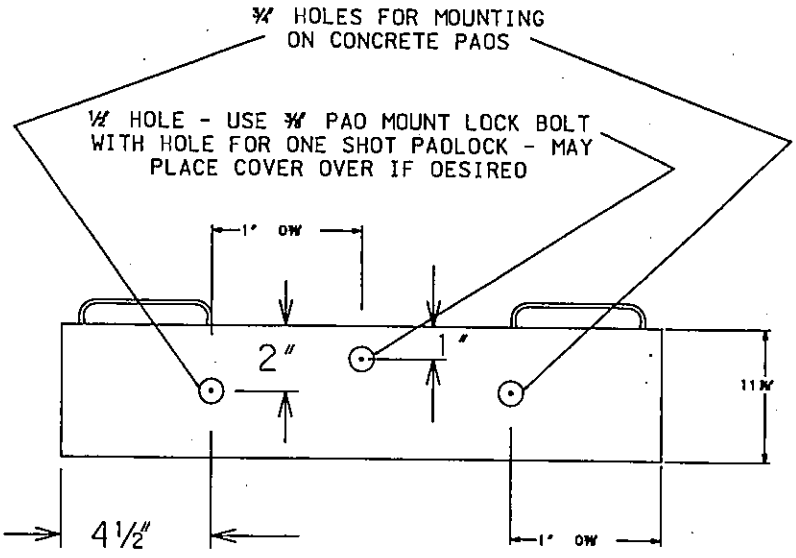
EnergyEast

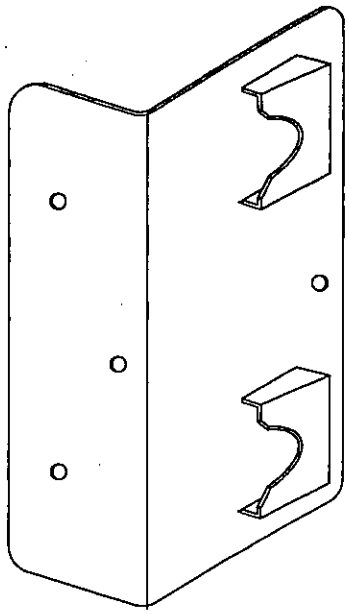
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/22/08
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

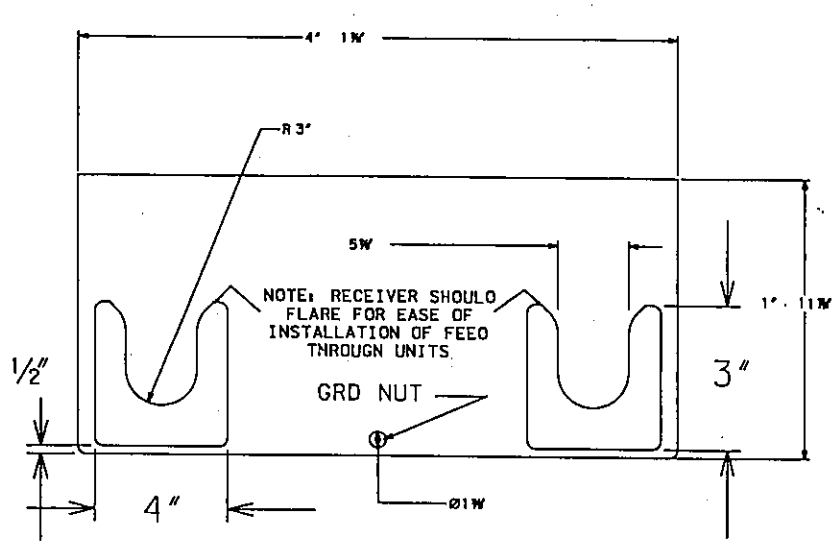
DISTRIBUTION CONSTRUCTION STANDARDS

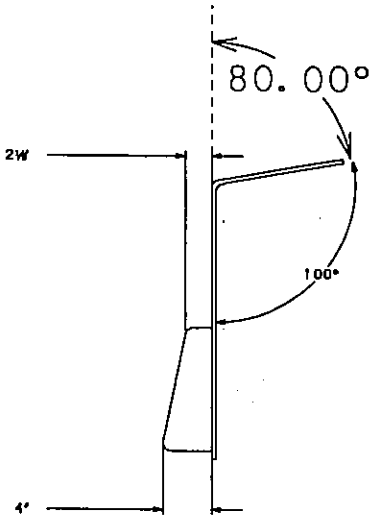
PAGE	DESCRIPTION	MACRO
364-11	TEMP. FEED THROUGH BUSHING PARK STAND	





TOP





FRONT

SIDE

S/C	CU
600021 3700	C6U0PFTOMB

NOTE:
CONSTRUCT OUT OF ⅛ IN. THICK STEEL PLATE MINIMUM

DRAWN	REC
DATE	12/20/07

CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
5/14/08
LICENSED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	PAD MOUNTED TRANSFORMER	365

	ORIGINAL	REVISED	REVISED	REVISED
DESIGNED	EVG	CS		
DRAWN	RCE	REC		
DATE	06/05/78	10/29/01		

GENERAL

Standard three phase pad mounted transformers are dead front feed-thru design. "Dead front" primary construction provides fully insulated primary cables, bushings and connections when completely assembled. This type of construction means that all primary voltage connections to the transformer shall be made with molded bushings and elbows.

In the past, the company has used three phase pad mounted transformers with live front primary construction. With "live front" primary construction the primary cables are terminated inside the transformer cabinet with stress cones and the conductor portion of the cable is connected directly to the transformer bushing. Connections and conductors are exposed to direct contact when the cabinet doors are open.

Standard three phase pad mount transformers with secondary voltages of 120/208 or 277/480 are available up to 2500 KVA.

On dual voltage 4160 x 12470 volt transformers with taps, the tap must be in a specific position when used at 4160 volts. The taps on dual voltage units are designed for operation at 12470 volts only. Check name plate carefully.

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
365-1	BAY-O-NET FUSES FOR TRANSFORMERS	

FUSE LINK UNITS f/SMD-20 34.5 KV

TRANSFORMER RATING - KVA	FUSE LINK	MIO*
1000	15E SLOW	6000497515
1500	25E SLOW	6000497525
2000	30E SLOW	6000497530
2500	50E VERY SLOW	6000497570
5000	100E VERY SLOW	6000497630

BAY-O-NET FUSES FOR TRANSFORMERS

TRANSFORMER SIZE KVA	VOLTAGE					
	SINGLE PHASE			THREE PHASE		
	2400V	7200V	19920V	4160V	12470V	34500V
10	8 AMPS	3 AMPS				
25	25	8				
45				15 AMPS	3 AMPS	3 AMPS
50	50	15				
75	65	25		25	8	3
100	65	25				
112 1/2				50	15	3
150				50	15	8
167	140	50	12			
225				65	25	8
250		65				
300				65	25	8
333		65				
500				140	50	*15
750				140	65	
1000					65	
1500					*140	
2000					*140	

1. Unless otherwise noted all fuses are Bay O-Net Load Sensing Link type and rated in amperes.

2. * This fuse is Bay-O-Net Current Sensing Link type, load sensing fuses must not be used in these transformers.

DUAL AND CURRENT SENSING BAY-O-NET FUSES LINKS

(FOR PROPER FUSE APPLICATION SEE TRANSFORMER NAME PLATE)

DUAL OR LOAD SENSING

CMP MIO*	COOPER PART NO.	
6000499203	4000358C03M	3 AMP
6000499205	4000358C05B	8 AMP
6000499208	4000358C08B	15 AMP
6000499210	4000358C10B	25 AMP
6000499212	4000358C12B	50 AMP
6000499215	4000358C14B	65 AMP
6000499245	4000358C18	140 AMP
6000499245	4000358C18B	140 AMP
6000499245	4000358C18C	140 AMP

CURRENT SENSING

CMP MIO*	COOPER PART NO.	
6000499209	4000353C08B	15 AMP
6000499250	4000353C17B	140 AMP

DESIGNED	CS	CS
DRAWN	REC	REC
DATE	10/03/01	11/18/06

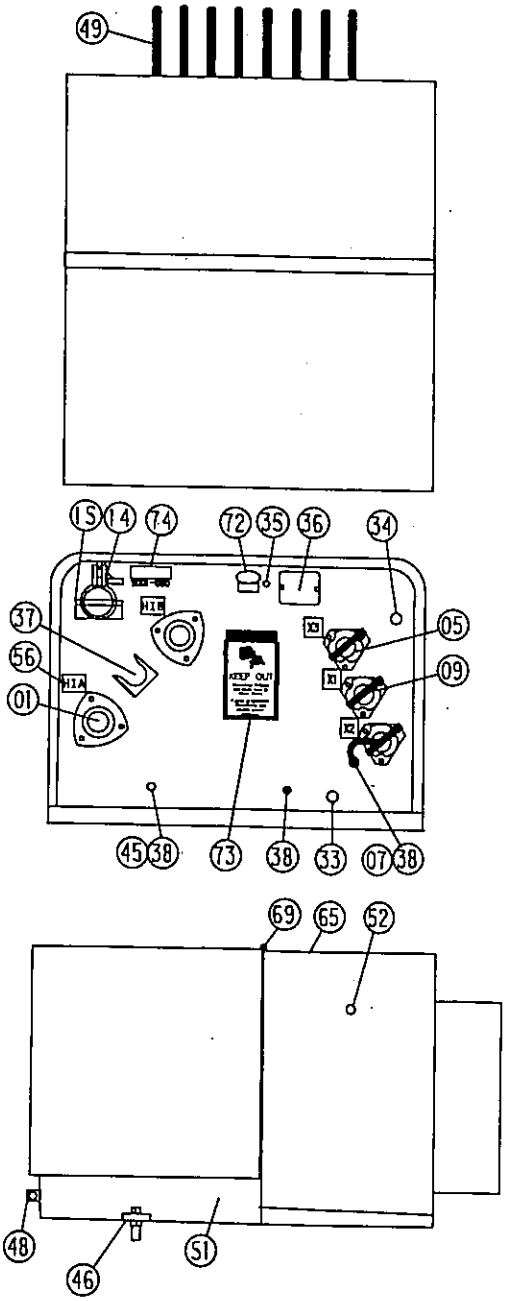
DESIGNED	VEG
DRAWN	SGD
DATE	03/01/06

BE REVISED ON THE CADD SYSTEM ONLY

MACRO	DESCRIPTION	PAGE
	PADMOUNT TRANSFORMER	365-2

Detail depicts typical arrangement for 7200 volt Padmount transformers; placement of components may vary with manufactureer. Secondary Breakers will be provided on Padmount transformers 19920 Volt.

	DESCRIPTION
01	HIGH VOLTAGE WELLS
01	HIGH VOLTAGE LOADBREAK INSERTS)
01	LOOP FEED
05	LOW VOLTAGE BUSHINGS
07	REMOVABLE COPPER GROUND STRAP
09	4 HOLE IN-LINE SPADES
14	BAYONET FUSE HOLDER
15	CUP TYPE DRIP SHIELD
33	½ IN. DRAIN PLUG
34	½ IN. FILL PLUG
35	PRESSURE RELIEF VALVE
36	TYPE A NAMEPLATE
37	PARKING STAND
38	1/2-13 GROUND PAD
45	GROUND CONNECTOR
46	HOLD DOWN CLEATS
48	SECURITY BOLT (PENTA)
49	RADIATORS
51	STANDARD SILL (REMOVABLE)
52	5/8-11 SS LIFTING LUGS
56	ADHESIVE TERMINAL DECALS
65	MILD STEEL TANK
69	SS HINGES AND PINS
72	PRESSURE RELIEF VALVE DECAL
73	DANGER DECAL
74	VENT TANK DECAL



Installed Hold Down Cleats

Hold Down Cleat →

NOTE:

All transformers must be secured to their base by using the hold down cleat and a ⅝" nut on concrete bases or a ⅜" bolt with an appropriate washer on a fiberglass base.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	08/11/06		

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	10/29/01

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER

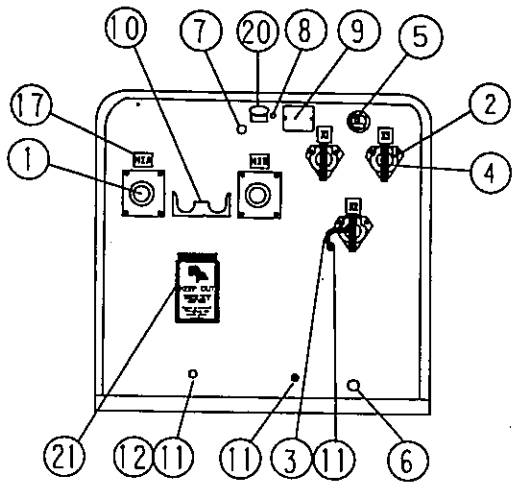
CENTRAL MAINE POWER CO.

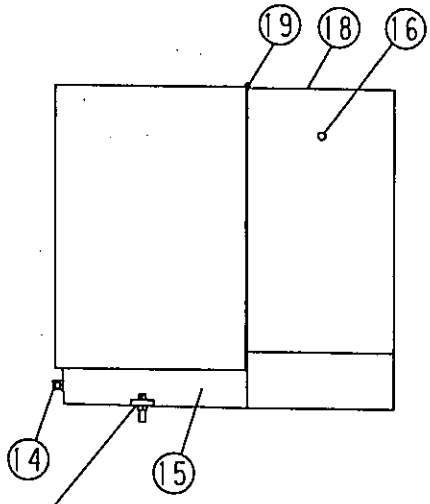
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
365-3	PADMOUNT TRANSFORMER 35KV LARGE INTERFACE	

Detail depicts typical arrangement; placement of components may vary with manufacturer.

	DESCRIPTION
1	HVB WELLS
2	LOW VOLTAGE BUSHINGS
3	REMOVABLE COPPER GROUNO STRAP
4	4 HOLE IN-LINE SPAOES
5	LOW VOLTAGE BREAKER
6	1/ 2 IN. ORAIN PLUG
7	1/ 2 IN. FILL PLUG
8	PRESSURE RELIEF VALVE
9	TYPE A NAMEPLATE
10	DOUBLE PARKING STANO
11	1/ 2-13 GROUNO PAO
12	GROUNO CONNECTOR
13	HOLO OOWN CLEATS
14	SECURITY BOLT (PENTA)
15	STANOARO SILL (REMOVABLE)
16	S/ 8 -11 SS LIFTING LUGS
17	AOHESIVE TERMINAL DECALS
18	MILO STEEL TANK
19	SS HINGES ANO PINS
20	PRESSURE RELIEF VALVE DECAL
21	DANGER DECAL





Installed Hald Down Cleats

Hold Dawn Cleat

NOTE:

All transformers must be secured to their base by using the hold dawn cleat and a 5/8" nut an concrete bases or a 3/8" bolt with an appropriate washer on a fiberglass base.

STATE OF MAINE
BRENT C. BROOKS #8209
REGISTERED PROFESSIONAL ENGINEER
11/15/2006

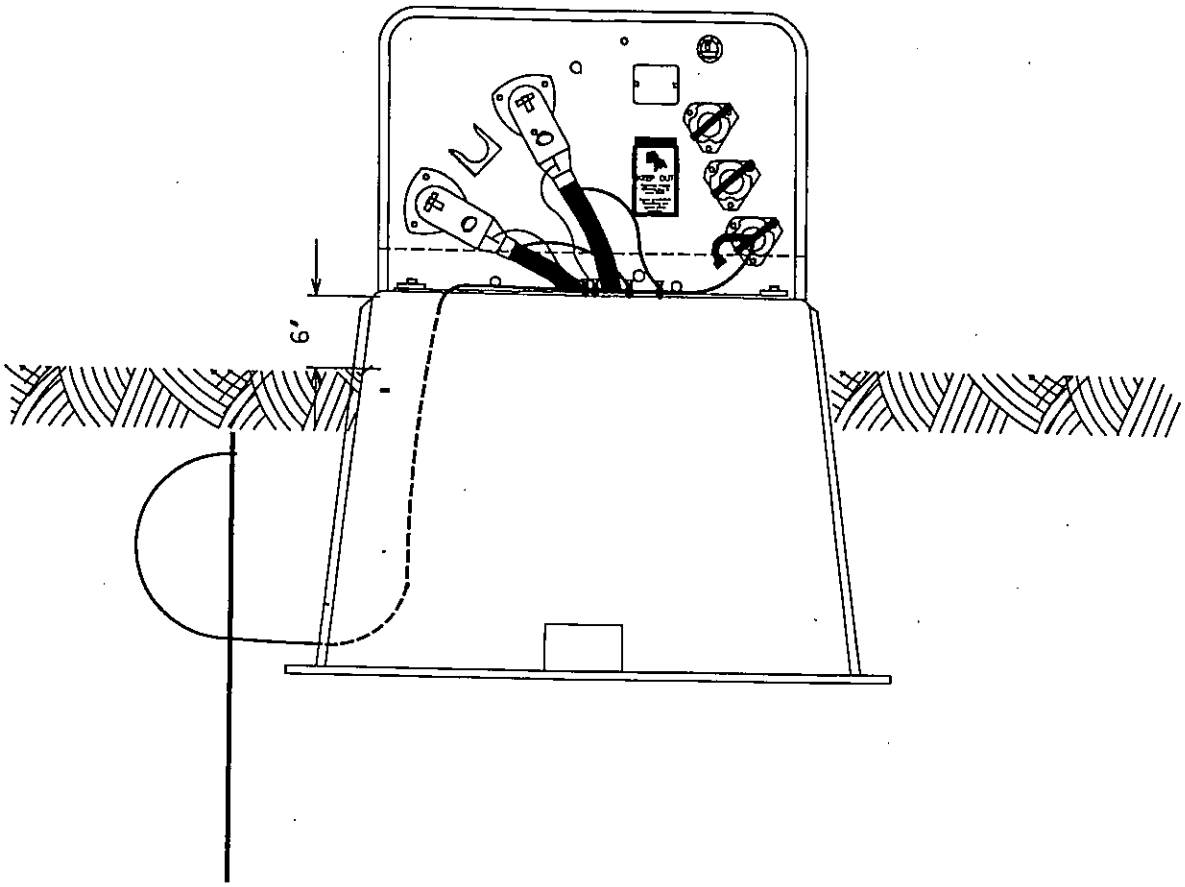
DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

DRAWN	DATE

DRAWN	DATE
REC	06/27/06

BE REVISED ON THE II CADD SYSTEM ONLY

MACRO	DESCRIPTION SINGLE PHASE FEED THRU PAD MOUNT TRANSFORMER INSTALLATION	PAGE 365-4



1. All transformers must be secured to their pad or base.
2. A 3/4" X 8' galvanized ground rod is to be installed 6' in front of the left front corner of the transformer padmount. The top of the ground rod shall be 6' below final grade.
3. A ground wire shall be installed from the ground rod through the cable hole at the bottom of the pad. 10 Feet of ground wire shall be provided so that it can be installed through the two grounding lugs and connected to the neutral.
4. The concentric neutrals on the primary cable must be bonded together so to provide a continuous primary neutral. Both concentric neutrals shall also be bonded to the transformer ground connection.
5. All padmount transformers shall be secured and locked with a one time padlock (MID*6000821013)..

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	09/07/01	07/14/06	

	ORIGINAL
DESIGNED	EVG
DRAWN	RCE
DATE	07/01/79

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EnergyEast

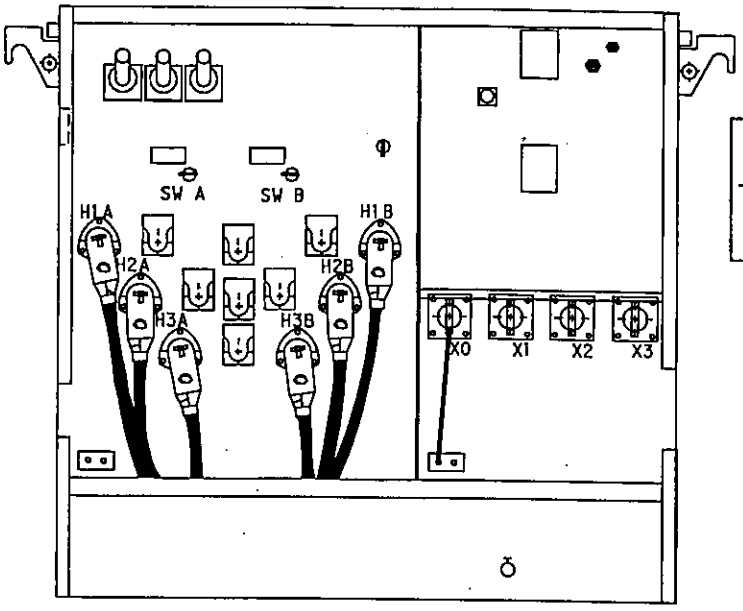
STATE OF MAINE
BRENT C. BROOKS #8209
REGISTERED PROFESSIONAL ENGINEER
11/17/2006

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
365-5	DEAD FRONT AND LIVE FRONT PAD MOUNT TRANSFORMERS	

DEAD FRONT PAD MOUNT TRANSFORMER

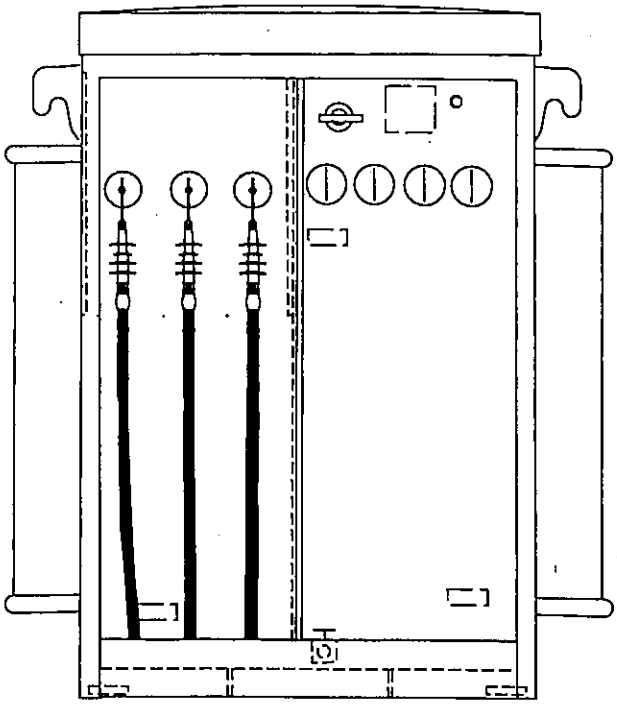


Detail deplcts typical arrangemnet; placement of components may vary with manufacturer.

Dead front primary oonstruotion

This type of oonstruotion is made with all molded bushings and elbows, providing fully insulated high voltage terminals when completely assembled.

LIVE FRONT PAD MOUNT TRANSFORMER



Live front primary oonstruotion
(Maintenanoe only)

The primary cables are terminated inside the transformer cabinet with stress cones and the conductor portion of the cable is connected directly to the transformer bushing.

DRAWN	REC
DATE	06/22/06

DRAWN	REC
DATE	08/23/01

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STATE OF MAINE
BRENT C. BROOKS
#9809
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

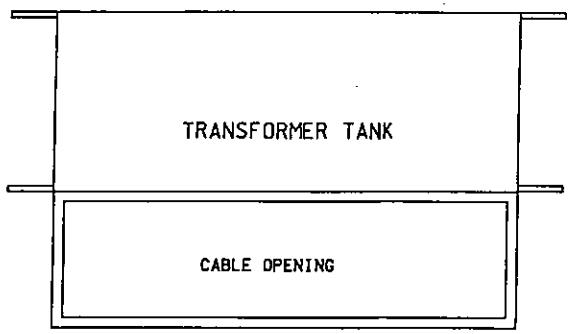
PAGE 365-6

DESCRIPTION
3 PH DEAD FRONT LOOP FEED TRANSFORMER

MACRO

DISTRIBUTION CONSTRUCTION STANDARDS

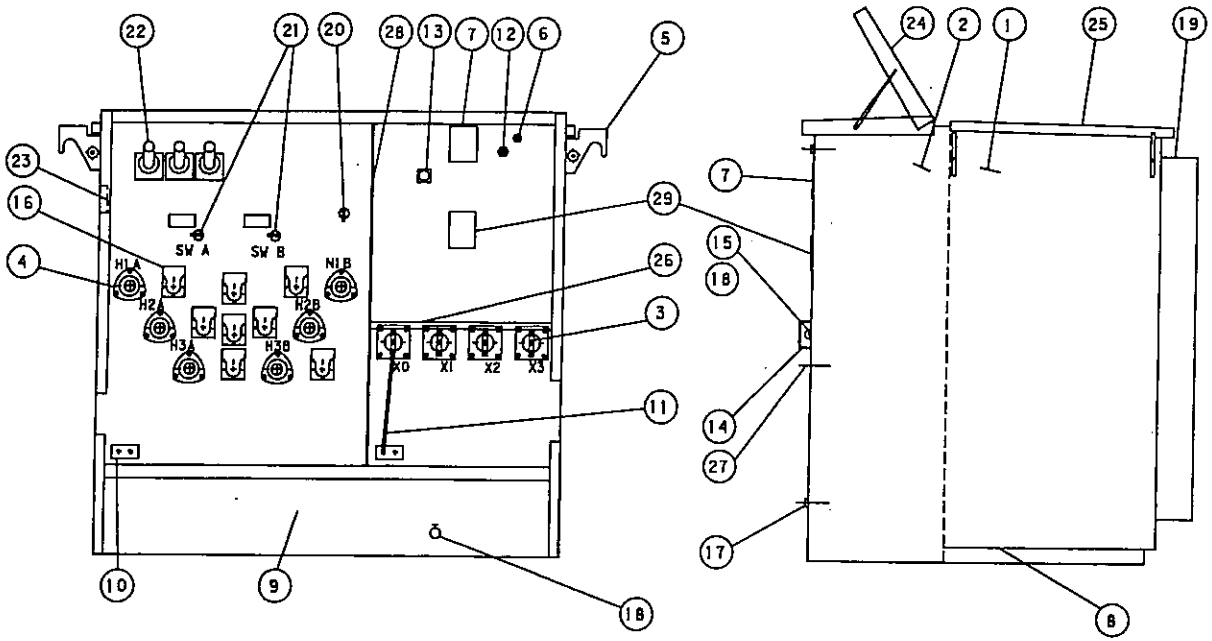
CENTRAL MAINE POWER CO.



Detail depicts typical arrangement; placement of components may vary with manufacturer.

Bayonet fuse holder only up to 1000 KVA

ITEM	DESCRIPTION
1	TRANSFORMER TANK
2	CABLE COMPARTMENT
3	LV BUSHING - 10 HOLE SPADE
4	HV BUSHING WELL
5	LIFTING LUG
6	PRESSURE RELIEF DEVICE
7	NAMEPLATE (2)
8	JACKING AREA
9	REMOVABLE SILL
10	GROUNDING PAD
11	GROUNDING STRAP
12	OIL FILL PLUG
13	OIL LEVEL PLUG
14	DOOR HANDLE
15	BRACKET FOR PADLOCK
16	PARKING STAND C/W EXTENSION BRACKET
17	1/2" PENTANEAD BOLT & CUPWASHER (3)
18	OIL DRAIN VALVE C/W DRIP GUARD
19	SUPPLEMENTAL COOLING
20	TAP SWITCH
21	2 POS LB SWITCH
22	BAYONET FUSE HOLDER C/W DRIP GUARD
23	SPARE FUSE RACK
24	FLIP TOP COVER C/W GAS SPRING
25	BOLTED COVER C/W NUT GUARD
26	LV BUSHING SUPPORT
27	HV DOOR LOCKING BOLT
28	HV/LV/ BARRIER
29	DANGER/WARNING LABELS



STATE OF MAINE
BRENT C. BROOKS
#8209
REGISTERED PROFESSIONAL ENGINEER
2006

DATE	08/23/01	06/22/06	
DRAWN	REC	REC	
DESIGNED	CS	CS	
	REVISED	REVISED	REVISED

EnergyEast

DATE	12/31/77
DRAWN	RCE
DESIGNED	EVG
ORIGINAL	

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MACRO	DESCRIPTION	PAGE
	CABLE CHARACTERISTICS	366

	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	08/23/01	02/15/06	

EnergyEast

	ORIGINAL
DESIGNED	EVG
DRAWN	RCE
DATE	04/30/76

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UG AND URD CABLE CHARACTERISTICS

MID*	SERVICE CABLE	STRAND	NEUTRAL	AMPACITIES IN CONDUIT IN EARTH (AMPS)	WEIGHT/1000 FT (lbs)
76597	3C- #2 AL. TRIPLEXED	7	#4	100	252lbs
76961	3C-4/0 AL. TRIPLEXED	19	2/0	205	713lbs
6000000620	3C-4/0 CU PARALLEL	19	4/0 CU.	260	2,090lbs

MID*	SECONDARY CABLE	STRAND	NEUTRAL	AMPACITIES IN CONDUIT IN EARTH (AMPS)	WEIGHT/1000 FT (lbs)
76961	3C-4/0 AL. TRIPLEXED	19	2/0	205	713lbs
6000200440	1C-500 kcmil. AL.	37	-	350	579lbs
6000200450	3C-500 kcmil. AL. TRI.	37	500kcmil. AL.	350	1,745lbs
6000200640	1C-500 kcmil. CU.	37	-	430	1,796lbs
751178	3C-500 kcmil. CU.	37	500kcmil. CU.	430	5,388lbs

S/C #	15 KV PRIMARY CABLE	STRAND	NEUTRAL	AMPACITIES IN CONDUIT IN EARTH (AMPS)	WEIGHT/1000 FT (lbs)
6000201433	1C- # 2AL.	7	10-#14CU	120	598
6000201453	3C- # 2AL.	7	6-# 14CU	120	1,794
6000201463	1C-4/0AL	19	13-#10CU	230	1,138
6000201472	3C-4/0AL	19	11-#14CU	230	2,832
6000201516	1C-5000CU kcmil	37	26-#12CU	450	2,823
6000201520	1C-5000CU kcmil	37	26-#12CU	450	8,469

MID*	35 KV PRIMARY CABLE	STRAND	NEUTRAL	AMPACITIES IN CONDUIT IN EARTH (AMPS)	WEIGHT/1000 FT (lbs)
74209	1C-1/0AL	19	16-#14CU	150	1,061
6000202753	3C-1/0AL	19	6-#14CU	155	2,520
6000202803	3C-4/0AL	19	11-#14CU	230	3,993
6000202858	3C-350CU Kcmil	37	18-#12CU	375	7,422
6000202943	1C-500CU Kcmil	37	26-#12CU	450	3,337
6000202946	3C-500CU Kcmil	37	26-#12CU	450	10,011

NOTE; Service and secondary cable ampacity ratings are based on the National Electric Code with a 90 degree C conductor temperature with an ambient earth temperature of 30 degrees C.

NOTE; Primary Cable ampacity ratings, Single and three phase are based on a 90 degree C conductor temperature, 20 degree C ambient earth temperature, 100% load factor and an earth thermal resistivity of RHO 90.

NOTE; For complete specification for primary UG and URD cable see current Energy East spec. EASCPURD

STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

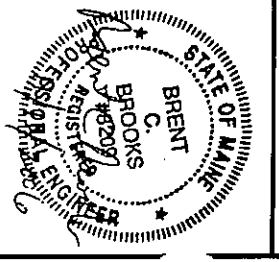
CENTRAL MAINE POWER CO.

PAGE 366-1

DESCRIPTION: PRIMARY CABLE SPLICING MATERIAL

MACRO

CABLE				SPLICE KIT				NEUTRAL SLEEVE			SPLICE COVER KIT
DISCRIPTION	MID*	PHASE Prl	PHASE Neut	MID*	Mfr	TOOL & DIE Primory Sleeve		MID*	TOOLING & DIE Neutrol Sleeve		MID*
15kV #2 URD	6000201433	1	10 / #14	751181	3M Cooper Elastimold	MD6 / Hypress	W-BG / U-BG	6000111502	MD6 / Hypress	W-BG / U-BG	6000215150
15kV #2 URD	6000201453	3	6 / #14	751181	3M Cooper Elastimold	MD6 / Hypress	W-BG / U-BG	6000111500	MD6 / Hypress	W-BG / U-BG	6000215150
15kV 4/0 URD	6000201463	1	20 / #12	751173	3M	Hypress	U-28ART	6000111506	Hypress	U-03	6000215151
15kV 4/0 URD	6000201463	1	13 / #10	751173	3M	Hypress	U-28ART	6000111506	Hypress	U-03	6000215151
15kV 4/0 URD	6000201472	3	11 / #14	751173	3M	Hypress	U-28ART	6000111504	Hypress	U-C	6000215151
35kV 1/0 URD	74209	1	16 / #14	206211	3M Cooper Elastimold	MD6 / Hypress / Hypress	W-BG / U-BG / U-BG	6000111504	Hypress	U-C	6000215151
35kV 1/0 URD	6000202753	3	6 / #14	206211	3M Cooper Elastimold	MD6 / Hypress / Hypress	W-BG / U-BG / U-249	6000111500	MD6 / Hypress	W-BG / U-BG	60021515l
35kV 4/0 URD	6000202803	3	11 / #14	6000215715	3M	Hypress	U-28ART	6000111504	Hypress	U-C	6000215151



BE REVISED ON THE CADD SYSTEM ONLY

DATE	8/21/95
DRAWN	CRC

DATE	08/23/01	07/14/06
DRAWN	REC	REC

MACRO	DESCRIPTION	PAGE
	34 AND 15 KV PRIMARY CABLE TERMINATORS	367

NO.	REVISION	DATE	CK.
1	ADD ~~STOCK CODE NUMBERS~~ CU'S		

ORIGINAL	
DESIGNED	CS
DRAWN	HEP
DATE	05/02/90

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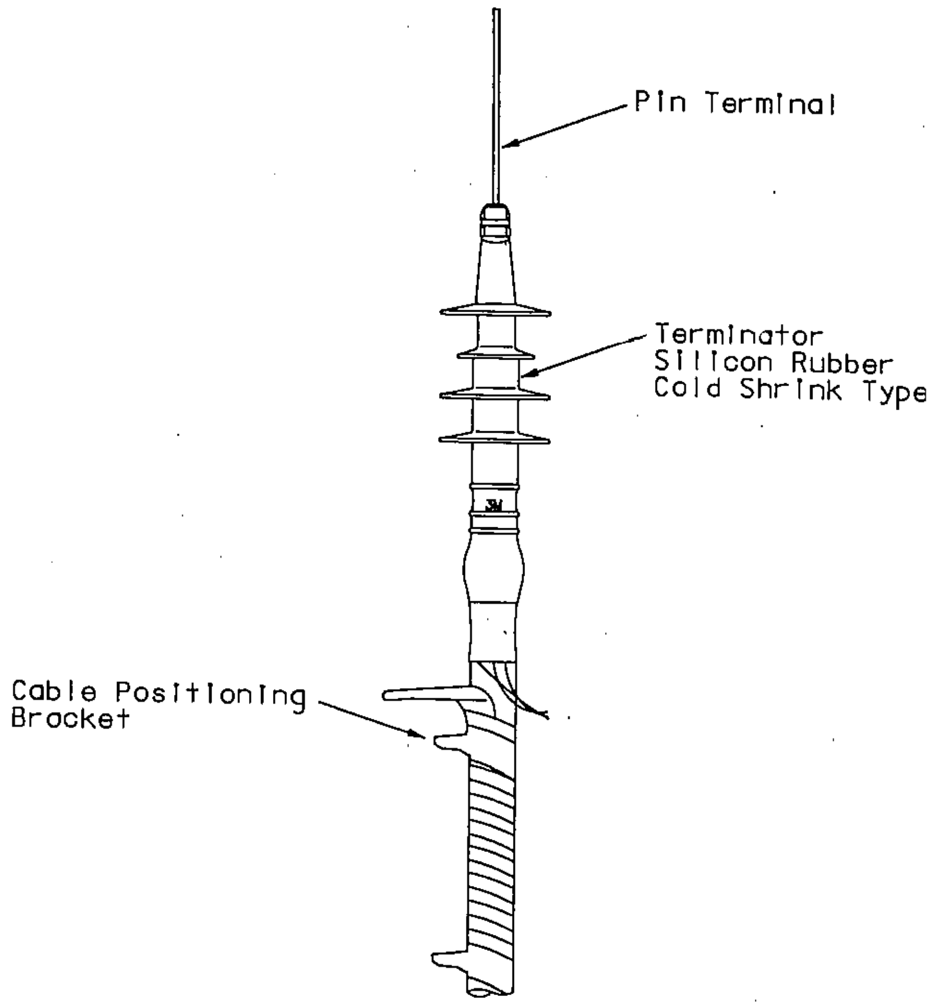
TERMINATORS



Terminator Assembly

TERMINATORS	(All Cable Terminations)
6000215848 C6UDTASR15	Terminator, silicon rubber, cold shrink, for use with cables having primary insulation O.D. range of 0.72-1.29 inches. Fits 15KV #2, 1/0, and 4/0 URD and submarine cables. Requires terminal connector, recommended pin terminals are: #2AL or CU-MID# 6000119045, 1/AL-MID# 6000119048 and 4/0AL-MID# 6000119072
6000215849 C6UDTASR15/35	Terminator, silicon rubber, cold shrink, for use with cables having primary insulation O.D. range 1.05-1.80 inches. Fits 15KV-350, 500, and 750MCM and 35KV-1/0, 2/0, 4/0, 350, 500 and 750 MCM URD, submarine and duct type cables. Requires MID# 6000215847 for use w/shielded cables. Requires pin or lug terminal connector, recommended pin terminals.

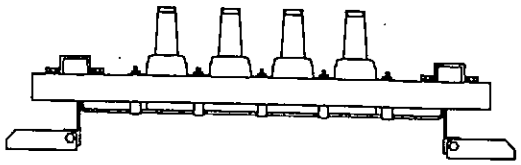
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	15KV URD 200 AMP MATERIAL	367-1

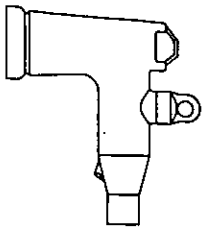
NO.	REVISION	DATE	CK.
1	Chngd loadbreak Juct CU & Ins PK Bahling MID#	10/02/07	
2	Chngd some MID #'s	04/30/08	

LOADBREAK JUNCTION



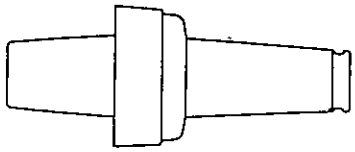
	MID#	CU
3 WAY	6000213870	C6UDPRJ315AS
4 WAY	6000213960	C6UOPRJ415AS

LOADBREAK ELBOW CONNECTOR



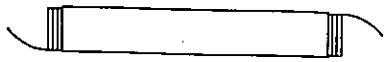
WIRE SIZE	MID#	CU
#2 220 MTI	6000213990	C6UDELB215220
1/0 345 MTI	6000214500	C6UDELB1/015
4/0	751119	C6UOELB4/015

LOADBREAK BUSHING INSERT



MID#	CU
90301	C6TDPLB15

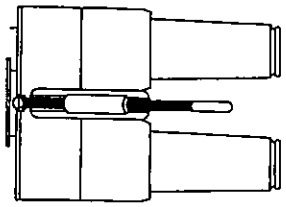
ELBOW-CABLE JACKET SEAL KIT



MID#	CU
91952	C6UOELBSK15/35

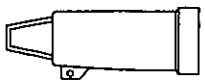
USE ON 15 & 35 KV CABLES

FEED-THRU



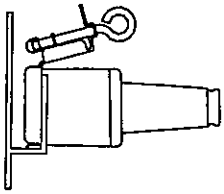
MID#	CU
90182	C6UOPFT215

DEAD END CAP



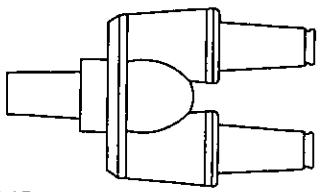
MID#	CU
92771	C6UDRDE15

INSULATED PARKING BUSHING



MID#	CU
6000213270	C6UDPIP15200

LOADBREAK FEED-THRU INSERT



MID#	CU
6000213240	C6TDPLB15D200

	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	12/13/94

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

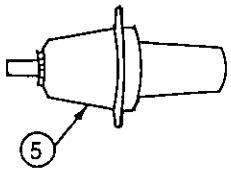
STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
5/14/08
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

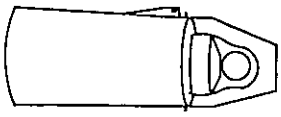
DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	15kV 600 AMP ELBOW CONNECTORS	367-2

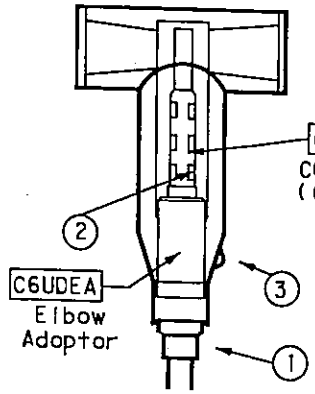
BUSHING SUPPLIED ON EQUIPMENT



600 AMP NON LOADBREAK DE CAP (MID*92797)

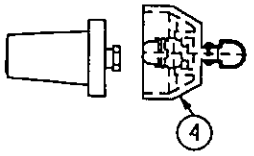


ELBOW C6UDEH6001S (MID*6000211920)



CONNECTING STUD INCLUDED WITH ELBOW

INSULATING PLUG WITH CAP C6UDPD15600 (MID*92509)



CABLE SIZE	(1) ADAPTOR	(2) ELBOW CONTACT
4/0 (175mil)	C6UDEA4/0 (MID*751176)	C6UDEC4/0 (MID*6000211890)
350 (175mil)	C6UDEA350/175 (MID*751174)	C6UDEC350 (MID*6000211860)
500 (175mil)	C6UDEA500/175 (MID*751177)	C6UDEC50015 (MID*6000211830)

1. STRESS RELIEF ADAPTER
   Molded rubber adapter is sized to the cable insulation and provides stress relief for the terminated shield. The radial pressure exerted on the cable shield by the adapter precludes the presence of air at the start of the stress surface. Suitable for installation on both extruded-shield cable and tape-type shield cable.

2. SPADE TERMINAL
   Semi-permanent, crimped connector sized for the specific conductor. Crimped on with standard tools and dies.

3. GROUNDING EYE
   Hole provides a convenient point to connect a ground wire to the molded conductive shield, placing the molded shield at ground potential.

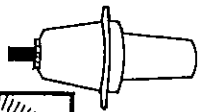
4. VOLTAGE TEST POINT CAP
   Molded conductive rubber cap fits over the test point and onto the connector housing.

5. APPARATUS BUSHING
   600 Amp non load break bushing supplied on equipment.

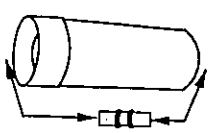
6. THREADED CONNECTING STUD
   A removable threaded stud is included with every 600 amp elbow.

Assembly For Adapting 600 Amp To 200 Amp Loadbreak

600 Amp Bushing (supplied on equipment)

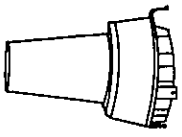


600 Amp Bushing Extension (MID*6000211950)

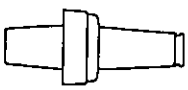


CONNECTING STUD C/U C6UOPBS15600 (MID*6000213301)

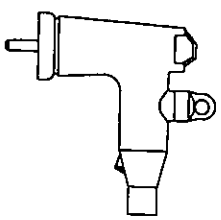
600/200 Amp Reducing Tap Well (MID*198421)



200 Amp Load Break Bushing (MID*9030))



200 Amp Load Break Elbow 4/0 Al (MID*751119)



STATE OF MAINE
RAYMOND A. BOUCHER
No. 7893
LICENSED
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

NO.	REVISION	DATE	CK.
1	Corrected compatible unit	7/6/7	

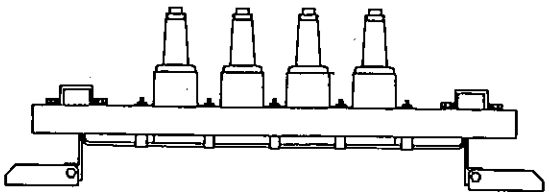
	ORIGINAL
DESIGNED	JEC
DRAWN	GRG
DATE	8/30/95

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

EnergyEast

PAGE	DESCRIPTION	MACRO
367-3	35 KV URD 200 AMP MATERIAL	

LOADBREAK JUNCTION

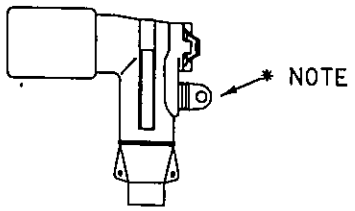


MID#	CU
600021 3968	C6U0RJ435200

LARGE INTERFACE

600021 3970	C6UDRJ435200LI

LOADBREAK ELBOW CONNECTOR



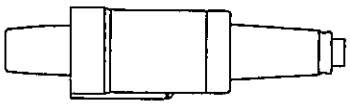
WIRE SIZE	MID#	CU
1/0	194565	C6UDELB1/035

LARGE INTERFACE

1/0	600021 4113	C6UDELB1/035LI

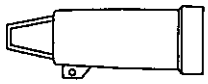
* NOTE: LARGE INTERFACE ELBOWS ARE WITHOUT TEST POINT

LOADBREAK BUSHING INSERT



	MID#	CU
1φ	751118	C6T0PLB135

DEAD END CAP

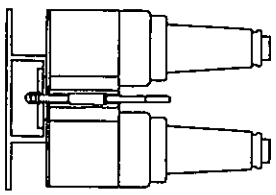


MID#	CU
600021 4328	C6UDRDE35

LARGE INTERFACE

600021 4330	C6UDRDE35CAPLI

FEED-THRU

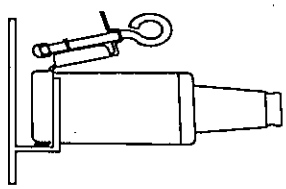


MID#	CU
90205	C6UDPFT235200

LARGE INTERFACE

600021 3785	C6UDPFT235200LI

INSULATED PARKING BUSHING

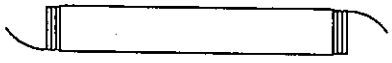


MID#	CU
600021 3280	C6UDPIP35200

LARGE INTERFACE

600021 3285	C6U0PIP35200LI

ELBOW-CABLE JACKET SEAL KIT



MID#	CU
91952	C6UDELBSK15/35

USE ON 15 & 35 KV CABLES

BE REVISED ON THE CADD SYSTEM ONLY

DRAWN	DATE
GRG	1/18/95

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
8/14/08
LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	35KV 600 AMP ELBOW CONNECTORS	367-4

	REVISED	REVISED	REVISED
DESIGNED	JLH		
DRAWN	REC		
DATE	02/16/06		

EnergyEast

	ORIGINAL
DESIGNED	JLH
DRAWN	REC
DATE	06/05/02

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

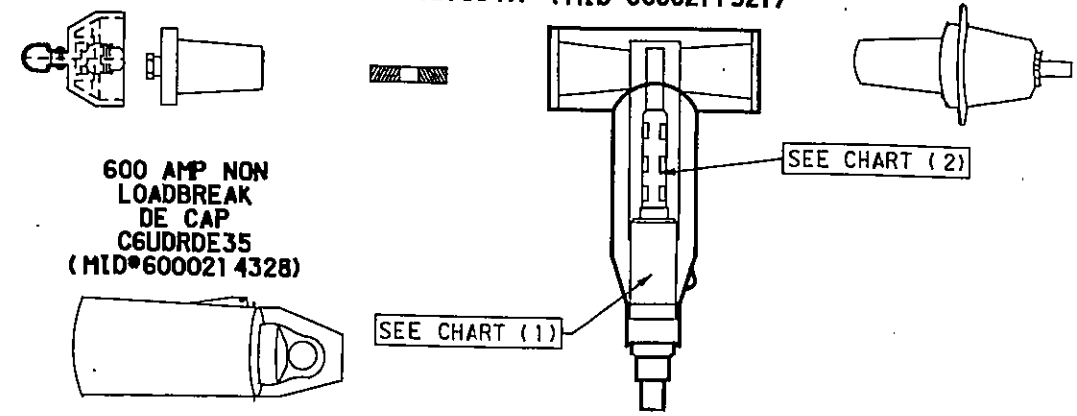
INSULATING PLUG WITH CAP C6UDPB35600 (MID*600021 3346)

CONNECTING STUD C6UDPBS35600 (MID*600021 3347)

ELBOW (INCLUDES CONNECTING STUD) C6UDEH60035 (MID*600021 1921)

BUSHING SUPPLIED ON EQUIPMENT

600 AMP NON LOADBREAK DE CAP C6UDRDE35 (MID*600021 4328)



Assembly For Adapting 600 Amp Deadbreak Elbow To 200 Amp Loadbreak Elbow

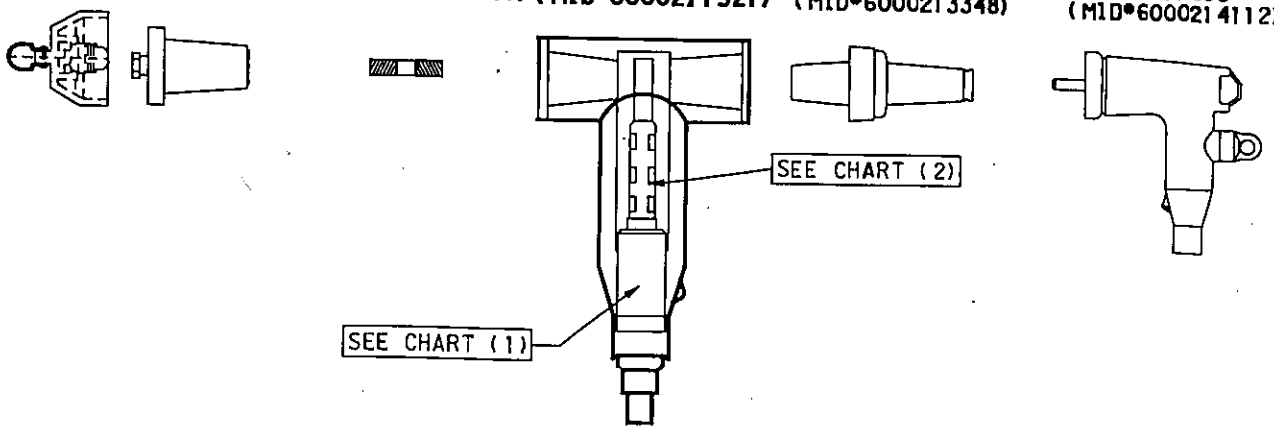
INSULATING PLUG WITH CAP C6UDPB35600 (MID*600021 3346)

CONNECTING STUD C6UDPBS35600 (MID*600021 3347)

ELBOW C6UDEH60035 (MID*600021 1921)

600/200 AMP REDUCING TAP PLUG C6UDETP60035 (MID*600021 3348)

200 AMP LOAD BREAK ELBOW 1/0 AL C6UDELB1/035 (MID*600021 4112)



CABLE SIZE	(1) ELBOW ADAPTOR	(2) SPADE TERMINAL CONTACT
4/0 (345mil)	C6UDEA4/0-34S (MID*600021 0036)	C6UDEC4/0 (MID*600021 1890)
350 (345mil)	C6UDEA4/0-34S (MID*600021 0036)	C6UDEC350 (MID*600021 1860)
500 (345mil)	C6UDEA500-345 (MID*600021 0038)	C6UDECS0015 (MID*600021 1830)
1/0 (345mil)	NOT STOCK	NOT STOCK

STATE OF MAINE PROFESSIONAL ENGINEER GARY A. RICCI #4737

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	URD SWITCHING TOOLS AND EQUIPMENT	368-1

NO.	REVISION	DATE	BY	CK.
1	Corrected spelling errors	05/12/09		

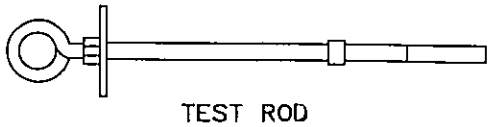
UNDERGOUND RESIDENTIAL DISTRIBUTION SWITCHING

In the maintenonce and operation of URD systems it is necessary to remove sections of cable, or pieces of equipment, from service for repairs or replacements.

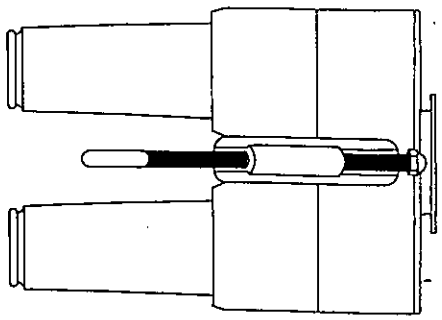
All equipment and cable must be marked in accordance with Section 303 before any work is attempted.

Tools and equipment necessary for this type of work include: rubber gloves, a grip-all hotstick, an elbow puller, tic tracer or static scope or any other Company approved test equipment, feed thru bushings, grounding elbows, test rods, and silicone grease.

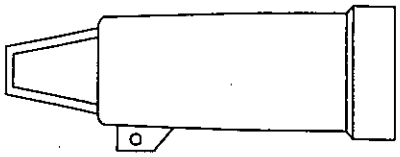
Feed thru bushing must be protected by two insulating receptacles at all times when not in use.



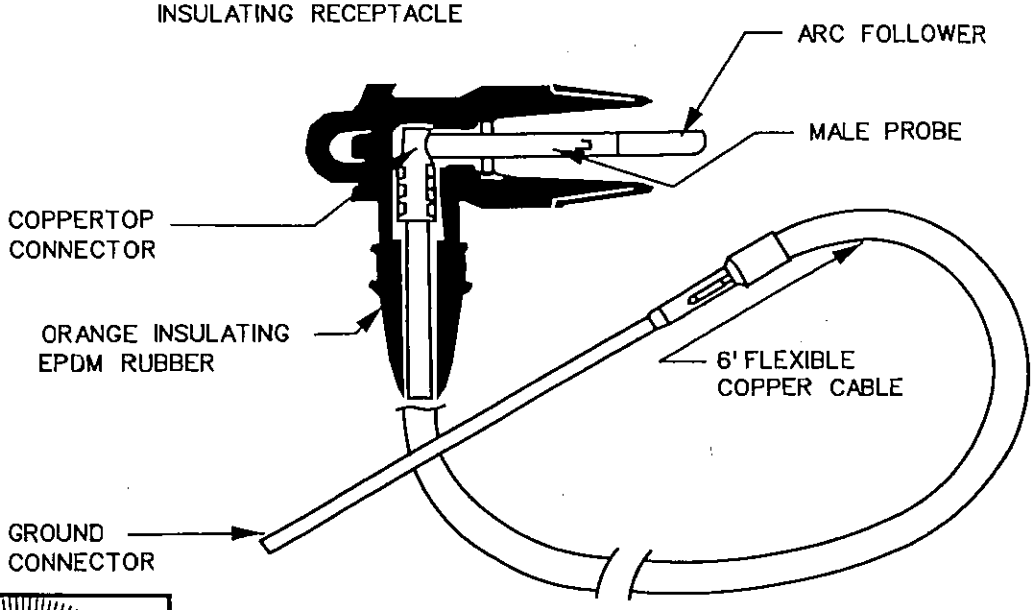
TEST ROD



FEED THRU BUSHING



INSULATING RECEPTACLE



GROUNDING ELBOW

EnergyEast

	ORIGINAL
DESIGNED	HEP
DRAWN	SGO
DATE	09/24/87

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
5/4/09
LICENSED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

GENERAL INSTRUCTIONS FOR SWITCHING 15KV URD ELBOWS

1) BACKUP PROTECTION All switching operations involving the use of live elbows at 15 kV and below must be protected by a fuse. The circuit breaker or recloser feeding the circuit may be put on "DO NOT RECLOSE" if the person in charge deems it necessary.

2) USE A GRIPALL HOTSTICK with an elbow puller or an elbow removal tool. This equipment is designed to be operated with a hotstick.

3) HAVE SOLID FOOTING AND ROOM TO WORK. If solid footing is not available, or room to work is inadequate, deenergize and ground the line at some other location, and carry out the work deenergized.

4) KEEP EQUIPMENT CLEAN AND DRY. In foul weather, or if dirt or dust has built up on terminals, deenergize and ground the line at some other location, protect from water and remove all dirt and dust before operating.

5) HAVE A PLACE TO PUT THE ELBOW. Before removing an elbow have a feed thru bushing solidly mounted in a parking stand with one end uncovered and freshly lubricated ready to receive the elbow. Do not lay down or otherwise bring an energized elbow near another conductor or grounded surface.

6) ROTATE CLOCKWISE BEFORE PULLING. Do not pull away while rotating, hold the elbow or receptacle in place and twist to break it loose, then pull away with a fast, firm, straight motion,

7) LINE UP BEFORE CLOSING. Place the elbow over the bushing and push until the first slight resistance is felt. This position is where the arc follower pin first meets the contacts in the bushing. DO NOT HOLD IN THIS POSITION, PUSH THE ELBOW HOME WITH A FAST FIRM STRAIGHT MOTION. Use force enough to fully seat the elbow on the first try. Any hesitation may damage the equipment beyond salvage.

NOTE: DO NOT PULL 34.5 OR 19.9 ELBOWS LIVE

DESIGNED	CS
DRAWN	REC
DATE	10/01/01

DESIGNED	EVG
DRAWN	SGD
DATE	03/22/88

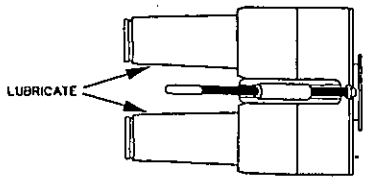
BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED PROFESSIONAL ENGINEER

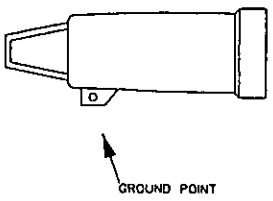
GENERAL INSTRUCTIONS FOR SWITCHING 15 KV URD ELBOWS

CONTINUED

8) LUBRICATE. Before each use, remove both insulating receptacles from the feed thru bushing, clean and lubricate the outside surface of the feed thru bushing that the elbows fit over with silicone grease. USE ONLY THE SPECIAL SILICONE GREASE FURNISHED. Also clean and lubricate the inside surface of the receptacles that fit onto the bushing. Transformer bushings must be deenergized and grounded before cleaning and lubricating.



9) GROUND SHIELDING. Connect separate #14 ground wires to the grounding point of each insulating receptacle and twist tight. Connect to ground, leaving enough slack to place the feed thru bushing in the parking stand with a grip-all hotstick, and to remove the insulating receptacles and replace them in the transformer bushings, as needed.



10) GROUNDING ELBOW. Connect the grounding elbow lead to the neutral with slack enough to reach any bushing to be grounded.

11) TEST RODS. Test rods are used to insert into a transformer bushing plug and/or a feed-thru bushing, then tested with a tic tester, static scope or any other company approved test equipment. Test rod eye and disc are not insulated and must be treated as energized whenever in a bushing.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	10/29/01		

	ORIGINAL
DESIGNED	EVG
DRAWN	SGD
DATE	02/29/88

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

DESIGNED	CS
DRAWN	REC
DATE	10/01/01

TO REMOVE CABLE FROM SERVICE

Before working on any cable, it must be de-energized, tested, grounded and tagged. A feed thru bushing and a grounding elbow will be needed for each terminal of the cable. A grip-all hotstick, elbow puller, test rod, and a tic tracer or static scope or any other Company approved test equipment are needed for the job. If in doubt, de-energize and ground the line at some other point before proceeding, and do the work de-energized.

A. Clean and lubricate the feed thru bushings and the insulating receptacles according to General Instruction 8. Reassemble the insulating receptacles to the feed thru bushings.
B. Ground the insulating receptacles with separate No. 14 wires long enough to allow operating them with the hotstick, in accordance with General Instruction 9.
C. Attach the grip-all hotstick firmly to the feed thru bushing eye, slide the feed thru bushing into the parking stand, and tighten until snug. (DO NOT OVER TIGHTEN).
D. Connect the grounding elbow lead solidly to a ground, with slack enough to allow using with a hotstick. Put the grounding elbow in a clean, dry place.
E. Remove the insulating receptacle from the end of the feed thru bushing nearer the cable to be de-energized, following General Instruction 6. Place in a clean dry place.
F. Transfer the elbow from the transformer bushing to the feed thru bushing, following General Instructions 2, 3, 4, 6 and 7.
G. Place the insulating receptacle on the transformer bushings, using the grip-all hotstick and elbow puller. Be sure it is solidly seated.
H. Repeat above procedure for all other terminals of the cable.
I. When the last terminal has been transferred to a feed thru bushing, test the cable. USE THE HOTSTICK to remove the second insulating receptacle from the feed thru bushing and insert the test rod. Using the hotstick test the rod with a Tic Tracer, static scope or other Company approved test equipment. Immediately on completing the test, remove the test rod with a hotstick.
J. Ground the cable by inserting the grounding elbow in the feed thru bushing. Use the hotstick and a fast, firm straight-line motion. DO NOT GROUND unless the cable tested de-energized. IF THROUGH ERROR AN ENERGIZED CABLE IS GROUNDED, DO NOT ATTEMPT TO REMOVE THE GROUNDING ELBOW, BUT HOLD IT SOLIDLY IN PLACE UNTIL THE FUSE HAS CLEARED, OR THE RECLOSER LOCKED OUT. The grounding elbow and feed thru bushing involved must not be reused, but must be junked.
K. Repeat test step I and ground step J for all other terminals of the cable.

DESIGNED	HEP
DRAWN	SGD
DATE	09/24/87

Upon completion of the cable work, the cable should be reenergized by reversing the above procedure. IF A FAULTY OR GROUNDED CABLE IS ENERGIZED, DO NOT ATTEMPT TO BACK-OFF THE ELBOW, BUT HOLD IT SOLIDLY IN PLACE UNTIL THE FUSE HAS CLEARED OR THE RECLOSER LOCKED OUT. The arc follower pin contact and the loadbreak bushing involved in closing in on a faulted or ground cable must be replaced. If the elbow appears to have been damaged, the entire elbow must be replaced.

BE REVISED ON THE CAAD SYSTEM ONLY

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

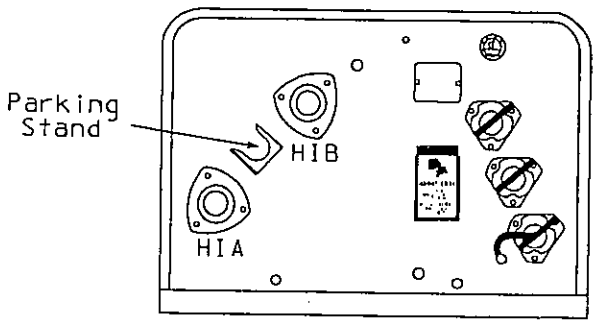
	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	REC		
DATE	09/11/01		

TO BYPASS TRANSFORMER. Read all instructions before starting. If in doubt de-energize and ground at some other point and carry out work de-energized.

A. Check back-up protection according to general instructions.

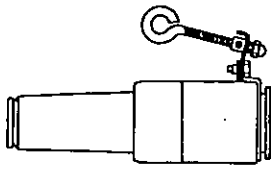
B. Lubricate the feed thru bushing and insulating receptacle according to Step 8 of General Instructions. Put the insulating receptacles in a clean, dry place.

C. Grip the feed thru bushing firmly by the eye with a grip-all hotstick, slide into the parking stand, and tighten down the eye snugly. DO NOT OVERTIGHTEN.



Front View

Side View Portable Feedthru with mounting bracket, grounding lug and eyebolt



Side View

D. Remove the elbow from the transformer bushing according to general instructions 2, 3, 4 and 6.

E. Insert the pin of the elbow into the feed thru bushing and push until it is firmly seated per general instructions 5 and 7.

F. Transfer the second elbow, following sequence of D and E.

G. If the transformer is to be removed, cover the bushings with the plastic dust caps from the new replacing transformer, and remove the feed thru bushing complete with attached elbows from the parking stand.

If the transformer is not to be removed, be sure the transformer bushings are clean, and place the insulating receptacles on the transformer bushings.

TO ENERGIZE TRANSFORMER. If a new transformer is being installed, clean and lubricate the transformer bushings before setting it in place, place the feed thru bushing complete with attached elbows in the parking stand, and reverse the procedure for bypassing the transformer.

If the transformer was not replaced, but was bypassed to work on it, on completion of the work remove the insulating receptacles, put in a clean, dry place, and reverse the procedure for bypassing the transformer.

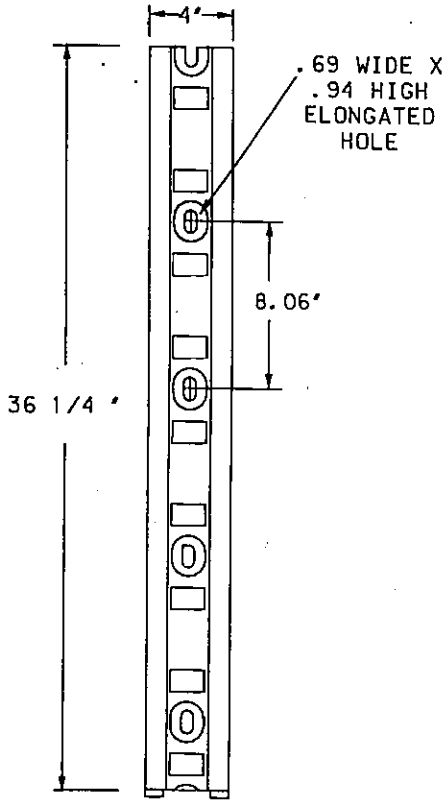
	ORIGINAL
DESIGNED	EVG
DRAWN	RCE
DATE	04/30/76

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

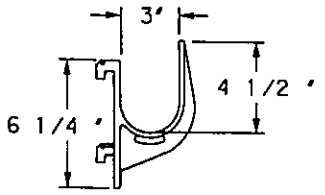
STATE OF MAINE
KENT
B.
POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	CABLE RACK COMPONENTS	369-1

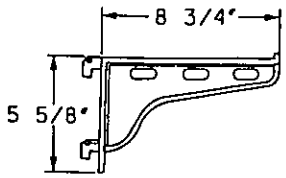
NO.	REVISION	DATE	CK.



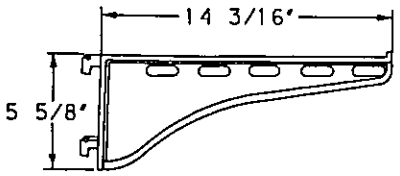
36" STANCHION
MID# 92708
CU# C6UDCRSTAN36



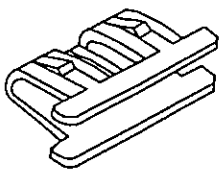
3" SADDLE
MID# 6000213753
CU# C6UDCRSADDLE3



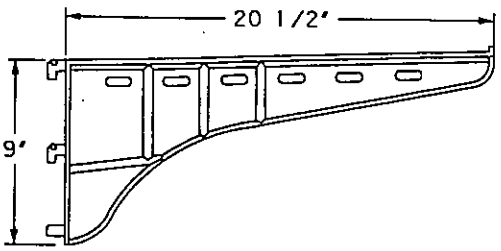
8" ARM
MID# 92316
CU# C6UDCRARM8



14" ARM
MID# 92337
CU# C6UDCRARM14



ARM LOCK
(NOT TO SCALE)
MID# 6000213729



20" ARM
MID# 92403
CU# C6UDCRARM20

	ORIGINAL
DESIGNED	CS
DRAWN	REC
DATE	02/12/09

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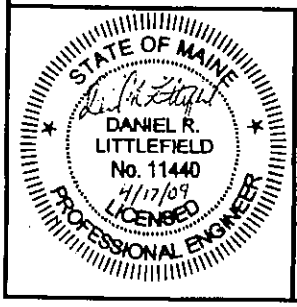


MACRO	DESCRIPTION	PAGE
	TIES - GENERAL	370

	REVISED	REVISED	REVISED
DESIGNED	REDRAWN	CS	
DRAWN	JRP	CMH	
DATE	06/23/98	0/01/01	

	ORIGINAL
DESIGNED	HEP
DRAWN	GRG
DATE	05/02/90

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

TIES

All ties on copper conductors shall be made with solid, soft drawn copper wire. #6 AWG shall be used on conductors smaller than #2 AWG, and #4 AWG on #2 AWG and larger.

All ties on Aluminum, AAAC, or ACSR conductors shall be made with #4 AWG soft drawn aluminum wire.

Aluminum tie wire must not be used on copper conductors, nor copper tie wire on aluminum conductors. The combination will result in rapid corrosion of the aluminum.

All ties shall go in a counter-clockwise direction going away from the insulator.

A side tie shall be used on any corner with a 3' or larger pull.

Bare ties shall be used on all bare or weatherproof conductors operating at voltages in excess of 5 kV; it is necessary to skin primary weatherproof type wire the full length of the tie; be sure to skin enough weatherproof off wire on either side of insulator. A tight contact must be maintained between primary wire, tie wire, and insulator to prevent radio interference. Where tree wire or spacer cable is used, bare wire shall <u>not</u> be used for ties.

Regular ties (refer to 370-1) shall be used for all tying-in not done with hot line tie sticks. Care should be used to see that the ends of the tie wire are left in such a manner that they can be removed with hot line tools but no ring is necessary.

Hot line ties (refer to 370-2 and 370-3) shall be used only when tying-in with hot line sticks. Hot line ties should be replaced with regular ties whenever convenient to do so.

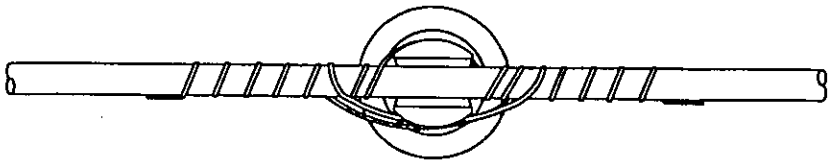
When tying hot line ties, the loop should be as close as possible to the conductor to prevent radio noise. The loop should not be over one loop diameter from the conductor. Also, when making loops, the twisted end of the tie wire at the base of the loop should be in as close as possible to prevent sharp projections which cause radio noise.

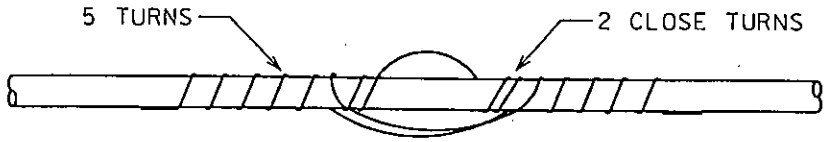
Wire ties shall not be reused.

STATE OF MAINE
KENT B. POOLE
#7938
REGISTERED
PROFESSIONAL ENGINEER

PAGE	DESCRIPTION	MACRO
370-1	COLD TIES	

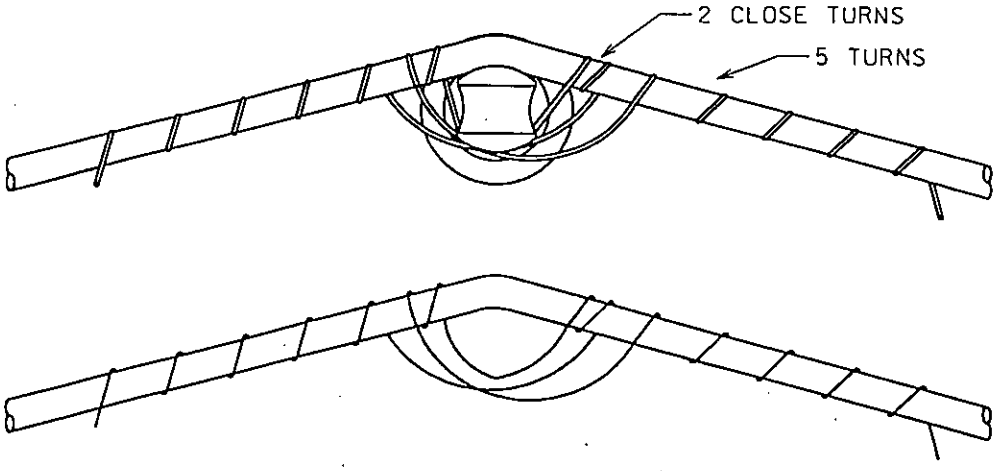
TOP TIE





DOUBLE INSULATORS TOP TIES SHALL BE THE SAME AS SINGLE INSULATOR TOP TIES. THE TURNS BETWEEN THE INSULATORS SHALL BE WRAPPEO AS CLOSE TOGETHER AS POSSIBLE SO THAT ALL OF THE TURNS CAN BE MAOE.

SIDE TIE - SINGLE INSULATOR



DOUBLE INSULATORS TOP TIES SHALL BE THE SAME AS SINGLE INSULATOR TOP TIES. THE TURNS BETWEEN THE INSULATORS SHALL BE WRAPPEO AS CLOSE TOGETHER AS POSSIBLE SO THAT ALL OF THE TURNS CAN BE MAOE.

	DESIGNED	REDRAWN	CS
	DRAWN	JRP	CMH
	DATE	07/01/98	8/24/01

	DESIGNED	RCS
	DRAWN	RCE
	DATE	2/01/75

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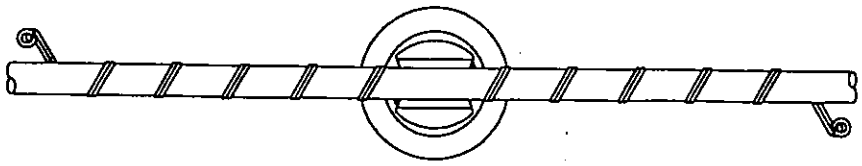
STATE OF MAINE
KENT B. POOLE
No. 7938
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

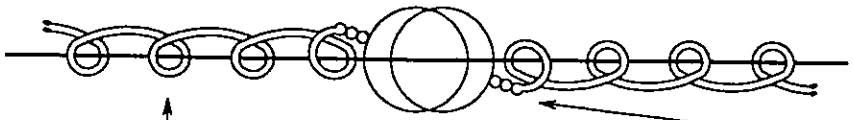
MACRO	DESCRIPTION	PAGE
	HOT LINE TIES - SINGLE INSULATOR	370-2

	REVISED	REVISED	REVISED
DESIGNED	REDRAWN	CS	
DRAWN	JRP	CMH	
DATE	07/01/98	8/24/01	

TOP TIE - SINGLE INSULATOR

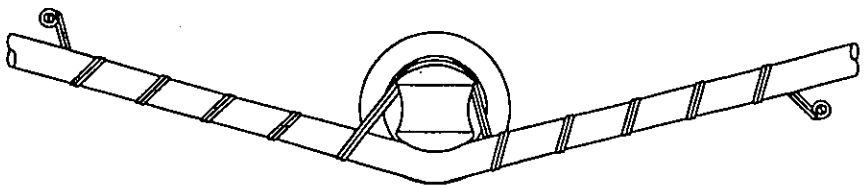


All turns are to be counter-clockwise going away from the insulator.

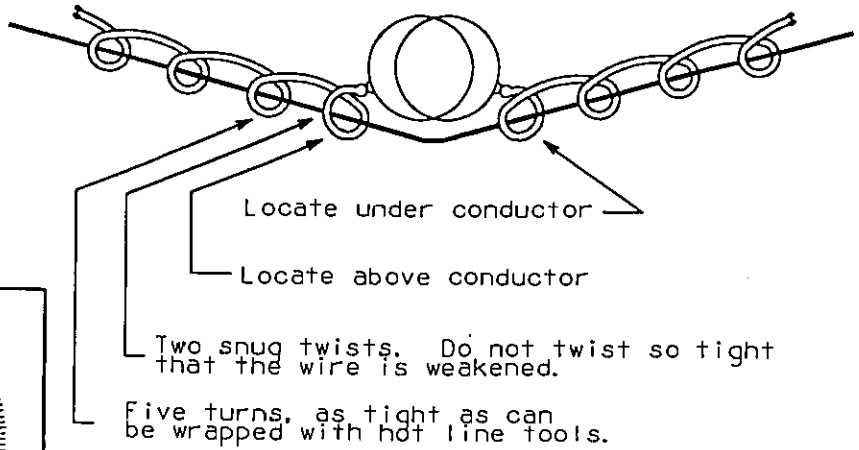


	ORIGINAL
DESIGNED	RCS
DRAWN	RCE
DATE	12/01/75

SIDE TIE - SINGLE INSULATOR



All turns are to be counter-clockwise going away from the insulator.



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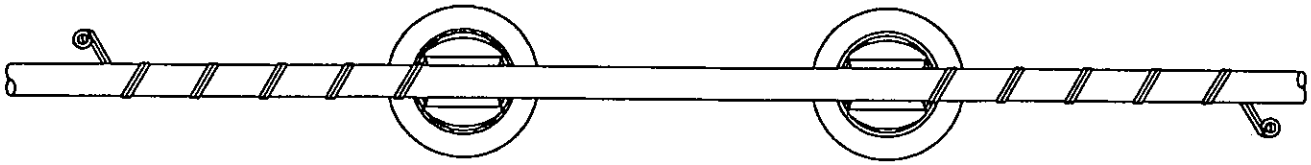
STATE OF MAINE
KENT B. POOLE
PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
	HOT LINE TIES - DOUBLE INSULATOR	370-3

TOP TIE - DOUBLE INSULATOR

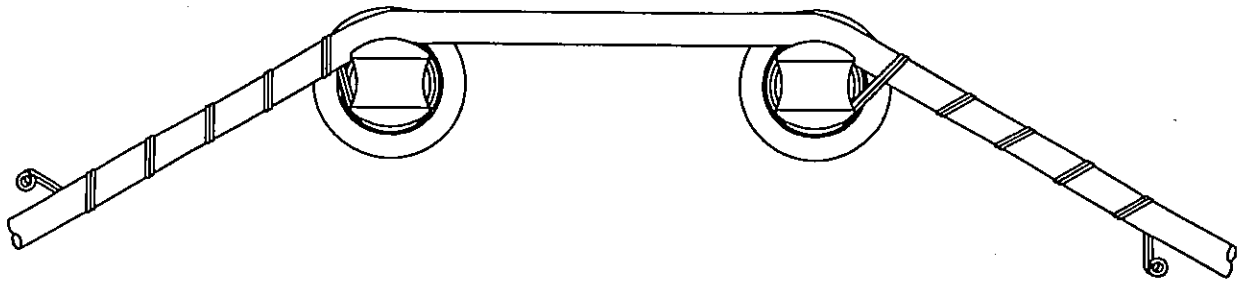


All turns are to be counter-clockwise going away from the insulator.

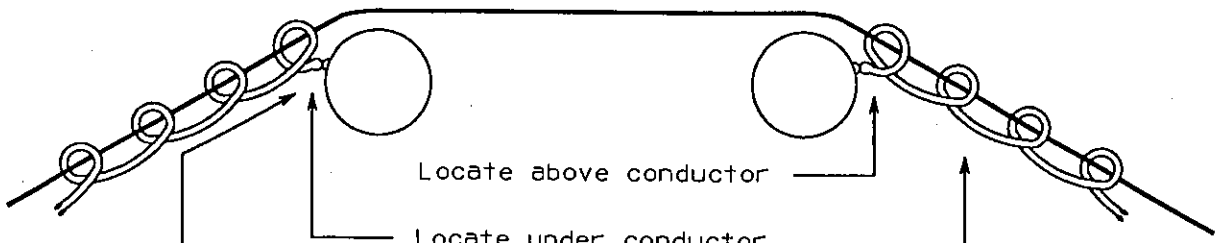
Five turns, as tight as can be wrapped with hot line tools.

Two snug twists. Do not twist so tight that the wire is weakened.

SIDE TIE - DOUBLE INSULATOR



All turns are to be counter-clockwise going away from the insulator.



Locate above conductor

Locate under conductor

Five turns, as tight as can be wrapped with hot line tools.

Two snug twists. Do not twist so tight that the wire is weakened.

	DESIGNED	REDRAWN	CS	
DATE 07/01/98	DRAWN	JRP	CMH	DB/24/01

	DESIGNED	RCS
DATE 12/01/75	DRAWN	RCE

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STATE OF MAINE
KENT B. POOLE
#7988
REGISTERED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	GROUNDING GENERAL	380

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

	ORIGINAL
DESIGNED	REDRAWN
DRAWN	GRG
DATE	6/21/95

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GROUNDING

The purpose of grounding is to limit the maximum voltage that may appear on a system with respect to ground, and thereby prevent damage to the insulation on the system. Within buildings or any set of buildings served by a single service, it is much more effective to bond objects together with a wire than it is to try to ground them individually to earth. For this reason, the National Electrical and Lightning Protection Codes place as much emphasis on bonding as on grounding.

All primary lines in the CMPCo. distribution system are grounded wye. The neutral is a multi-grounded neutral (MGN) system with everything grounded (bonded) to the neutral and the neutral grounded throughout the service area. A ground shall be installed at least every quarter mile (1.6km). Grounds at individual services are not included in meeting this requirement.

The grounding requirements of the multi-grounded neutral system are detailed on the following page.

STATE OF MAINE
KENT B. POOLE #7870
PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	POWER CABLE GROUNDING	380-2

* All power cables shall be grounded at both ends.

* Power cable DUCT grounding conductor size shall be of #4 CU minimum.

* Power cable URD grounding conductor shall be no smaller than the size of the cable neutral.

* Cable in duct and manhole system shall be grounded at each manhole, handhole, switchgear foundation and transformer foundation.

* Cable in URD installations shall be grounded at each handhole, switchgear foundation, and transformer foundation.

* When a cable is not spliced in a handhole or a manhole,. it is not necessary to remove the cable jacket to ground the cable provided the two grounds on either side of it are less than 1320 feet apart.

	REVISED	REVISED	REVISED
DESIGNED	CS		
DRAWN	CMH		
DATE	8/24/01		

	ORIGINAL
DESIGNED	LLF
DRAWN	GRG
DATE	3/6/96

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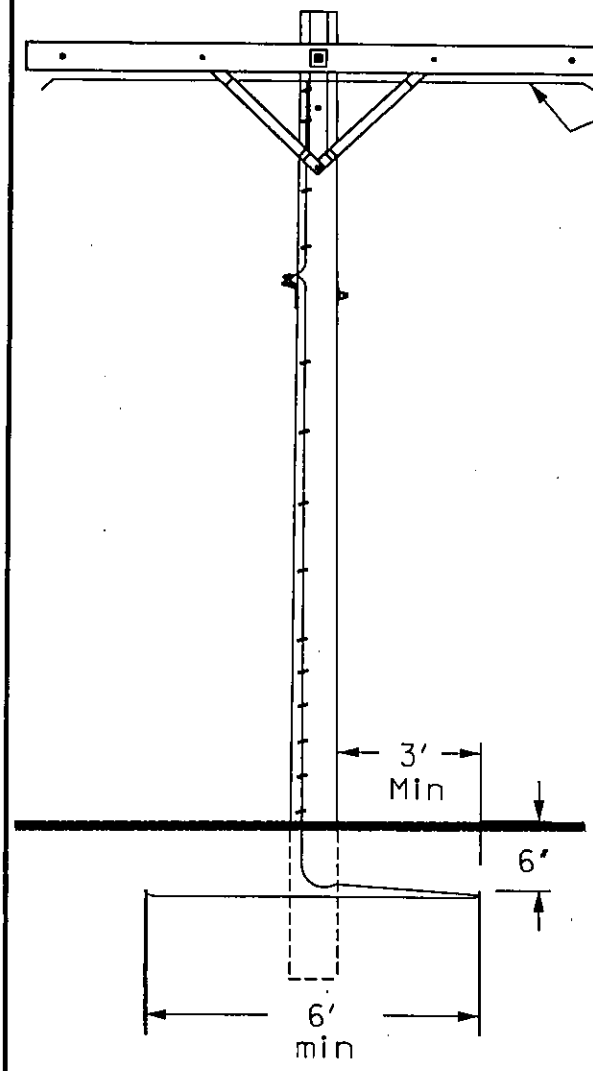
STATE OF MAINE
KENT B. POOLE
#7838
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
380-3	GROUND ROD ASSEMBLY	



Lightning arrester ground lead or grounded neutral lead if neutral is located on the arm. Quarter mount the ground wire on the field side.

Ground wire shall be a minimum of #4 stranded copper.

Ground rods shall be installed at least 3' from the pole when possible.

When a second ground rod is required, it must be installed at least 72' from the first ground rod.

The installation of a ground rod using power tools requires obtaining Dig Safe clearance.

See Section 93D in NESC for grounding conductor protection rules.

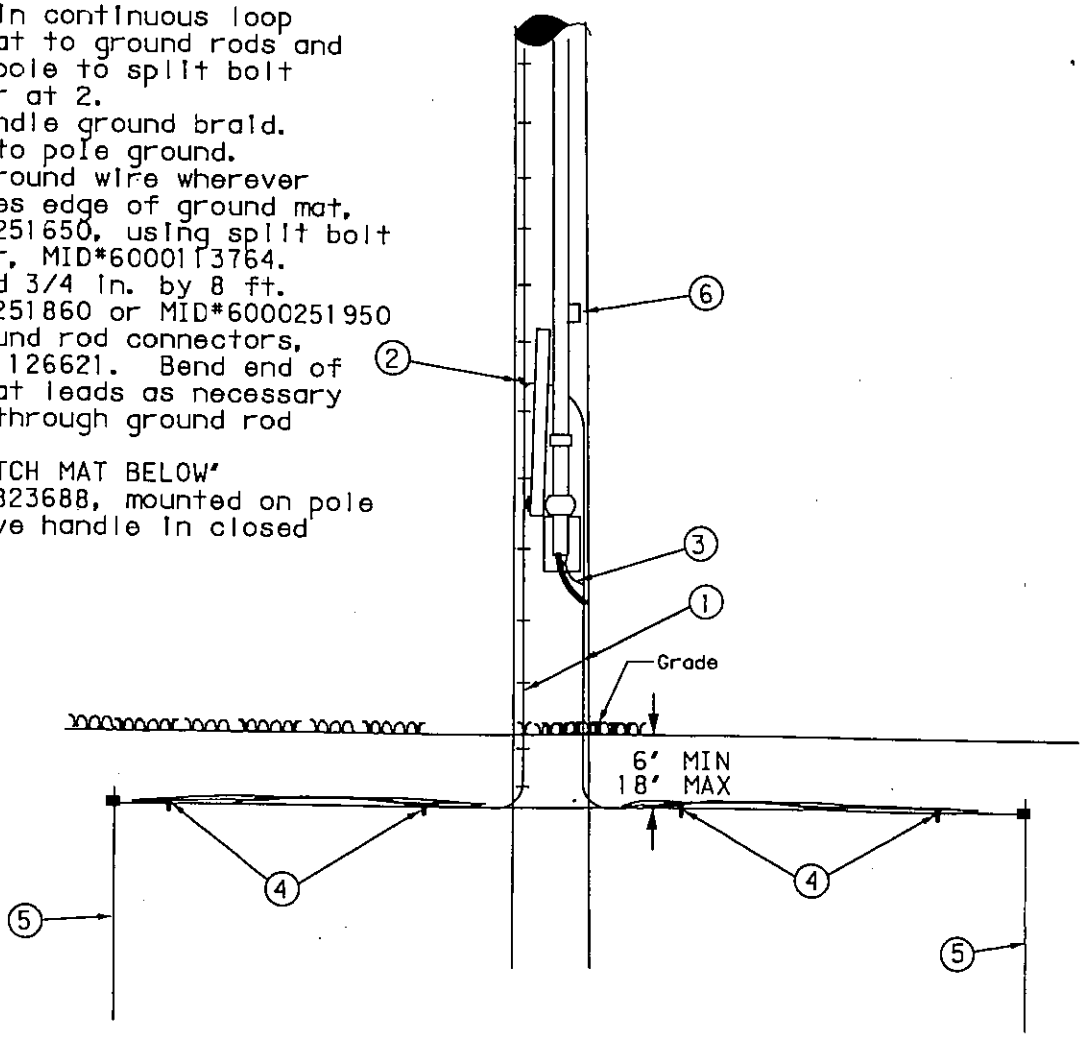
GROUNDS

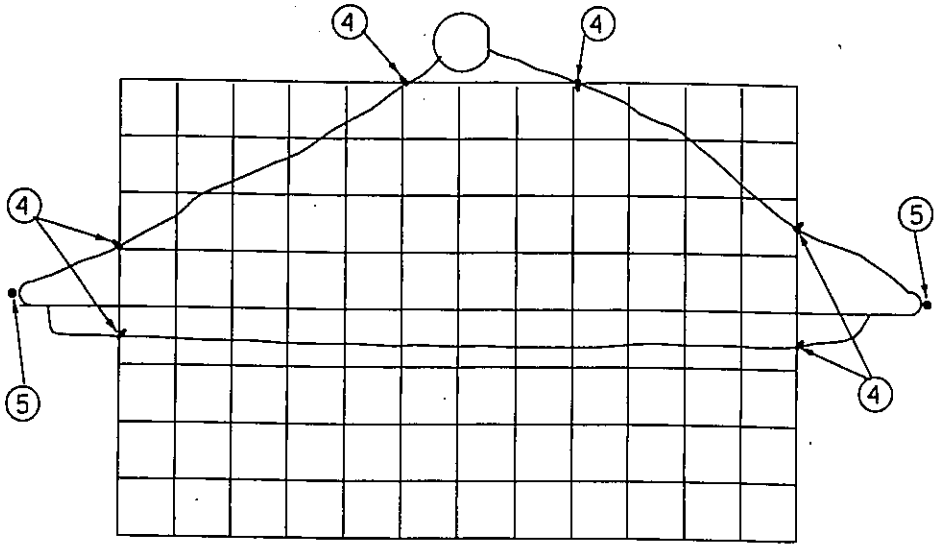
Quantity	MID#	Description
1	6000112662	Clamp ground rod
1	6000113860	Tap Compression H Type (For tapping 1/0 to #6)
or 1	6000113887	Tap Compression H Type (For tapping 336.4 to #6)
1	6000251860	Rod grd 3/4" x 8' galv
as req'd	6000274402	Staples galvanized
as req'd	6000274410	Staples galvanized
as req'd	6000274402	Wire 6 cu solid

STATE OF MAINE
DANIEL R. LITTLEFIELD
No. 11440
5/14/09
LICENSED PROFESSIONAL ENGINEER

MACRO	DESCRIPTION	PAGE
	SWITCH HANDLE GROUNDMAT	380-4

1. Pole ground. Connect to neutral.
2. Run wire in continuous loop across mat to ground rods and back up pole to split bolt connector at 2.
3. Switch handle ground braid. connect to pole ground.
4. Connect ground wire wherever it crosses edge of ground mat, MID*6000251650, using split bolt connector, MID*60001 13764.
5. Ground rod 3/4 in. by 8 ft. MID*6000251860 or MID*6000251950 with ground rod connectors, MID*60001126621. Bend end of ground mat leads as necessary to pass through ground rod clamps.
6. Sign 'SWITCH MAT BELOW' MID*6000823688, mounted on pole just above handle in closed position.





	REVISED	REVISED	REVISED
DESIGNED	CS	CS	
DRAWN	REC	REC	
DATE	10/01/01	06/23/06	

	ORIGINAL
DESIGNED	EVG
DRAWN	SGD
DATE	12/16/87

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

EnergyEast

STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER
12/8/06

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION CLAMPS AND CONNECTORS	PAGE 390

	REVISED	REVISED	REVISED
DESIGNED	JEC	CS	CS
DRAWN	GRG	REC	REC
DATE	3/28/94	10/04/01	02/21/06

General

It is essential wherever hot line clamps are to be installed, that both line and tap conductors be wire brushed to provide clean contact surfaces. All aluminum to aluminum, aluminum to copper or copper to copper connections should be covered with connector paste prior to connector installations.

Copper Line Conductors

Taps for copper conductors shall be made with stranded copper wire - minimum size #4 AWG.

Aluminum connectors may be used for making both aluminum to aluminum and aluminum to copper connections. Copper connectors may only be used for copper to copper connections.

Aluminum Line Conductors

Taps from aluminum or ACSR conductors to copper conductors or to copper or bronze bodied equipment terminals such as cutouts, transformers, etc., shall be made with stranded copper wire - minimum size #4 AWG.

Connections of aluminum to copper shall be arranged with the aluminum on top or at the higher level.

All connections made onto 336.4 overhead primary conductor shall be made with an approved connector. The preferred method is with the Ampact Fired on Wedge Connector. For connections 336.4 to 336.4 use connector MID#192465. For connections 336.4 to 4/0 use connector MID#193224. Both connectors use the BLUE cartridge MID#197122 for installation and the RED cartridge MID#198153 for removal. The aluminum two bolt parallel groove connector 1/0-336.4 to 1/0-336.4 cu. or al. MID#6000113368 may also be used.

Heavy taps are taps that have full line current flowing through them. Such taps include: connections to cutouts, sectionalizers, reclosers, switches, regulators and similar series equipment, and transformers 167 kVA per phase or more.

Hot line clamps shall not be installed directly onto 336.4 wire. A fired on Ampact stirrup connector with a 1/0 ball MID#6000112890 shall be installed where hot line clamps are to be used. To install 336.4 stirrup use the BLUE cartridge MID#197122 for removal use the RED cartridge MID#198153.

Hot line clamps removed from the line are to be junked and not reused.

Line Conductor Type	Line Conductor Size	Tap WIRE Type	Tap WIRE Size	MID*	C/U Code
AL	#6-2/0	AL or CU	#6-2/0	6000112860	C6CDPC
AL	4/0	AL or CU	4/0-350	6000112876	C6CDPC
AL or CU	#6-4/0	AL or CU	#6-4/0	6000112865	C6CDPC

Light taps are taps that connect to the line equipment. Such taps include: pole mounted transformers less than 167 kVA per phase, capacitors, arresters, primary metering and similar equipment where limited currents are involved.

Hot line clamps shall not be installed directly onto 336.4 wire. A fired on Ampact stirrup connector with a 1/0 ball MID#6000112890 shall be installed where hot line clamps are to be used. To install 336.4 stirrup use the BLUE cartridge MID#19722 for removal use the RED cartridge MID#198153.

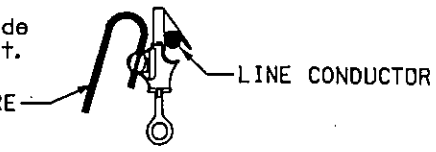
Hot line clamps removed from the line are to be junked and not reused.

Line Conductor Type	Line Conductor Size	Tap WIRE Type	Tap WIRE Size	MID*	C/U Code
AL or CU	#8-1/0	AL or CU	#8-2/0	6000112855	C6CDPC
AL OR CU	#6-4/0	AL or CU	#6-4/0	6000112865	C6CDPC

Current Limiting Fuses

Line Conductor Type	Line Conductor Size	Tap Type	Tap Size	MID*	C/U Code
CU	#4-2/0	Current Limiting Fuse		6000112822	C6CDHC4CUC/L
AL	#4-1/0	Current Limiting Fuse		6000112838	C6CDHC4ALC/L
AL	2/0-397	Current Limiting Fuse		6000112842	C6CDHC2/0ALC/L

Hot line clamps having C/U Code must be charged on work report.



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DATE	12/10/93

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STATE OF MAINE
GARY A. RICCI #4737
REGISTERED PROFESSIONAL ENGINEER

EnergyEast

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
390-1	SPLICES AND DEADENDS	

GENERAL SPLICE AND DEADENDS

Splices: Copper conductors shall be spliced with an approved compression sleeve or automatic splice. Conductor shall be thoroughly clean and straight for the full length to be inserted in the splice. Automatic splices must be tensioned enough to set the splice solidly, do not use in slack spans.

A line splice made for a particular size conductor shall not be used on a conductor of a different size. All transitions from one conductor to another shall be made at deadend structures.

Line splices shall not be installed in any span crossing railroads, federal highways, or foreign utility lines, or in spans adjacent to these crossings, unless, in making emergency repairs, where such an installation is unavoidable.

Line splices shall be at least two feet from any pole when making splices on an existing line or for building new lines.

Aluminum, AAAC or ACSR conductor shall be spliced with an approved compression sleeve or automatic splice. When using a compression sleeve on an aluminum AAAC or ACSR conductor, the conductor shall be wire brushed and a liberal amount of inhibitor paste applied under the sleeve unless the sleeve is pre-filled by the manufacturer. The inhibitor paste should be applied immediately after brushing to prevent formation of an aluminum oxide film on the conductor. No inhibitor paste should be used on the steel strand sleeve of a two-part ACSR compression splice.

Full tension splices shall be used for splicing primary and secondary conductor in the span. Reduced tension compression splices shall be used for splicing primary and secondary jumpers on deadend poles and for splicing service drop cable. Non-tension splices shall be limited to splicing service drop conductors to service entrance conductors. They shall not be placed in the span. When using an automatic splice, the conductor shall be wire brushed until thoroughly clean, and shall be straight for the full length to be inserted in the spice. No inhibitor paste is needed, since automatic splices are prefilled. Automatic splices must be tensioned enough to set the splice solidly, do not use in slack spans.

Deadends: All conductors shall be deadended in an approved deadend device.

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STATE OF MAINE KENT B. POOLE PROFESSIONAL ENGINEER

SLEEVE AND DEADEND HOLDING REQUIREMENTS

Full Tension Sleeve must hold 95% of the rated conductor strenth of the weaker of the conductors being joined.

All automatic sleeves and deadends must have for tension a minimum of 15 percent of the conductor strength to maintain proper electrical connection.

Partial Tension Sleeve must hold 40% of the rated conductor strength of the weaker of the conductors being joined.

Minimum Tension (Non-Tension) Sleeve must hold 5% of the rated conductor strength of the weaker of the conductors being joined but , not less than:

200lb for conductor combinations larger than #6 AWG

100lb for conductor combinations in which the weaker conductor is #6 AWG or smaller.

These requirements are for compression and automatic sleeve. They also apply to automatic deadends.

ANSI C119.4-1991 Paragraph 4.4.3

	REVISED	REVISED	REVISED
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PAGE	DESCRIPTION	MACRO
390-3	RECOMMENDED TORQUE VALUES FOR BOLTED CONNECTORS	

RECOMMENDED TORQUE VALUES FOR BOLTED CONNECTORS

Tightened Force Applied to Hardware: Following are recommended initial torque values applied to all clamping hardware used in connectors and fittings.

NOTE:

Care should be taken to prevent sealant from being applied to bolt since torque values will be affected if the bolts becomes lubricated with sealant.

Bolt Diameter	Recommended Torque Non-Lubricated Galvanized Steel, Stainless Steel and Silicon Bronze Bolts		Recommended Torque-Lubricated and Aluminum Bolts	
	LB. INCHES	LB. FEET	LB. INCHES	LB. FEET
5/16"	180	15	120	10
3/8"	240	20	168	14
1/2"	480	40	300	25
5/8"	660	55	480	40
3/4"	840	70	650	54.2

Table based on data from ANSI C119.4-1991, Table 1, and Anderson and Burndy Catalog Reference Sections.

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DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION UNDERGROUND STREET AND AREA LIGHTING REQUIREMENTS	PAGE 395-1

	REVISED	REVISED	REVISED
DESIGNED	NCC		
DRAWN	REC		
DATE	03/14/06		

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These requirements apply to installations owned by Central Maine Power. Central Maine Power will not create, review or approve a specification or layout of a customer owned installation. A Company engineer shall approve any part of an installation in which the Company owns equipment.

Separate neutral and ground conductors shall be used in all underground lighting circuits. The neutral and grounding conductors shall only be bonded together where the lighting circuit begins. The grounding conductor shall be bonded to any conductive lighting equipment such as posts or equipment enclosures.

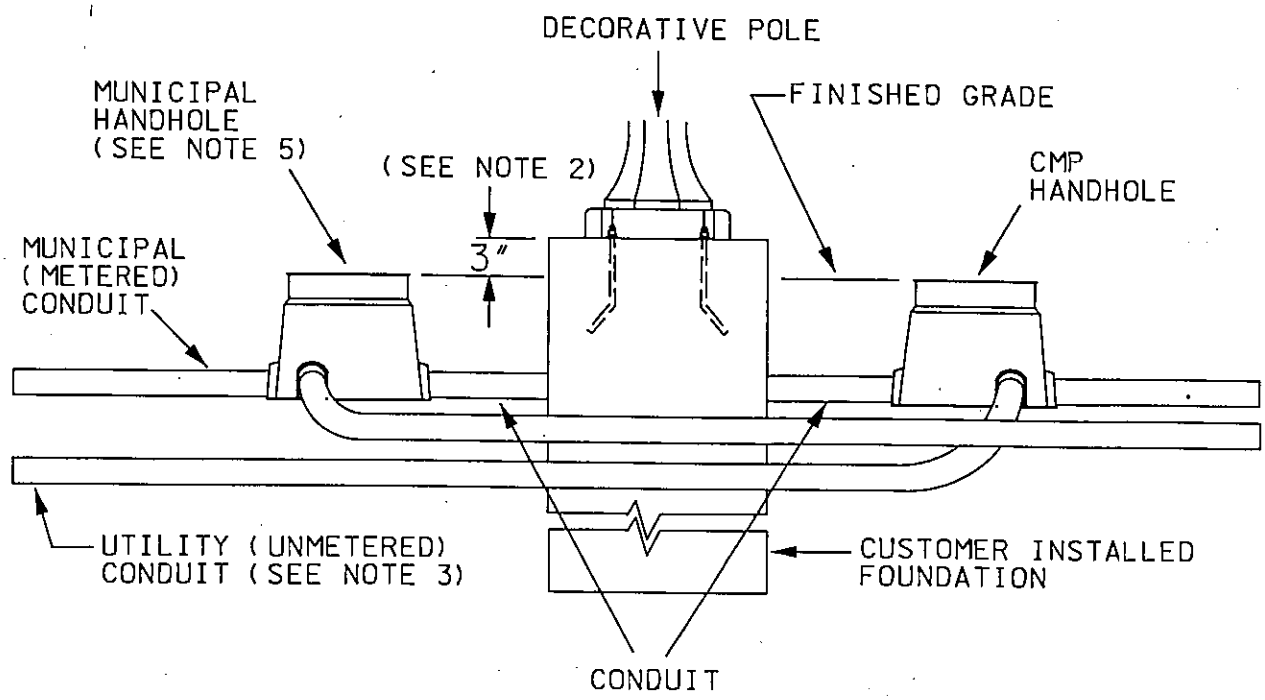
There shall be a fuse installed where the lighting circuit begins. The total number and size of the lamps in the circuit will determine this fuse size. Each structure shall be fused in the access hole at the base of the post. In the case of a single lamp close to the beginning of the circuit, the fuse at the beginning shall be sufficient and no further equipment shall be needed. Fuses shall be sized so that coordination is maintained between the first fuse and all downstream fuses.

Installations using cable larger than #6 AWG shall have a separate handhole at the base of each post. A handhole that might encounter vehicular traffic shall be designed to withstand H-20 loading. Any connection made in the handhole shall be made using an approved submersible connector.

STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

PAGE	DESCRIPTION	MACRO
395-2	DECORATIVE POLE LAYOUTS	

LAYOUT TO BE USED WHERE OUTLETS TO BE INSTALLED IN DECORATIVE POLES



NOTES:

1. FOUNDATIONS TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
2. UNLESS OTHERWISE REQUIRED BY DESIGN, FOUNDATION SHALL BE INSTALLED NOT LESS THAN 3' ABOVE FINISHED GRADE.
3. ALL CMP CONDUITS TO BE A MINIMUM OF 2" PVC.
4. MUNICIPAL HANDHOLE IS SUPPLIED, INSTALLED, PER MANUFACTURERS SPECIFICATION, AND MAINTAINED BY THE CUSTOMER.
5. ALL HANDHOLES WILL HAVE SECURITY LOCKS.
6. MUNICIPAL AND CMP WIRES TO BE IN THE SAME RACEWAY ONLY IN THE POST.

DESCRIPTION	DRAWN	DATE

DESCRIPTION	DRAWN	DATE
	REC	10/16/06

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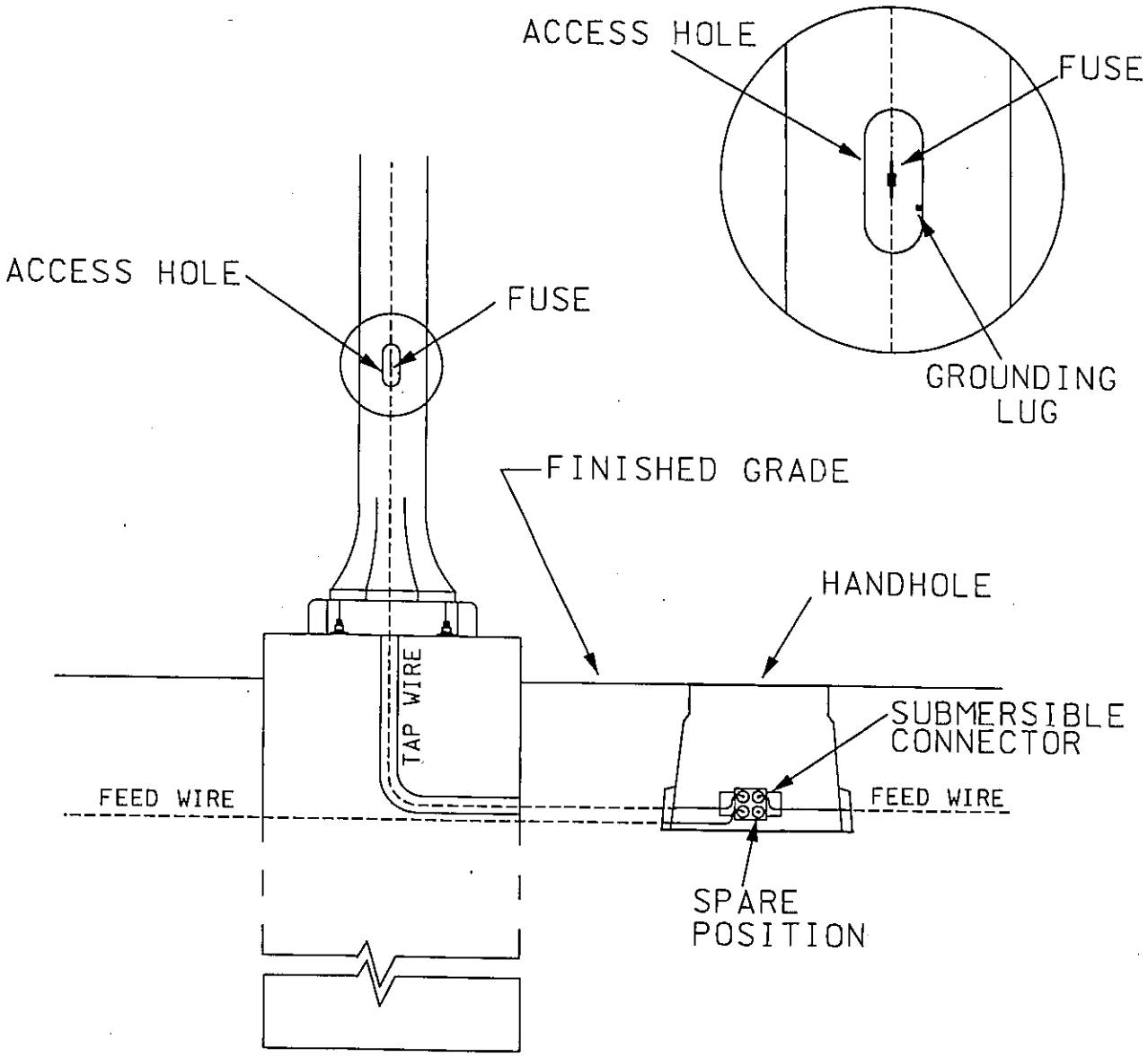
MACRO	DESCRIPTION UNDERGROUND FEED LAYOUT	PAGE 395-3



NOTE: A SUBMERSIBLE CONNECTOR IS REQUIRED FOR EACH HOT LEG, NEUTRAL AND GROUND. THE GROUND WIRE SHALL BE BONDED TO THE GROUNDING LUG ON THE POST.

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DISTRIBUTION CONSTRUCTION STANDARDS

Fuse and fuse holders: Each fuse shall require a fuseholder. The fuse holder will be determined by the conductor metal used, as described below. Fuse holders are approved for both solid and stranded conductor.

Fuses:

MATERIAL ID* 6000600106 COMPATIBLE UNIT* C6LDF6AMP	KTK-6, 600V, 6AMP FUSE
MATERIAL ID* 6000600120 COMPATIBLE UNIT* C6LDF10AMP	KTK-20, 600V, 20 AMP FUSE
MATERIAL ID* 6000600110 COMPATIBLE UNIT* C6LDF20AMP	KTK-10, 600V, 10 AMP FUSE

Fuse Holders:

		LINE TERMINAL	LOAD TERMINAL
HEB-JJ	MATERIAL ID* 60006001 00 COMPATIBLE UNIT* C6LDFH12/3	Copper Set Screw #12 - #3	Copper Set Screw #12 - #3
HEB-JL	MATERIAL ID* 6000600101 COMPATIBLE UNIT* C6LDFH12/2T012/3	Aluminum Set Screw #12 - #2	Copper Set Screw #12 - #3
HEB-LL	MATERIAL ID* 6000600102 COMPATIBLE UNIT* C6LDFH12/2	Aluminum Set Screw #12 - #2	Aluminum Set Screw #12 - #2

Submersible piercing connector: Material ID# 6000113250
Compatible Unit #C6LDCSUB12T04/0

Handhole: Material ID# 70000350 - Fiberglass box pad with poly concrete cover 12' X 12' X 18' for H-20 loading.
Compatible Unit
C6LDJ12PVT

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DRAWN	REC
DATE	03/15/06

STATE OF MAINE
GARY A. RICCI
No. 4737
LICENSED PROFESSIONAL ENGINEER
3/24/08

MACRO	DESCRIPTION	PAGE
	PLANT IDENTIFICATION LUMINAIRE MARKING	395-5

Ballasted luminaires will be shipped with coded labels to denote lamp type and size. The coding has been implemented in order to provide visual ground level identification of a luminaire's lamp size and type. The coding will consist of a 2' black number printed on a 3'X 3' colored polyester label.
The color of the label will denote the type of lamp and the number on the label will indicate the size of the lamp. The label shall be located on the underside of the luminaire on the pole side of the fixture lens.

Lamp	Label Color	Label Number	MATERIAL ID#
50 W Sodium	Gold	5	6000815488
70 W Sodium	Gold	7	6000815489
100 W Sodium	Gold	10	6000815490
150 W Sodium	Gold	15	6000815491
250 W Sodium	Gold	25	6000815492
400 W Sodium	Gold	40	6000815493
1000 W Sodium	Gold	X1	N/A
70 W Metal Halide	Red	7	N/A
100 W Metal Halide	Red	10	N/A
175 W Metal Halide	Red	17	N/A
250 W Metal Halide	Red	25	N/A
400 W Metal Halide	Red	40	N/A
1000 W Metal Halide	Red	X1	N/A

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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
395-6	MARKING INSTALLATION DATE CODES	

PHOTO ELECTRIC CONTROLS AND HIGH INTENSITY DISCHARGE LAMPS

SCOPE

This standard provides a method for marking the installation date (month and year) of Photo Electric Controls and High Intensity Discharge Lamps (High Pressure Sodium and Metal Halide). To address items covered by manufacturers warranties, actual installation dates must be known.

PHOTO ELECTRIC CONTROL (EYE)

Illustrated is a bottom view of our standard eye. The date of installation should be marked by scratching/marking a line through the month (numbered 1-12) and the year as shown. Example indicates an installation date of May 1997.

HIGH INTENSITY DISCHARGE LAMPS (H.I.D.)

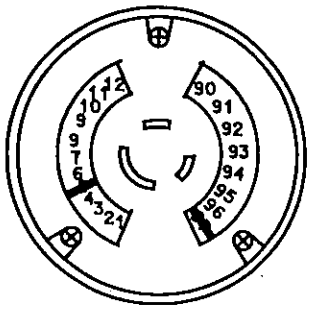
Illustrated is a side view of an H.I.D. lamp. The date of installation should be marked by using a waterproof marking pen (felt-tip) and drawing a line through the month and last digit of the year as shown. Example indicates an installation date of May 1997. (Crossing out the imprinted date with the marker will result in a permanent record of the installation date.)

RELAMPING

At the time of relamping, the fixture reflector and refractor-lens shall be wiped with a dry cloth.

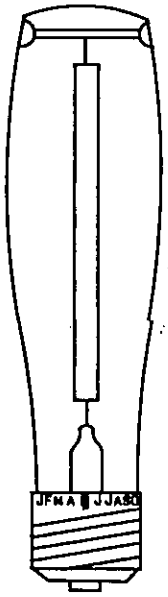
NOTE: USE CAUTION WHEN MARKING INSTALLATION DATE ON H.I.D. LAMPS. IF THE GLASS ENVELOPE IS ACCIDENTALLY SCRATCHED IT MAY RESULT IN PREMATURE LAMP FAILURE.

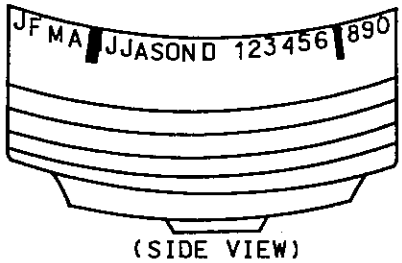
PHOTO ELECTRIC CONTROL



(BOTTOM VIEW)

HIGH INTENSITY DISCHARGE LAMP





(SIDE VIEW)

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DATE	08/11/05

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DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	STREET LIGHT AND AREA LIGHT CONNECTIONS	395-7

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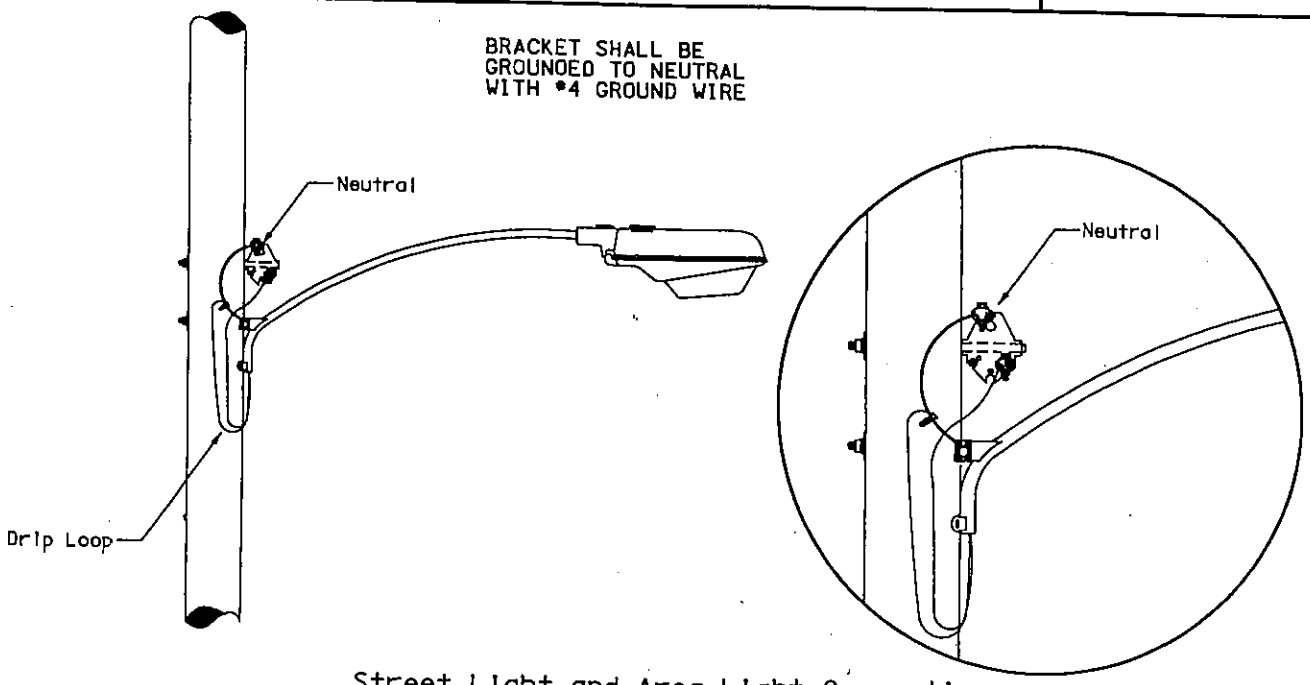
1	Corrected spelling error in note #3	04/10/08	

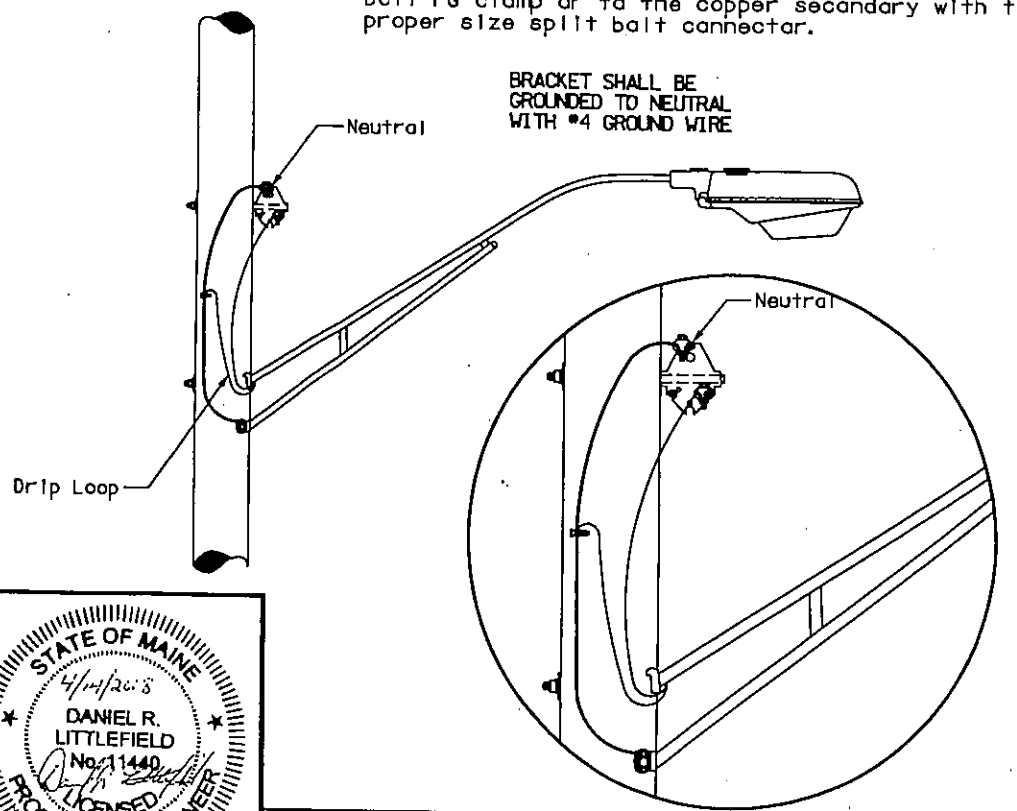


Street Light and Area Light Connections

1.) A piece of #4 stranded copper ground wire shall be connected from the street light bracket to the neutral.

2.) The #12 street light neutral wire (white) shall be connected with a copper split bolt (MID#6000113772) to the piece of #4 stranded copper ground wire. (Installed in step 1)

3.) The #12 street light hot wire (black) shall be connected to the aluminum secondary using a single bolt PG clamp or to the copper secondary with the proper size split bolt connector.



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STATE OF MAINE
4/14/2008
DANIEL R. LITTLEFIELD
No. 11440
LICENSED PROFESSIONAL ENGINEER

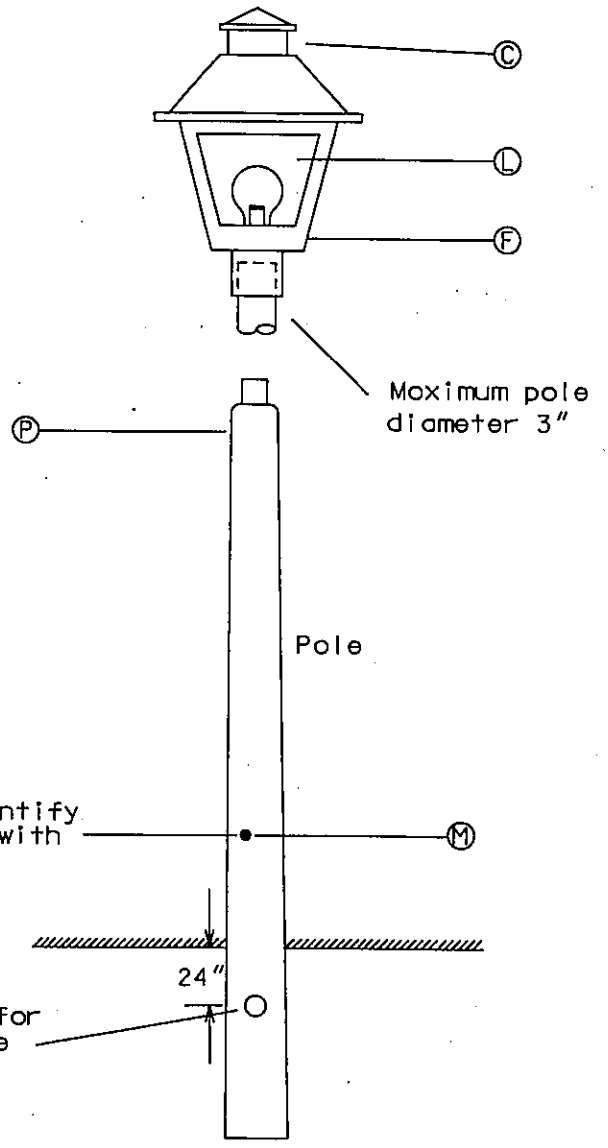
CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
395-8	DIRECT-BURIED POST TOP INSTALLATIONS	

NOTE: Photo control window shall face north.

Colonial



Quantity	Item	MATERIAL ID*	Description
1	F	6000602710	Colonial Post Top fixture 100W Sodium
or 1	F	6000602712	Colonial Post Top fixture 150W Sodium
1	P	6000604110	Wood Laminated Pole, 20'
or 1	P	6000604080	Waad Laminated Pole, 36'
1	L	60006032XX	Lamp Sadium
1	C	6000600090	Photo Control
1	M	6000815551	Pole Date Marker

GARY A. RICCI #4737 STATE OF MAINE REGISTERED PROFESSIONAL ENGINEER

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DATE	02/07/06	

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DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	OPEN SODIUM FIXTURE INSTALLATION	395-9

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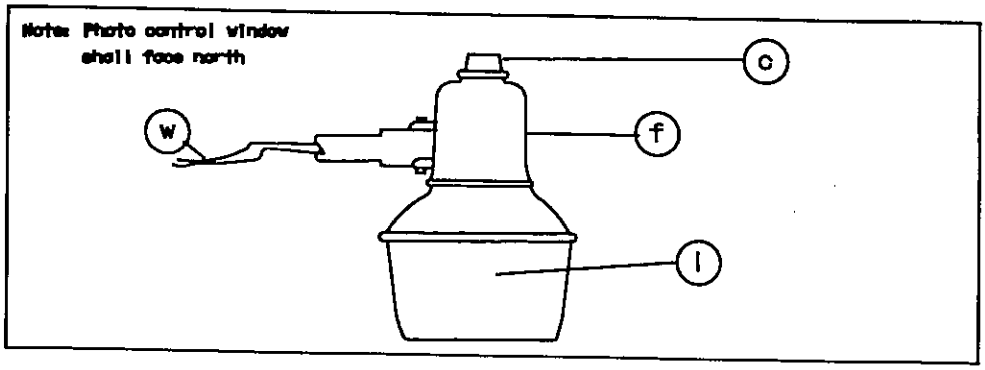
DATE			



70 W	MATERIAL ID*	Item	Description
1	6000602647	f	70 W Sodium Open Fixture
1	6000603210	l	70 W HP Sodium Lamp
1	6000600090	c	Photo Control
10ft.	6000207176	w	RHW 7 Str*12 (black)
10ft.	6000207199	w	RHW 7 STR*12 (white)

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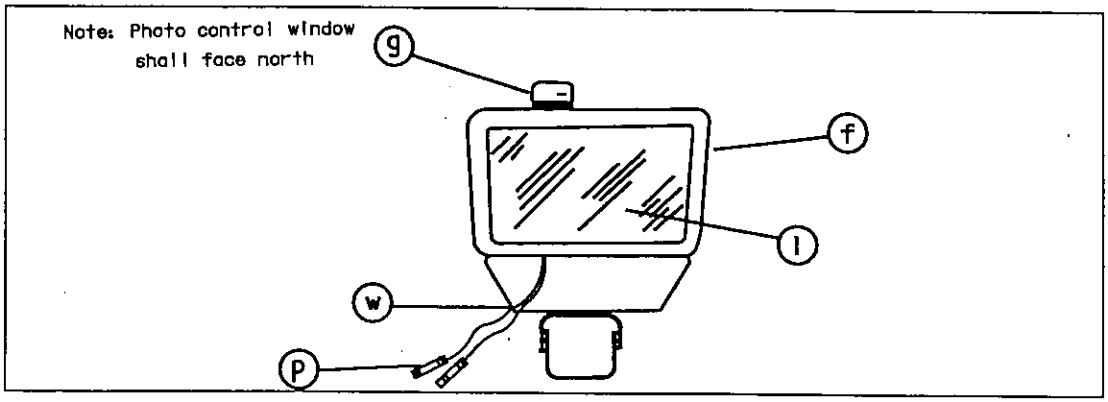
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
395-10	FLOOD LIGHT INSTALLATION	



ITEM	QUANTITY	MATERIAL ID#	DESCRIPTION
f	1	6000602840	150W Fixture, HP Sodium Flood
f	1	6000602830	250W Fixture, HP Sodium Flood
f	1	6000603020	400W Fixture, HP Sodium Flood
f	1	6000602845	1000W Fixture, HP Sodium Flood
l	1	6000603XXX	Lamp, HP Sodium
g	1	6000600090	Photo Control
w	8 ft.	6000207176	RHW 7 Str#12 (black)
w	8 ft.	6000207199	RHW 7 Str#12 (white)
p	2	6000113200	CL PG 1B 6-1/0 Connector

ITEM	QUANTITY	MATERIAL ID#	DESCRIPTION
f	1	6000591130	175W Fixture, Metal Halide Flood
f	1	6000591145	250W Fixture, Metal Halide Flood
f	1	6000591160	400W Fixture, Metal Halide Flood
f	1	6000591170	1000W Fixture, Metal Halide Flood
l	1	60006038XX	Lamp, Metal Halide
g	1	6000600090	Photo Control
w	8 ft.	6000207176	RHW 7Str#12 (black)
w	8 ft.	6000207199	RHW 7 Str#12 (white)
p	2	6000113200	CL PG 1B 6-1/0 Connector

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#4737
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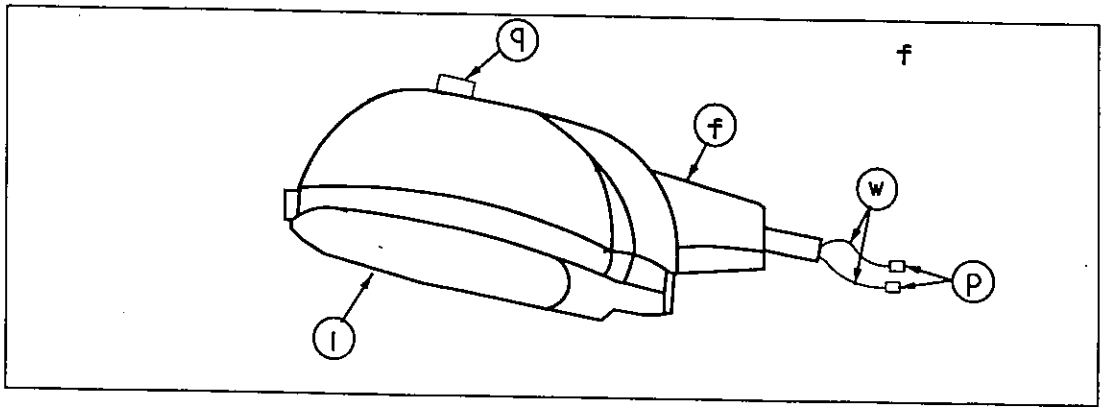
MACRO	DESCRIPTION	PAGE
	MONGOOSE INSTALLATION	395-11



ITEM	QUANTITY	MATERIAL ID#	DESCRIPTION
f	1	6000590980	250W Fixture, HP Sodium Mongoose Close In
f	1	6000590988	250W Fixture, HP Sodium Mongoose Vector
f	1	6000590984	250W Fixture, Metal Halide Mongoose Close In
f	1	6000590992	250 W fixture, Metal Halide Mongoose vECTOR
f	1	6000590982	400 W fixture, HP Sodium Mongoose Close In
f	1	6000590990	400 W fixture, HP Sodium Mongoose Vector
f	1	6000590986	400 W fixture, Metal Halide Mongoose Close In
f	1	6000590994	400 W fixture, Metal Halide Mongoose Vector
l	1	6000603XXX	Lamp, HP Sodium
l	1	60006038XX	Lamp, Metal; Halide
q	1	6000600090	Photo Control
w	8ft	6000207176	RHW 7 Str#12 (black)
w	8ft	60002071 99	RHW 7 Str#12 (white)
P	2	6000113200	CL PG 1B 6-1/0 Connector

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PAGE	DESCRIPTION	MACRO
395-12	MINIMUM BRACKET SIZE FOR GIVEN FIXTURE SIZE AND BRACKET LENGTH	

This chart can be used to determine the size of a bracket when the size of the fixture and bracket length is known. These are the minimum size brackets, which can be used for each fixture.

Fixture Description	Bracket Length 6 Ft.	8 Ft.	10 Ft.	15 Ft.	20 Ft.
HP Sodium Open 70W	1 1/4" Al	1 1/4" Al	2" Al	2" Al	2" Al
HP Sodium Cutoff 50W	1 1/4" Al	2" Al	2" Al	2" Al	2" Al
HP Sodium Cutoff 70W	1 1/4" Al	2" Al	2" Al	2" Al	2" Al
HP Sodium Cutoff 100W	1 1/4" Al	2" Al	2" Al	2" Al	2" Al
HP Sodium Cutoff 150W	1 1/4" Al	2" Al	2" Al	2" Al	2" Al
HP Sodium Cutoff 250W	2" Al	2" Al	2" Al	2" Al	2" Al
HP Sodium Cutoff 400W	2" Al	2" Al	2" Al	2" Al	2" Al
Metal Halide Cutoff 175W	1 1/4" Al	2" Al	2" Al	2" Al	2" Al
Metal Halide Cutoff 250W	2" Al	2" Al	2" Al	2" Al	2" Al
Metal Halide Cutoff 400W	2" Al	2" Al	2" Al	2" Al	2" Al

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	DATE	

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	DRAWN	REC
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STATE OF MAINE PROFESSIONAL ENGINEER GARY A. RICCI #4737 REGISTERED

MACRO	DESCRIPTION	PAGE
	MOUNTING HEIGHT OF FIXTURES	395-13

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DATE			

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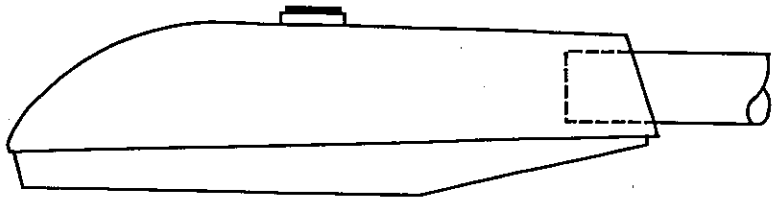


Recommended Height of Fixture from Lighted Surface When Mounted on Standard 6' or 8' Bracket.

HP Sodium	Metal Halide
50W 25ft.	175W 25ft.
70W 25ft.	250W 28ft.
100W 25ft.	400W 30ft.
150W 30ft.	
250W 30ft.	
400W 30ft.	

NOTE: Installed height of fixture will vary depending on bracket being utilized.

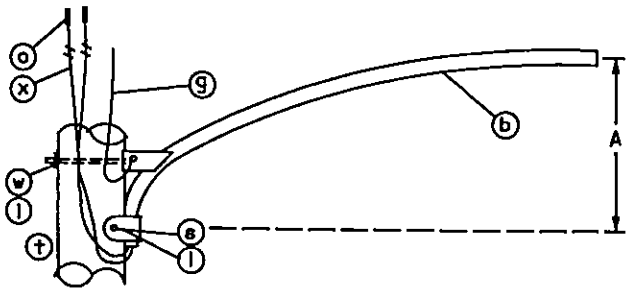
STATE OF MAINE GARY A. RICCI #4737 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

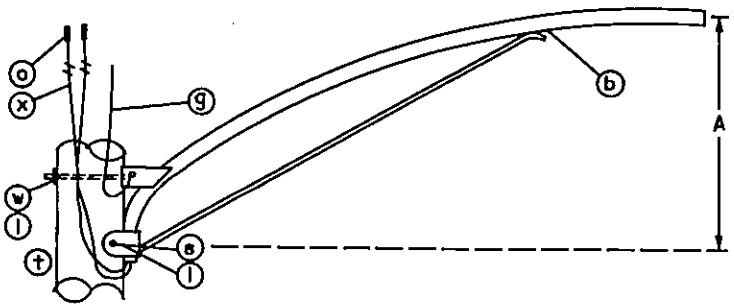
DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
395-14	6, 8, 10, 15, 20 FOOT BRACKETS	

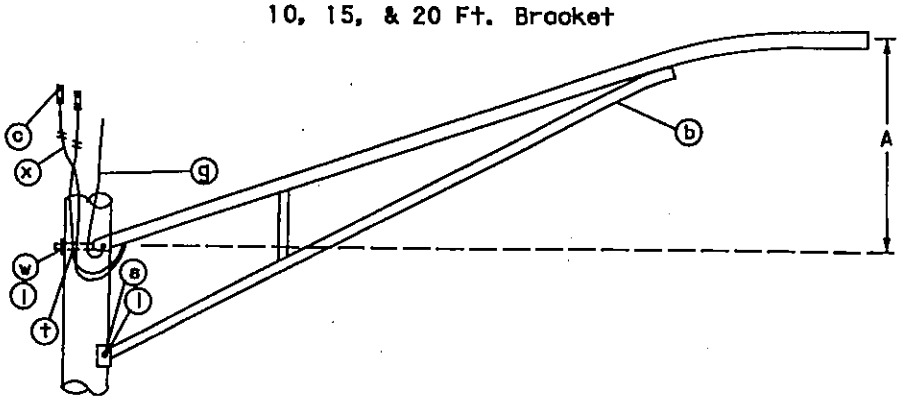
6 Ft. Bracket



6 & 8 Ft. Bracket



10, 15, & 20 Ft. Bracket



6, 8, 10, 15, & 20 Foot. Brackets

ITEM	MATERIAL ID#	DESCRIPTION	A
b	6000600770	6'X2" Alum. Bracket, UP Sweep	28"
b	6000600800	6'X2" Steel Bracket, Cantilever	24"
b	6000600700	6'X1 1/4" Alum. Bracket, Underbraced	28"
b	6000600730	8'X1 1/4" Alum. Bracket, Underbraced	30"
b	6000600920	10'X2" Alum. Bracket	39"
b	6000600980	15'x2" Alum. Bracket	39"
b	6000601010	20'X2" Alum. Bracket	39"
g	6000206302	Wire, 7 Str. #4	
†	600027208X	Thru Bolt	
l	6000274890	Washer, Sq 4"X4"x3/16"	
w	6000274590	Washer, Spring	
s	6000272540	Toe Bolt 1/2"X4"	
x	6000207176	RHW 7 Str #12 (black)	
x	6000207199	RHW 7 Str #12 (white)	
c	6000113200	CL PG 1B 6-1/0 Connector	

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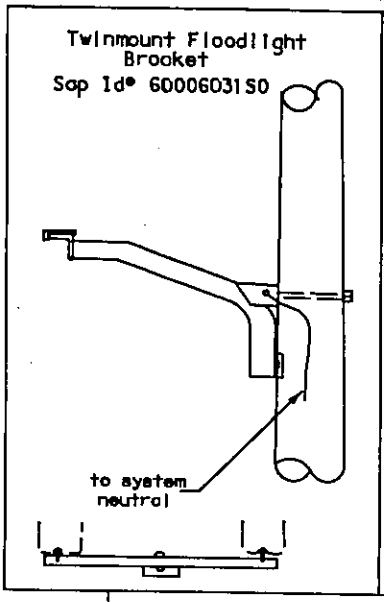
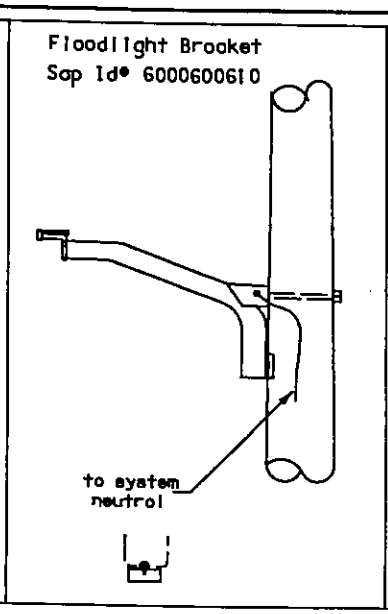
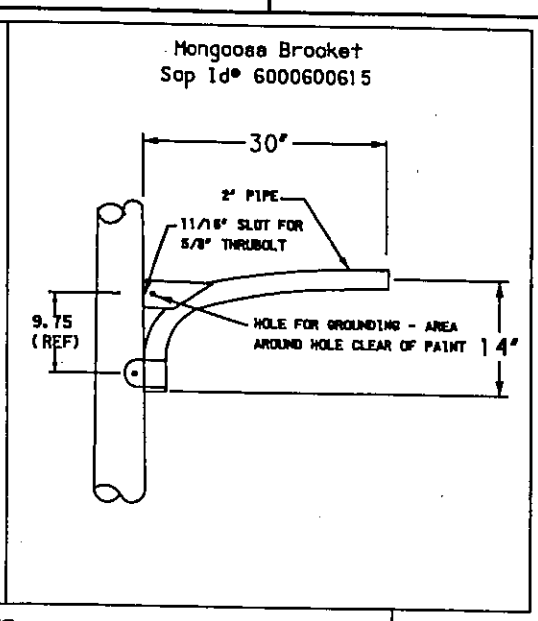
DISTRIBUTION CONSTRUCTION STANDARDS	CENTRAL MAINE POWER CO.

MACRO	DESCRIPTION	PAGE
	FLOODLIGHT BRACKETS	**395-15**







COMPONENTS

Flood Light or Mongoose	Flood Light twin	MATERIAL ID#	Description
Flood Light 1 only	1	6000600610	30" Steel brooket
	1	6000603150	Floodlight Twinmount Arm
Mongoose 1 only		6000600615	30" Mongoose Brooket only
2	2	6000272540	Bolt tos 1/2" x 4"
2	2	6000274590	Washer two turn spring 1/2"
1	1	6000274840	Washer 4" x 4" x 3/16"
1	1	6000272084	Bolt thru 5/8" x 10"
or 1	or 1	6000272086	Bolt thru 5/8" x 12"
or 1	or 1	6000272088	Bolt thru 5/8" x 14"
1	1	6000274600	Washer two turn spring 5/8"
as req'd		6000276302	Wire BC 7 Str #4 12'

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GARY A. RICCI #4737
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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
395-16	H.P. SODIUM AND METAL HALIDE FIXTURE BALLAST DATA	

SODIUM FIXTURES

MATERIAL ID*	Lamp Watts	Ballast Type	Line Amps		Fuse Size
			Start	Operating	
6000602645	50	NPF Reactor	1.5	1.2	6A
6000602655	70	NPF Reactor	2.0	1.6	6A
6000602685	100	NPF Reactor	2.9	2.2	6A
6000602735	150	NPF Reactor	4.5	3.3	10A
6000602745	250	Auto-Regulator	2.6	2.6	6A
6000602775	400	Auto-Regulator	3.0	3.9	10A
6000602845	1000	Auto-Regulator	5.6	9.6	20A

METAL HALIDE FIXTURES

MATERIAL ID*	Lamp Watts	Ballast Type	Line Amps		Fuse Size
			Start	Operating	
6000591120	175	NPF Reactor	1.6	1.8	6A
6000591135	250	NPF Reactor	2.0	2.5	6A
6000591150	400	NPF Reactor	3.5	4.0	10A
6000591170	1000	NPF Reactor	9.0	6.6	20A

NOTE: Fuses shall be sized at 150% of the start or operating amps, whichever is higher. For example, a lighting circuit of three 70 W sodium fixtures shall require a 10 amp fuse at the beginning of the circuit, with each fixture using a 6 A fuse, as shown above.

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GARY A. RICCI #4737

MACRO	DESCRIPTION	PAGE
	LAMP DATA	395-17

INCANDESCENT LAMPS

Watts	MATERIAL ID#	Base Type	Fixture Lumen	Life (Hours)	Volts
58	6000603390	Med	600	3,000	125
105	6000603420	Med	1,000	12,000	125
205	6000603480	Med	2,500	12,000	125

MERCURY LAMPS

Watts	MATERIAL ID#	Life (Hours/Years)
100	6000603839	24,000/4
175	6000603809	24,000/4
250	6000603780	24,000/4
400	6000603750	24,000/4
1000	6000603690	24,000/4

HIGH PRESSURE NON-CYCLING SODIUM

Watts	MATERIAL ID#	Life (Hours/Years)
50	6000603200	30,000/6
70	6000603210	30,000/6
100	6000603240	30,000/6
150	6000603270	30,000/6
250	6000603300	30,000/6
400	6000603330	30,000/6
1000	6000603420	30,000/6

METAL HALIDE LAMPS

Watts	MATERIAL ID#	Life (Hours/Years)
70	6000603850	6,000/1.5
100	6000603855	6,000/1.5
175	6000603860	7,500/1.7
250	6000603865	10,000/2
400	6000603870	20,000/4.5
1000	6000603875	18,000/4

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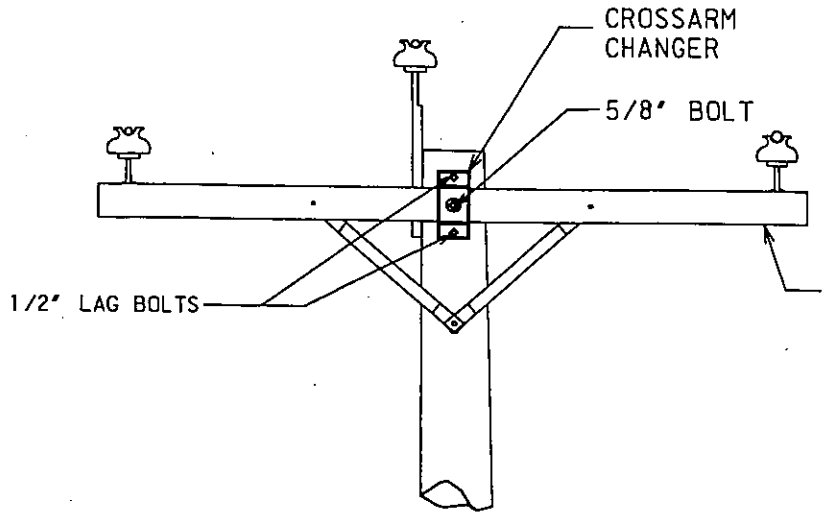
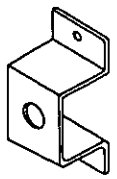
STATE OF MAINE GARY A. RICCI 10787 REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

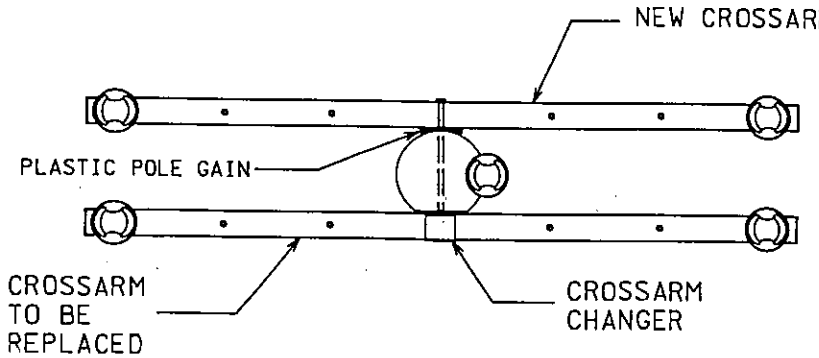
DISTRIBUTION CONSTRUCTION STANDARDS

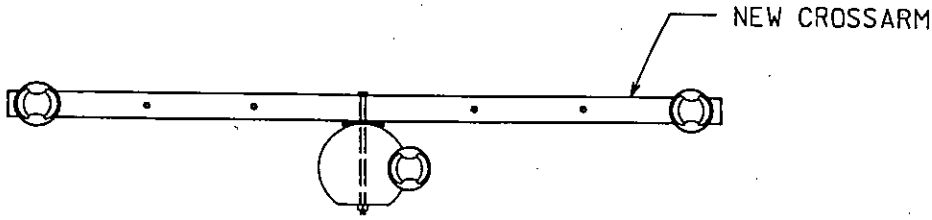
MACRO	DESCRIPTION	PAGE
	CROSSARM CHANGER INSTALLATION INSTRUCTIONS TANGENT STRUCTURES ONLY	397-1





CROSSARM CHANGER





1. Use proper coverup when installing new crossarm.
2. Place crossarm changer around crossarm to be replaced and lag bolt to the pole, align the hole in the crossarm changer with the 5/8" crossarm bolt.
3. Remove the 5/8" bolt that is holding the crossarm to be replaced. The crossarm changing tool will hold the crossarm in place.
4. Place the new crossarm into place on the other side of the pole and insert a 5/8" bolt of required length with a plastic pole gain MID*6000273185 between pole and the crossarm.
5. Remove the crossarm changing tool and the old crossarm.
6. Install 2 1/4" x 2 1/4" washer, 5/8" spring washer, and nut on crossarm bolt.
7. Use only on tangent structures.

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CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

MACRO	DESCRIPTION	PAGE
	CONTRACTOR ITEM CATALOG	399

The Contractar Item Catalag is a listing af acceptable materials sarted by stock cade number.

The drawings in the Standards Baak are supplemented by a material list an the appasite page. This material list has a campatable unit cade which is used by CMP designers ta design a praject utilizing the Wark Management System. This is alsa a crass reference ta the CMP stock cade number.

Ta ensure that contractars knaw what material is required, the Cantractar Item Catalag is the vehicle ta determine what Manufacturer's Catalag number the material carresponds ta. This will eliminate confusian about what material is acceptable and will avaid delays in the customers service being energized.

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STATE OF MAINE
KENT B. POOLE
#7988
REGISTERED PROFESSIONAL ENGINEER

CENTRAL MAINE POWER CO.

DISTRIBUTION CONSTRUCTION STANDARDS

PAGE	DESCRIPTION	MACRO
	ACCEPTABLE ALTERNATIVE POLES	399-1

SOUTHERN YELLOW PINE POLES SUPPLIED BY FOR-TEK MUST MEET CENTRAL MAINE POWER SPECIFICATIONS, BE PENTA TREATED AND DRILLED TO THE ECNE STANDARD. POLE ALSO NEED TO BE BRANDED WITH THE LETTERS SPP (INDICATING SOUTHERN PINE PENTA TREATED)

MANUFACTURER	BURN BRAND
ATLANTIC WOOD INDUSTRIES SAVANAH, GA	
GENERAL WOOD PRESERVERS LELAND/WILMINGTON, NC	GWP
INTERNATIONAL PAPER Co. WIGGINS, MS	
CAROLINA POLE, INC. LELAND/WILMINGTON, NC	CPI
W.C. MEREDITH Co. EAST POINT, GA	
T.R. MILLER MILL Co. BREWTON, ALABAMA	M
WEYERHAEUSER Co. DeQUEEN, ARKANSAS	

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MACRO	DESCRIPTION	PAGE
	ACCEPTABLE ALTERNATIVE POLES	399-2

RED PINE POLES SUPPLIED BY STELLA-JONES MUST MEET CENTRAL MAINE POWER SPECIFICATIONS, BE PENTA TREATED AND DRILLED TO THE ECNE STANDARD. POLE ALSO NEED TO BE BRANDED WITH THE LETTERS RPP (INDICATING RED PINE PENTA TREATED)

MANUFACTURER	BURN BRAND
STELLA-JONES TRURO, NOVA SCOTIA	SJ

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LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 0582	SERVICE GRIP PREFORNED #4 NEUTRAL	NELICAL DULMISON PLP CO	S/G PREF #4 NEUTRAL NSG-514 NELICAL SG 0570 DULMISON SG-4502
11 0588	SERVICE GRIP PREFORMED 1/0 NEUT	DULMISON PLP CO	S/G PREF 1/0 NEUT SG 0915 DULMISON SG-4506
11 0596	SERVICE GRIP PREFORMED 4/0 AAAC NEU	NELICAL DULMISON PLP CO	S/G PREF F/3364-4/0NEUT NSG-528 NELICAL SG 1300 DULMISON SG-4509
11 0719	CLAMP DEAD END AUTO 336400 ALUM DR 18/1 ACSR	BLACKBURN RELIABLE ELEC	CL A/D/E AL 336400 ATD26633628 BLACKBURN 7658-SOS-CNP-
11 0806	DEAD END MESSENGER 052 AWA 7 NO 6 AN	RELIABLE ELEC	D/E MESS .052 7NO 6 AN 5204
11 0814	DEAD END MESSENGER 252 AWA 7NO8AW	RELIABLE ELEC	D/E MESS .252 7NO8 AW 5202
11 0822	CLAMP DEAD END ALUM 6 TO 2/0	RELIABLE ELEC	CL D/E AL BOLTED 6-2/0 ASD-398-1N
11 0830	CLAMP DEAD END ALUM 3/0 TO 336400	RELIABLE ELEC	CL D/E AL BOLTED 366400 ASD-684-1N
11 0835	CLAMP DEAD END ALUMINUN 4/0 TO SS6.5	RELIABLE ELEC	CL D/E AL 4/0-556.5 ASD-858-2
11 0846	CLAMP DEAD END MALLEABLE IRON 4/0 TO 500 MCM CU		CL D/E MALL IRON 500KCM
11 1330	CLAMP MESS INSIDE ANGLE FOR 8A4-15 USED WITH U BOLT S/C 27-2560	HENDRIX	CL MESS I/SD ANG F/8A4 CMA-2
11 1360	CLAMP SEMI STRAIN 1/0 TO 336400AL	HUBBELL	CL S/STRAIN 1/0 - 336AL AAC302
11 1368	CLAMP SEMI STRAIN 6 TO 4/0	CONTINENTAL ELECTRI	CL S/STRAIN 6 TO 4/0CU FAC90-7S
11 1500	CONNECTOR COMPRESSION C TYPE URD CABLE NEUTRAL SPLICE FOR #2 15KV AND 1/0 35KV 3 PHASE CABLES	BURNDY	CONN C TY 2 & 1/0 3PN YC4C8

LINE

ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 1502	CONNECTOR COMPRESSION C TYPE URD CABLE NEUTRAL SPLICE FOR #2 15KV SINGLE PHASE CABLE	BURNDY	CONN COMP C TYPE 2 1PH YC4C4
11 1504	CONNECTOR COMPRESSION C TYPE URD CABLE NEUTRAL SPLICE FOR 4/0 15KV, 4/0 35KV 3 PHASE AND 1/0 35KV, #2CU 15KV SUBMARINE SINGLE PHASE CABLES	BURNDY	CONN C TY 4/0 3P 1/0 1P YC2C2
11 1506	CONNECTOR COMPRESSION C TYPE URD CABLE NEUTRAL SPLICE FOR 4/0 15KV SINGLE PHASE CABLE	BURNDY	CONN COMP C TY 4/0 1PH YC2BC28
11 1510	CONNECTOR ARRESTER BRONZE WITH JAM NUT AND LOCK WASHER 8 - 2/0	ANDERSON	CONNECTOR ARREST BRONZE LAT-2/0
11 2646	CONNECTOR GROUND ROD 5/8 IN BRONZE	BURNDY GREAVES GALVAN	CONN GRD ROD 5/8 IN GRC5B G5B0 JA85B
11 2662	CONNECTOR GROUND ROD 3/4 IN BRONZE	BURNDY GREAVES GALVAN	CONN GRD ROD 3/4 IN GRC34 G0340 JAB34
11 2678	CONNECTOR ROD BOND GUY STRAND TO ROD	CONTINENTAL ELECTRI A B CHANCE	CONN ROD BOND 1 IN BC-105 CB-10
11 2822	CONNECTOR HOTLINE 4STR-2/0STR COPPER TO CURRENT LIMITING FUSE	FARGO	CONN HOTLINE CU CL FUSE GH-201L
11 2865	CONNECTOR HOT LINE COPPER OR ALUMINUM USED FOR 336 WITH INHIBITOR CONDUCTOR RANGE FOR MAIN 6SOL-400 CONDUCTOR RANGE FOR TAP 6-3/0	BLACKBURN	CONN HOT LINE CU AL 336 HLC3974AP9-1
11 2876	CONNECTOR HOT LINE ALUM 3/0 TO 350KCM HEAVY DUTY	FARGO	CONN HOT LINE AL HD 350 GA-105L
11 2880	AMPACT TAP CONNECTOR FOR CONNECTING 336 AL TO 336 AL. LARGE GROOVE ACCEPTS WIRE DIA .684" TO .600" AND SMALL GROOVE ACCEPTS WIRE WITH DIA .684" TO.600".INSTALL WITH BLUE CARTRIDGE S/C# 11-2901. REMOVE WITH RED CARTRIDGE S/C# 11-2902	AMPACT	AMP TAP CONN 336 TO 336 602380-7

LINE

ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 2881	AMPACT TAP CONNECTOR FOR CONNECTING 336 AL TO 4/0 CU. LARGE GROOVE ACCEPTS WIRE DIA .684" TO .600". SMALL GROOVE ACCEPTS WIRE DIA .600" TO .460". INSTALL WITH BLUE CARTRIDGE S/C# 11-2901. REMOVE WITH RED CARTRIDGE S/C# 11-2902	AMPACT	AMP TAP CONN 336 TO 4/0 602380-6
11 2890	AMPACT STIRRUP CONNECTOR FOR 336 PRIMARY WITH 1/0 BAIL. INSTALL WITH BLUE CARTRIDGE S/C# 11-2901. REMOVE WITH RED CARTRIDGE S/C# 11-2902	AMPACT	AMP STIRRUP FOR 336PRIM 602502
11 2895	AMP STIRRUP FOR 1/0 PRIMARY WITH 1/0 BAIL. INSTALL WITH BLUE CARTRIDGE S/C#11-1901 AND REMOVE WITH RED S/C#11-2902	AMP	AMP STIRRUP FOR 1/0 PRI 275436-1
11 2900	AMPACT YELLOW PROPELLANT CARTRIDGE	AMPACT	AMP YELLOW CARTRIDGE 69338-4
11 2901	AMPACT BLUE PROPELLANT CARTRIDGE	AMPACT	AMP BLUE CARTRIDGE 69338-1
11 2902	AMPACT RED PROPELLANT CARTRIDGE	AMPACT	AMP RED CARTRIDGE 69338-2
11 3041	CONNECTOR PARALLEL ALUMINUM 2 U BOLT 400-800 MCM AAC OR 397.5-715.5 ACSR	ANDERSON	CONN PAR 300AL/W 795 AL LCU-16-GP
11 3216	CONNECTOR PARALLEL GROVE ALUM 1 BOLT 1/0 TO 336400 ALUM-6 TO 2/0 ALUM OR COPPER	ANDERSON ANDERSON BURNDY	CONN PG 1B 1/0-336 LC52C-XB PG-52C-XB UCG32RS BURNDY
11 3240	CONNECTOR PARALLEL GROOVE 1 BOLT ALUM 8-1/0 AL TO 8-1/0 AL OR COPPER	ANDERSON BURNDY	CONN PG 1B 8-1/0 8-1/0 LC-51C-XB UCG25RS
11 3245	COVER PLASTIC INSULATING TO FIT OVER S/C 11-3240 SINGLE BOLT PARALLEL GROOVE CONNECTOR	CONNECTOR MANUFACT	COVER INSUL FOR PGCLAMP OU-1025
11 3344	CONNECTOR PARALLEL GROOVE ALUM 3 BOLT 1/0-250MCM CU TO 1/0-336400 ALUM	ANDERSON	CONN PG 3B 1/0-336 LC-677XB
11 3368	CONNECTOR PARALLEL GROOVE ALUMINUM 2BOLT 1/0 - 336.4 ALUM TO 1/0 - 336.4 ALUM OR COPPER	ANDERSON BLACKBURN	CONN PG 1/0 AL 336.4 AL LC-66A-XB PAA40095

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 3608	CONNECTOR, PARALLEL, GROOVE, 2 BOLT, 4 SOLID COPPER TO 4/0 STRANDED COPPER BOTH SIDES	ANDERSON BURNDY	CONN UNIV 2B 4-4/0 LC-402 UC4W2B
11 3692	CONNECTOR UNIVERSAL RANGE 4/0 TO 500 MCM 3 BOLT COPPER	ANDERSON BURNDY	CONN UNIV PG 3B 4/0-500 LC-404 UC2B34
11 3700	CONNECTOR UNIVERSAL RANGE 500 MCM TO 1000 MCM 3 BOLT COPPER	ANDERSON BURNDY	CONN UNIV PG 3B 1000M LC-406 UC3444
11 3702	CONNECTOR VISE TYPE ONE BOLT 4/0 - 397500 AL/CU TO 4/0 - 397500 AL/CU	FARGO	CONN VISE 4/0-397 BOTH GA-9400GL
11 3703	CONNECTOR VISE TYPE ONE BOLT 4/0 - 397500 AL/CU TO 6 - 266800 AL/CU	FARGO	CN V 4/0-397 TO 6-266 GA-9401GL
11 3706	CONNECTOR COVER VISE TYPE ONE BOLT FOR USE WITH 11-3702 & 11-3703	FARGO	CONN COVER - VISE - ONE GA-9000B3
11 3707	CONNECTOR COVER VISE TYPE TWO BOLT FOR USE WITH 11-3710	FARGO	CONN COVER - VISE - TWO GA-9000B4
11 3710	CONNECTOR VISE TYPE TWO BOLT 250000 - 600000 AL/CU TO 250000 - 600000 AL/CU	FARGO	CONN VISE 250-600 BOTH GA-9520GL
11 3716	CONNECTOR COPPER SPLIT BOLT NO 10 STRAND	ANDERSON RELIABLE ELEC	CONN CU STR NO 10 C 10 10F
11 3732	CONNECTOR COPPER SPLIT BOLT NO 8 SOL&STR	ANDERSON PENN UNION RELIABLE ELEC BLACKBURN	CONN CU SOLID NO 8 CB S-8 8F 8N BLACKBURN
11 3748	CONNECTOR COPPER SPLIT BOLT NO 6 SOLID	BURNDY PENN UNION RELIABLE ELEC	CONN CU SOLID NO 6 KS17 S-6 6F
11 3756	CONNECTOR COPPER SPLIT BOLT NO 4 SOLID	BURNDY PENN UNION RELIABLE ELEC	CONN CU SOLID NO 4 KS20 BURNDY S-4 4F

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 3764	CONNECTOR COPPER SPLIT BOLT 4 STRANDED 2 SOLID	BURNDY PENN UNION RELIABLE ELEC	CONN CU SOLID NO 2 KS22 BURNDY S-3 2F
11 3772	CONNECTOR COPPER SPLIT BOLT NO 2 STRAND	ANDERSON BURNDY PENN UNION RELIABLE ELEC BLACKBURN	CONN CU STR NO 2 C1 KS23 S-2 1F 1H
11 3856	TAP COMPRESSION H TYPE 2 AL, 4 ACSR & AAAC TO 2-6 AL OR CU (WITH RIBS OR GROOVES)	BLACKBURN BURNDY	TAP COMP H TY 2&4 TO2-6 WR159 YHO-1-ONE
11 3858	TAP COMPRESSION H TYPE 2AL,4ACSR& AAAC TO 2/0 & 3/0 STRANDED (WITH RIBS OR GROOVES)	BLACKBURN BURNDY BURNDY	TAP COMP H TY 2&4-2/0 WR2B9 YHD-3 YHD-3-ONE
11 3859	TAP COMPRESSION H TYPE 2AL,4ACSR & AAAC TO 4/0 STRANDED (WITH RIBS OR GROOVES)	BLACKBURN BURNDY	TAP COMP H TY 2&4-4/0 WR379 YHO-5-ONE
11 3860	TAP COMPRESSION H TYPE 2 AL, 4 ACSR & AAAC TO 1/0 AL OR CU (WITH RIBS OR GROOVES)	BLACKBURN BURNDY BURNDY	TAP COMP H TY 2 - 1/0 WR1B9 YHO-2 YHO-2-ONE
11 3868	TAP COMPRESSION H TYPE 1/0 AAAC & AL TO 1/0-1 AL OR COPPER (WITH RIBS OR GROOVES)	BLACKBURN BURNDY	TAP COMP H TY 1/0-1/0 WR1010 YHO-10-ONE
11 3876	TAP COMPRESSION H TYPE 1/0 AAAC & AL TO 2/0-1/0 AL OR CU 7&8 ALUMOWELD TO 20N ALUMOWELD (WITH RIBS OR GROOVES)	ANDERSON BLACKBURN BURNDY BURNDY	TAP COMP H TY 1/0 - 2/0 S-4 WR279 YHO-4-ONE YHD4
11 3884	TAP COMPRESSION H TYPE 1/0 AAAC & AL TO 4/0-3/0 AL OR CU 2/0 CU TO 4/0 AL (WITH RIBS OR GROOVES)	BLACKBURN BADGER NTR	TAP COMP H TY1/0 - 4/0 WR399 YHO-6-ONE
11 3885	TAP COMPRESSION H TYPE 4/0-3/0 AL OR CU TO 4/0-3/0 AL OR CU (WITH RIPS OR GROOVES)	BLACKBURN BURNDY	TAP COMP H TY 4/0-4/0 WR 419 YHD-7

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 3887	TAP COMPRESSION H TYPE I/O AAAC & AL TO 500-250KCM AL/CU (WITH RIBS OR GROOVES)	BLACKBURN	TAP COMP H TY I/OAL-500 WRBI5
11 3892	TAP COMPRESSION H TYPE 336 & 500 AL TO 500-397KCM AL OR CU (WITH RIBS OR GROOVES)	BLACKBURN	TAP COMP H TY 500 - 250 WRBB9
11 3916	TAP COMPRESSION H TYPE 4/0 AAAC TO 500-250KCM AL OR COPPER (WITH RIBS OR GROOVES)	BLACKBURN	TAP COMP H TY 4/0TO500 WR835
11 3932	TAP COVER-F/H TYPE CONNECTOR SIZE D DIE	BURNDY	TAP COVER F/H TY D DIE CCD
		HOMAC	CD-20
		BLACKBURN	CS
11 3940	TAP COVER-F/H TYPE CONNECTOR SIZE D DIE	BURNDY	TAP COVER F/H TY D DIE CCD
		HOMAC	CD-40
		BLACKBURN	C7
II 3948	TAP COVER-F/H TYPE CONNECTOR SIZE H DIE	BURNDY	TAP COVER F/H TY H DIE CCNL
		HOMAC	CH-600
		BLACKBURN	C9L
11 4347	CONNECTOR TINNED ALUMINUM 3/4-16 STUD TO #6-500KCM ALUMINUM	ELASTIMOLD	CONN AL3/4-16STUD-6-500
		JOSLYN	35AL-11
			B0-160P
11 4349	LUG AERIAL FOR 3/4 - 16 STUD TERMINAL TO #6 - 500KCM WIRE BARE BRONZE STRAIGHT OR RIGHT ANGLE	PENN UNION	LUG AR 3/4-16 TO #6-500 CSR-0716-050
		ANDERSON	0S-060S0-16
		SO STATES	SAX-8256
		OOSSERT	SCX 7S-S0-T16
		BLACKBURN	SC34U
		JOSLYN	B0-108
11 5476	CONNECTOR, TEE, ALUMINUM, BOLT - RUN & TAP, 715-1033 MCM AAC OR 636-954 MCM ACSR RUN AND TAP	ROYAL	CONN T 795 - 795 CMCR-1315
II 7170	CONNECTOR, TERMINAL, ALUMINUM, BOLT, SIDE FORMED, 350 - 600 MCM AAC OR 336 - 477 MCM ACSR TO 3 X 5-1/4 4 HOLE NEMA TANG	ROYAL	CONN TERM 477ACSR 4H CFR-09-3H

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 7401	TERMINAL, COMPRESSION JUMPER, 15 DEGREE FOUR HOLE PAD FOR 795 26/7 AND 850.8 ACSR, TUBE CODE 12	FARGO	TERMINAL COMP 795-850.8
		ALCOA	A12I2
			TFI2
11 7402	TERMINAL, COMPRESSION JUMPER, 15 DEGREE FOUR HOLE PAD FOR 1113 45/7, TUBE CODE 14	FARGO	TERMINAL COMP 1113
		ALCOA	A1214
			TF14
11 7973	CONNECTOR, TERMINAL, BRONZE (TINNED) DIRECT MOUNT TO BAR, 2 EYEBOLTS, #6 SOL - 350 MCM COPPER, 2 BOLT (NEMA) SPACING	ANDERSON	CONN TERM 350CU-BAR TIN TLD-S2-TP
11 7976	CONNECTOR, TERMINAL, BRONZE, DIRECT MOUNT TO BAR, 2 EYEBOLT, #6 SOL-350 MCM COPPER, 2 BOLT (NEMA) SPACING	ANDERSON	CONN TERM 350CU-BAR TLD-S2
11 8124	CONNECTOR TERMINAL BRONZE DIRECT MOUNT TO BAR, 2 EYEBOLT I/O SOL-500 MCM CU, 2 BOLT NEMA SPACING WITH SHORT LUGS FOR 1/4 IN THICK MOUNTING SURFACES	ANDERSON	CONN TERM BR 500 MCM CU TLD 62
11 8382	CONNECTOR, TERMINAL, BRONZE, DIRECT MOUNT TO BAR, 2 EYEBOLT, 750 MCM-1000 MCM COPPER, 2 BOLT (NEMA) SPACING	ANDERSON	CONN TERM 1000CU-BAR TLD-89
11 8865	LUG FLAG TYPE F/TRANSFORMER 4 HOLE PAD PIN 2 1/4 INCH BY 1/2 INCH	BURNDY	LUG FLAG TRM 4 H 2" PIN FCB63-4H
11 8866	LUG FLAG F/TRANSFORMER 4 HOLE PAD PIN 4 INCH BY 1 INCH	BURNDY	LUG FLAG TRM 4 H 4" PIN FCB65-4H
11 8867	LUG FLAG TYPE F/TRANSFORMER 4 HOLE PAD PIN 2 3/4 INCH BY 3/4 INCH	BURNDY	LUG FLAG TRM 4H 3/4 PIN FCB64-4H
II 9045	TERMINAL PIN #2 AL & CU	BLACKBURN	TERMINAL PIN #2 AL & CU PCS71
		ANDERSON	PTH-22-6
		HOMAC	QSU2
		3M	SC0001
		BURNDY	YE2RG6
11 9048	TERMINAL PIN I/O AL	HOMAC	TERMINAL PIN 1/0 AL XSUI0
11 9056	TERMINAL PIN 2/0 AL	HOMAC	TERMINAL PIN 2/0 AL XSU20

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
11 9064	TERMINAL PIN 3/0 AL	MONAC	TERMINAL PIN 3/0 AL XSU30
11 9072	TERMINAL PIN 4/0 AL	MONAC	TERMINAL PIN 4/0 AL XSU40
11 90B0	TERMINAL PIN 336400 AL	MONAC	TERMINAL PIN 336400 AL XSU336
11 9096	TERMINAL PIN 500 MCM AL	BLACKBURN	TERMINAL PIN 500 MCM AL PRS40N
11 91B9	TERMINAL TAP TRANSFORMER EYEBOLT TO 4 1/0-500 COPPER CONDUCTORS FITS 75KVA 1PHASE AND 225KVA 3PHASE SECONDARY LUGS	ANDERSON	TERM TAP TRN 4WAY 500CU V4-63
11 9192	TERMINAL TAP TRN GROUND CLAMP WITH SPLIT LOCKWASHER ON TAP BOLT	GREAVES ANDERSON	TERM TAP TRN GR GLT-1 GTCL23A
20 0300	CABLE 600 VOLT AERIAL 3 CONDUCTOR #2 ALUMINUM TRIPLEX CONSISTING OF TWO #2-7 STRAND PHASE CONDUCTORS WITH 45 MIL INSULATION AND ONE #4 BARE NEUTRAL	KAISER	CBLAER#2ALTRIP600V3COND SOLASTER-XLP
20 0320	CABLE 600 VOLT AERIAL 3 CONDUCTOR 1/0 ALUMINUM TRIPLEX CONSISTING OF TWO 1/0 -7 STRAND PHASE CONDUCTORS WITH 60 MIL INSULATION AND ONE 1/0-7 STRAND 6201 ALLOY NEUTRAL WITH 38 TO 40 INCH LAY GAMMARUS (MODIFIED)	KAISER	CBLAER1/0ALTRIP600V3C (GAMMARUS) 215
20 0330	CABLE 600 VOLT AERIAL 4 CONDUCTOR 1/0 ALUMINUM QUADRAPLEX CONSISTING OF THREE 1/0-19 STRAND PHASE CONDUCTOR WITH 60 MIL INSULATION AND ONE 1/0-7 STRAND 6201 ALLOY BARE NEUTRAL WITH 38 TO 40 INCH LAY	ALL MAKES KAISER	CBLAER1/0ALQUAD600V4C SHETLAND 1563
20 0340	CABLE 600 VOLT AERIAL 3 CONDUCTOR 336400 ALUMINUM TRIPLEX CONSISTING OF TWO 336400-19 STRAND PHASE CONDUCTORS WITH 78 MIL INSULATION AND ONE 4/0 7 STRAND 6201 ALLOY NEUTRAL	KAISER	CBLAER336ALTRIP600V3C 296B

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
20 0350	CABLE 600 VOLT AERIAL 4 CONDUCTOR 336400 ALUMINUM QUADRAPLEX CONSISTING OF THREE 336400 19 STRAND PHASE CONDUCTORS WITH 78 MIL INSULATION AND ONE 4/0-7 STRAND 6201 ALLOY BARE NEUTRAL	ALCOA	CBLAER336ALQUAD600V4C
20 036B	CABLE 600 VOLT UNDERGROUND 3 CONDUCTOR 2 #2 AND 1 #4 ALUMINUM TRIPLEXED PER CMP SPEC OF 12/29/98	ALL MAKES	CBLURO#2ALTRIP600V3COND YELLOW STRIP NEUT
20 0420	CABLE 600 VOLT UNDERGROUND 3 CONDUCTOR 2 4/0 AND 1 2/0 ALUMINUM TRIPLEXED PER CMP SPEC OF 12/29/98		CBLURO4/0ALTRIP600V3C
20 0440	CABLE 600V UNDERGROUND DIRECT BURIAL 1 500KCM ALUMINUM POLYETHYLENE INSULATED PER CMP SPEC 20-440,DATED 12/29/98		CBLURD500AL600VICOND
20 0450	CABLE 600 VOLT UNDERGROUND DIRECT BURIAL 3 CONDUCTOR 500 KCM ALUMINUM 95 MIL XLP INSULATION PARALLED PER CMP SPEC 20-450, DATED 12/29/98		CBLURO500AL600V3CONOPAR
20 0501	CABLE 600V UNDERGROUND FEEDER 12/2 UF WITH GROUND COPPER CONDUCTORS (250 FEET PER BOXED COIL)		CBL600V UF12/2N GRDSTLT
20 0620	CABLE 600V RUBBER RUBBER 3 4/0 COPPER CONDUCTORS PARALLELED PER CMP SPEC OF 12/29/98		CBL600VR/R3C4/0CUPARALL
20 0640	CABLE 600V RUBBER RUBBER 1 500 COPPER CONDUCTOR PER CMP SPEC OF 12/29/98		CBL600VR/R1C500CU
20 0650	CABLE 600V RUBBER RUBBER 3 500 COPPER CONDUCTORS PARALLELED PER CMP SPEC OF 12/29/98		CBL600VR/R3C500CUPARALL
20 1433	CABLE 15KV UNDERGROUND DIRECT BURIAL COND 1-#2 -7 STRAND AL NEUTRAL 10 - #14 CU COND SHIELD - 15 MILS MIN AVG INSULATION - 220 MILS MIN AVG JACKET - 50 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBL15KVUROIC#2AL INSJAC

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
20 1493	CABLE 15KV - UNDERGROUND DIRECT BURIAL COND 3 - #2 - 7 STRAND AL NEUTRAL 6 - #14 CU COND SHIELD - 15 MILS MIN AVG INSULATION - 220 MILS MIN AVG JACKET - 50 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBLURD15KV3C#2ALJACK
20 1463	CABLE 15KV UNDERGROUND DIRECT BURIAL COND 1 - 4/0 - 19 STRAND AL NEUTRAL 13 - #10 CU COND SHIELD - 15 MILS MIN AVG INSULATION - 175 MILS MIN AVG JACKET - 50 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBLURD15KV1C4/0ALJACKET
20 1472	CABLE 15KV UNDERGROUND DIRECT BURIAL COND3 - 4/0 - 19STRAND AL NEUTRAL 11 - # 14 CU COND SHIELD - 15 MILS MIN AVG INSULATION - 175 MILS MIN AVG JACKET - 50 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBLURD15KV3C4/0ALJAC
20 1491	CABLE 15KV - DUCT - ALUMINUM- COMPRESSED COND 3 -350KCM -37STRAND TRIPLEXED COPPER SHIELD WIRES COND SHIELD - 16 MILS MIN PT INSULATION - 175 MILS MIN AVG JACKET - 80 MILS MIN AVG PER CMP SPEC 20-1490 DATED 12/29/98		CBL15KVDUC3C 350AL TRIP
20 1516	CABLE 15KV - DUCT - COPPER - COMPRESSED COND 1 -500KCM -37STRAND COPPER SHIELD WIRES COND SHIELD - 16 MILS MIN PT INSULATION - 175 MILS MIN AVG JACKET - 80 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CABLE15KVDUCT1COND500CU
20 1520	CABLE 15KV - DUCT - COPPER - COMPRESSED COND 3 -500KCM -37STRAND TRIPLEXED COPPER SHIELD WIRES COND SHIELD - 16 MILS MIN PT INSULATION - 175 MILS MIN AVG JACKET - 80 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBL15KVDUC3C 500CU TRIP

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
20 1614	CABLE 15KV SUBMARINE 1#2 COPPER PHASE CONDUCTOR RUBBER INSULATION 10 #14 COPPER NEUTRAL AND STEEL ARMOR PER CMP SPEC 20-004 OF 12/29/98		CBL15KVSUB1C#2CURUB ARM
20 1616	CABLE 15KV SUBMARINE 1 #2 COPPER PHASE CONDUCTOR 220MIL INSULATION CONCENTRIC COPPER NEUTRAL JACKETED PER CMP SPEC 20-007 DATED 12/29/98		CBL15KVSUB1C#2CUPOLY
20 2713	CABLE 35KV - UNDERGROUND DIRECT BURIAL COND 1 - 1/0 - 19 STRAND AL NEUTRAL 16 - #14 CU COND SHIELD - 15 MILS MIN AVG INSULATION - 345 MILS MIN AVG JACKET - 50 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBLURD35KV1C1/0ALJACKET
20 2753	CABLE 35 KV - UNDERGROUND DIRECT BURIAL COND3 - 1/0 - 19STRAND AL NEUTRAL 6 - #14 CU COND SHIELD - 15 MILS MIN AVG INSULATION - 345 MILS MIN AVG JACKET - 50 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBLURD35KV3C1/0ALJAC
20 2803	CABLE 35 KV - UNDERGROUND DIRECT BURIAL COND3 - 4/0 - 19STRAND AL NEUTRAL 11 - #14 CU COND SHIELD - 15 MILS MIN AVG INSULATION - 345 MILS MIN AVG JACKET - 50 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CBLURD35KV3C4/0ALJAC
20 2858	CABLE 35KV DUCT COPPER COND 3 350KCM 37 STRAND PER CMP SPEC 20-005 DATED 12/29/98		CBL35KVDUC3C350CU TRIP
20 2943	CABLE 35KV - DUCT - COPPER - COMPRESSED COND 1 - 500KCM - 37STRAND COPPER SHIELD WIRES COND SHIELD - 16 MILS MIN AVG INSULATION - 345 MILS MIN AVG JACKET - 110 MILS MIN AVG PER CMP SPEC 20-001 DATED 06/27/00		CABLE35KVDUCT1COND500CU

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
20 2946	CABLE 35KV - DUCT - COPPER - COMPRESSED COND 3 -500KCM -37STRAND TRIPLEXED COPPER SHIELD WIRES COND SHIELD - 16 MILS MIN PT INSULATION - 345 MILS MIM AVG JACKET - 110 MILS MIM AVG PER CMP SPEC 20-003 DATED 06/27/00	OKONITE	CBL35KVDUC3C 500CU TRIP 115-23-3S31
20 4370	CABLE #2 AWG7CU 15KV SPS 133% 220 MIL KERITE EXTRUDED SENICON 16-14 AWG COPPER CONC WIRES AND 50 MIL PE JACKET WITH 3 RED STRIPES BOUND TO A 1/2 IMCN EHS COPPERWELD MESSENGER	KERITE	CBL #2CU AERIAL 1/2MESS 102C15-31290
20 4380	CABLE 3-1/C TWISTED 350KCMIL (37) AL 15KV SPS 100%, 175MILS KERITE, EXTRUDED SEMICON, 6-14AWG CU CONC WIRES 50 MILS PE JACKET BOUND TO A 1/2INCH EHS COPPERWELD MESSENGER	KERITE	CBL15KVAERIAL W/ MESS 335A15-12190
20 4923	WIRE 1/0 AAAC 6201 BARE	KAISER	WIRE 1/0 AAAC A202A
20 4991	WIRE 350KCM EC ALUMINUM BARE STRANDED ANNEALED		WIRE 350ALUM BARE SOFT
20 5060	WIRE 336400 CM ALUMINUM BARE HARD DRAWN PER ANSI C7.21,	ALL MAKES	WIRE 336ALUM BARE HD TULIP
20 5313	WIRE #4 AWG BARE SOLID ANNEALED ALUMINUM TIE	WESCO	WIRE #4AL BARE SOL TIE FT.4 BARE ALUM TIE SD WIRE
20 5358	WIRE TIE #4 SOLID DEAD SOFT ALUMINUM WITH 45 MIL BLACK THERMOPLASTIC RUBBER COVERING	HENDRIX HENDRIX	WIRE TIE #4AL MIL BIPR FT.#4 AL INS TIE 96598
20 5382	WIRE 052 ALUMOWELD MESSENGER 7 STRAND 5 ALUMOWELD PLUS 2 ALUMINUM 0.486IN		WIRE 052AWA MESSENGER
20 5430	WIRE ALUMOWELD AERIAL GRD 7 NO 6		WIRE A/W AR GRD 7 NO 6
20 5911	WIRE 4/0 COPPER SOLID BARE MHO		WIRE CU BR SOL MHO 4/0
20 5930	WIRE #8 COPPER BARE TIE SOFT DRAWN	WESCO	WIRE 8CU SOL SD TIE FT.8 SOL SID CU TIE S WIRE
20 5934	WIRE #6SOLID COPPER SOFT DRAWN UTILITY GRADE DEAD SOFT ANNEALED WITH 40 TO 42% ELONGATION 315LF 25LB SPOOL	NEHRING	WIRE6CU SD OS T/W 315LF 6SOL CU SD DS BC

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
20 5940	WIRE 6 SOLID COPPER SOFT DRAWN UTILITY GRADE DEAD SOFT ANNEALED WITH 40 TO 42% ELONGATION 2500LF REEL	NEHRING	WIRE6CU SD OS TW 2500LF 6SOLCU SD OS BC
20 5957	WIRE #4 COPPER BARE TIE ANNEALED	WESCO	WIRE 4CU SOL SD TIE FT.4 SOL SD CU TIE
20 6003	WIRE 2/0 COPPER BARE SOFT DRAWN 7 STRAND		WIRE 2/0 CU BR 7STR SD
20 6118	WIRE 1/0 BARE 7 STRAND MEDIUM HARD DRAWN COPPER PER ASTM B8-56 AND B258-57		WIRE 1/0CU BARE STR MHO
20 6141	WIRE COPPER BARE STR MHO 2/0 USED		WIRE CU BR STR MHO 2/0
20 6164	WIRE 4/0 COPPER 7 STRAND BARE MEDIUM HARD DRAWN		WIRE CU BR STR MHO 4/0
20 6302	WIRE #4 COPPER 7 STRAMD BARE SOFT DRAWN	ALL MAKES	WIRE 4CU STR SD GRO ALL MAKES
20 6325	WIRE NO.2 COPPER 7 STRAND BARE SOFT DRAWN		WIRE 2 CU 7STR BARE SD
20 6371	WIRE 4/0 COPPER 7 STRAND BARE SOFT DRAWN		WIRE CU BR STR SD 4/0
20 6394	WIRE 4/0 COPPER 19 STRAMD BARE SOFT DRAWN CLASS B (FOR GROUND GRIDS)		WIRE CU 19 STR SD 4/0
20 6417	WIRE COPPER BARE STR SD 350 MCM		WIRE CU BR STR SD 350M
20 6440	WIRE COPPER BARE STR SD 500 MCM		WIRE CU BR STR SD 500M
20 7176	WIRE RHW AND USE 7 STRAND NO 12 COPPER BLACK 600 VOLT	WESCO	WIRE RHW USE STR 12 BLK FT 12 BLK RHW/USE
20 7199	WIRE RHW AND USE 7 STRAND NO 12 COPPER WHITE STRIPE OR WHITE PRINTED COLOR CODE 600 VOLT	WESCO	WIRE RHW USE STR 12 WHT FT 12 WHT RHW/USE
20 7222	WIRE XHHW STR NO 10 COPPER (PER CMP SPEC 22-7 DATED 11/13/96)		WIRE XHHW STR NO 10 CU
20 7245	WIRE XHHW STR NO 8 COPPER (PER CMP SPEC 22-7 DATED 09/29/97)		WIRE XHHW STR NO 8 CU
20 7291	WIRE 600 VOLT XHHW 6AWG STRANDED COPPER (PER CMP SPEC 22-7 DATED 11/13/96)		WIRE 600V XHHW 6STR CU
20 7337	WIRE 600 VOLT XHHW 4AWG STRANDED COPPER (PER CMP SPEC 22-7 DATED 11/13/96)		WIRE 600V XHHW 4 STR CU

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
20 7360	WIRE 600 VOLT RHW 2AWG 7 STRAND COPPER	WESCO	WIRE RHW 7 STR NO2 CU FT 2 BLK RHW/USE
20 7406	WIRE 600 V XHHW 2/0AWG STRANDED COPPER (PER CMP SPEC 22-7 DATED 11/13/96)		WIRE 600V XHHW2/0STR CU
20 7429	WIRE 600 V XHHW 4/0AWG STRANDED COPPER (PER CMP SPEC 22-7 DATED 11/13/96)		WIRE 600V XHHW4/0STR CU
20 7958	WIRE 15 KV - COVERED CONDUCTOR COND 1 - 1/0 - 7 STRAND AL PER CMP SPEC 20-002 DATED 12/29/98		WIRE 1/0AAAC 15KVSPACER
20 7981	WIRE 15 KV - COVERED CONDUCTOR COND 1 - 336.4 - 19 STRAND AL PER CMP SPEC 20-002 DATED 12/29/98	HENDRIX	WIRE 336 AL 15KV SPACER HAC15-TPB
20 7990	WIRE 35 KV - COVERED CONDUCTOR COND 1 - 1/0 - 7 STRAND AL PER CMP SPEC 20-002 DATED 12/29/98		WIRE 1/0 AAAC 35KV TREE
20 7995	WIRE 35 KV - COVERED CONDUCTOR COND 1 - 336.4 - 19 STRAND AL PER CMP SPEC 20-002 DATED 12/29/98	HENDRIX	WIRE 336 ALUM 35KV TREE HAC35-I8
20 7996	WIRE 35 KV - COVERED CONDUCTOR COND 1 - 477 - 19 STRAND AL PER CMP SPEC 20-002 DATED 12/29/98		WIRE 477 ALUM 35KV SPACER
21 0030	ADAPTER POLY CABLE TO MOLDED CONNECTOR 500KCM 175-220MIL FITS POLY CABLE WITH PRIMARY INSULATION OD RANGE 1.180 - 1.465	ELASTIMOLD	ADAPTER POLY CBL TO CON ADAPTER POLY CBL TO CON8S1 GSSCA-L
21 0036	ADAPTER POLY CABLE TO MOLDED CONNECTOR 4/0 345MIL FITS POLY CABLE WITH INSULATION OD RANGE 1.180" - 1.465" USE WITH S/C 21-1921	ELASTIMOLD	ADAPTER POLY CBL 8 CON 755CA-L
21 0038	ADAPTER POLY CABLE TO MOLDED CONNECTOR 500KCM 345MIL FITS POLY CABLE WITH INSULATION OD RANGE 1.515" - 1.780" USE WITH S/C 21-1921	ELASTIMOLD	ADAPTER POLY CBL TO CON 755CA-N
21 0040	ADAPTER RETAINING RING FITS 4/0 COND FOR USE WITH 15KV 600AMP WYE SPLICE S/C #21-5040	ELASTIMOLD	ADAPTER RET RING 4/0 GS0ARR-270

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 0042	ADAPTER RETAINING RING FITS 350 KCM COND FOR USE WITH 15 KV 600AMP WYE SPLICE S/C#21-5040	ELASTIMOLD	ADAPTER RET RING 350KCM GS0ARR-300
21 0044	ADAPTER RETAINING RING FITS 500KCM COND FOR USE WITH 15KV 600AMP WYE SPLICE SC#21-5040	ELASTIMOLD	ADAPTER RET RING 500KCM GS0ARR-330
21 0200	CAP CABLE SEALING F/600V #4 URD	HOHAC	CAP CABLE 600V #4 CAP3S
21 0201	CAP CABLE SEALING F/600V #2 URD	HOHAC	CAP CABLE 600V #2 CAP4S
21 0203	CAP CABLE SEALING F/600V #2/0 URD	HOHAC	CAP CABLE 600V #2/0 CAP6S
21 0205	CAP CABLE SEALING F/600V 4/0 URD 15KV #2 URD UNJKT RANGE 0.720-0.973 INCH	HOHAC	CAP CABLE 0.720-0.973IN CAP8S
21 0207	CAP CABLE SEALING F/600V 500KCM URD 15KV #2 URD JKT - 4/0AWG URD UNJKT RANGE 0.970 - 1.185 INCH	HOHAC	CAP CABLE 0.970-1.185IN CAP9S
21 0208	CAP CABLE SEALING F/15KV 4/0 URD JKT - 4/0 DUCT - 350KCM URD UNJKT 35KV 1/0 URD UNJKT RANGE 1.120 - 1.400 INCH	HOHAC	CAP CABLE 1.120-1.400IN CAP10S
21 0209	CAP CABLE SEALING F/15KV 550 KCM DUCT 35KV 4/0 URD UNJKT RANGE 1.200 - 1.475 INCH	HOHAC	CAP CABLE 1.200-1.475IN CAP12S
21 0210	CAP CABLE SEALING F/15KV 350KCM URD JKT- 500KCM DUCT - 500KCM URD JKT 35KV 1/0 URD JKT RANGE 1.390 - 1.650 INCH	HOHAC	CAP CABLE 1.390-1.650IN CAP13S
21 0211	CAP CABLE SEALING F/15KV 750KCM DUCT 35KV 4/0 URD JKT - 500KCM URD UNJKT RANGE 1.465 - 1.750 INCH	HOHAC	CAP CABLE 1.465-1.750IN CAP13S
21 0212	CAP CABLE SEALING F/15KV 750KCM URD JKT RANGE 1.650 - 1.925 INCH	HOHAC	CAP CABLE 1.650-1.925IN CAP14S
21 0213	CAP CABLE SEALING F/35KV 500KCM DUCT 500KCM URD JKT - 750KCM DUCT - 750KCM URD JKT RANGE 1.860 - 2.230 INCH	HOHAC	CAP CABLE 1.860-2.230IN CAP15S

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 0590	COMPOUND POTHEAD	G & W	COMPOUND POTHEAD SPEC #220
21 0480	CONE STRESS RELIEF INDOOR 15KV 500KCM	ELASTIMOLD	CONE STRESS 15KV 500KCM 55-MSC-HB
21 0600	CONE UNDERGROUND COMPRESSION NO 2 STR FITS 21-4B90 SOCKET & NUT ASSEMBLY	BURNDY	CONE UNDER COMP 2 STR Z2C2B
21 0810	CONE UNDERGROUND COMPRESSION NO 4/0 STR FITS 21-4B90 SOCKET & NUT ASSEMBLY	BURNDY	CONE UNDGR COMP 4/0 STR Z2B2B
21 0840	CONE UNDERGROUND COMPRESSION NO 4/0 STR FITS 21-4920 SOCKET & NUT ASSEMBLY	BURNDY	CONE UNDGR COMP 4/0 STR CONE UNDGR COMP 4/0 STRB54 Z2B34
21 1020	CONE UNDERGROUND COMPRESSION 500 MCM STR FITS 21-4920 SOCKET & NUT ASSEMBLY	BURNDY	CONE UNDGR COMP 500 MCM Z3434
21 1085	CONNECTOR, COAKIAL CABLE, TYPE N, FOR USE ON RG-213/U CABLE	AMPHENOL	CONN COAK TYPE N B2-4426-1001
21 1140	CONNECTOR URD SUBMERSIBLE 5 WAY 1 MAK 500KCM AND 4 MAK 4/0	BLACKBURN	CONN URD,SUBMER 5 - 500 UPC51
21 1170	CONNECTOR URD SUBMERSIBLE 3 WAY MAK 4/0	BLACKBURN	CONN URD SUBMER 3 - 4/0 UPC30
21 1230	CONNECTOR URD SUBMERSIBLE 5 WAY MAK 4/0	BLACKBURN	CONN URD SUBMER 5 - 4/0 UPC50
21 1260	CONNECTTOR URD SUBMERSIBLE 6 WAY MAK 4/0 WITH STREET LIGHT TAP	BLACKBURN	CONN URD SUBMER 6WAY&SL UPC60SL
21 1380	CONNECTOR URD ELBOW 15KV 600AMP 500KCM CONSISTING OF 1 650BLR, 1 600BIP, 1 650 CA-HB & 1 650 LRC-500	ELASTIMOLD	CONN URD ELBOW 15KV600A 655LR-K0330
21 1390	CONNECTOR URD ELBOW 35KV 600AMP 1/0AL	COOPER POWER	CONN URD ELBOW 35KV600A RTE-2637462B02M
21 1410	CONTACT URD CABLE NO 2 TO 200 AMPERE ELBOW ALL TYPES	ELASTIMOLD	CONT URD EL CBL CONN #2 0250S220
21 1500	CONTACT URD FOLLOWER PIN FOR ELASTIMOLD 15KV 200AMP LOADBREAK ELBOW	ELASTIMOLD	CONT URD EL LD/BK 15KV 166LRF
21 1740	CONTACT URD ELASTIMOLD 15KV TERMINATOR	ELASTIMOLD	CONT URD F/ELAST TERM 16TCA-0220

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 1741	CONTACT ONLY FOR URD ELASTIMOLD 15KV TERMINATORS	ELASTIMOLD	CONT URD F/ELAST TERM CONT URD F/ELAST TERM BSS 00500220
21 1B50	CONTACT F/URD ELBOW 15KV OR 35KV 600 AMP 500 KCM	ELASTIMOLD	CONT F/URD EL 500KCM 05700350
21 1B60	CONTACT F/URD ELBOW 15KV OR 35KV 600 AMP 350KCM	ELASTIMOLD	CONT F/URD EL 350KCM 05700300
21 1B90	CONTACT F/URD ELBOW 15KV OR 35KV 600AMP 4/0 AL	ELASTIMOLD	CONT F/URD EL 4/0 AWG 05700270
21 1920	ELBOW HOUSING F/15KV 600 AMP	ELASTIMOLD	ELBOW HOUSING F/15KV K655BLR
21 1921	ELBOW HOUSING FOR 35KV 600AMP NON LOAD BREAK ELBOW	ELASTIMOLD	ELBOW HOUSING 35KV 600A 755BLR
21 1923	TAP WELL 15KV REDUCING 600AMP URD ELBOW TO 200AMP BUSHING	ELASTIMOLD	TAP WELL 15KV600X200AMP K650RTW
21 1924	TAP WELL WITH STUD 15KV REDUCING 600 AMP URD ELBOW TO 200 AMP BUSHING	ELASTIMOLD	TAPWELL W/STUD15KV K650RTWS
21 1930	FAULT INDICATOR 200AMP TRIP PUSH BUTTON RESET TO FIT 0.25 TO 1.2 INCH WIRE OR CABLE	COOPER POWER	FAULT IND 200 AMP B157S5BB05M
21 1931	FAULT INDICATOR 200AMP TRIP PUSH BUTTON RESET TO FIT 1.2 TO 2.5 INCH WIRE OR CABLE	COOPER POWER	FAULT IND 200 AMP B157S5BB05MA
21 1932	FAULT INDICATOR 400 AMPERE TRIP PUSH BUTTON RESET TO FIT 1.2" TO 2.5" WIRE OR CABLE PER CMP SPEC 21-001 DATED 05/05/93	COOPER POWER	FAULT IND 400 AMP B157S5BB06MA
21 1934	FAULT INDICATOR 800 AMPERE TRIP PUSH BUTTON RESET TO FIT 1.2 TO 2.5 INCH WIRE OR CABLE PER CMP SPEC 21-001 DATED 05/05/93	COOPER POWER	FAULT IND 800 AMPERE B157S5BB08MA
21 1950	EXT URD BUSHING 15KV 600AMP	ELASTIMOLD	EXT URD BUSHING K655BE
21 2640	GUARD CABLE DUCT MOUTH	VIRGINIA	GUARD CBL DUCT MOUTH LG-345

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 2650	LUG FOR 350 KCMIL COPPER 2 HOLE	BURNDY	LUG 350KCMIL CU 2 HOLE YA31-2N
21 2669	LUG URD PADMOUNT ALUM 500KCM CONC AND COMPRESSED ONE HOLE	BLACKBURN	LUG PAD MT AL 500KCM ALS-23
21 2670	LUG URD PADMOUNT COMPRESSION ALUMINUM 400 KCM COMPACT COND. TWO HOLE. FOR USE ON COMPACT CABLE (S/C 20-1514) ONLY	HOMAC	LUG PAD MT COMP AL 400 SAD400-N
21 2671	LUG URD PADMOUNT COMPRESSION ALUMINUM 500 KCM TWO HOLE	HOMAC	LUG PAD MT COMP AL 500 SAB500-N
21 2672	LUG URD PADMOUNT ALUM NO 4 CONC AND COMPR	ANDERSON BLACKBURN ANDERSON	LUG PAD MT AL 4 AD-4-12 AL5B1 VAULH-4-12
21 2673	LUG URD PADMOUNT ALUM NO 2 CONC AND COMPR	HOMAC	LUG PAD MT AL 2 SA3-4B
21 2674	LUG URD PADMOUNT ALUM NO 2/0 CONC AND COMPR	BLACKBURN	LUG PAD MT AL 2/0 SA445-4B
21 2675	LUG URD PADMOUNT ALUM NO 4/0 CONC AND COMPR	BLACKBURN HOMAC	LUG PAD MT AL 4/0 CAL40 SA550-4B
21 2676	LUG URD SUBMERSIBLE ALUM NO 4	BLACKBURN	LUG URD SUB AL 4 LAC-4
21 2677	LUG URD SUBMERSIBLE ALUM NO 2	BLACKBURN	LUG URD SUB AL 2 LAC-2
21 2678	LUG URD SUBMERSIBLE ALUM NO 2/0	BLACKBURN	LUG URD SUB AL 2/0 LAC-20
21 2679	LUG URD SUBMERSIBLE ALUM NO 4/0	BLACKBURN	LUG URD SUB AL 4/0 LAC-40
21 2680	LUG URD SUBMERSIBLE ALUM 500MCM	BLACKBURN	LUG URD SUB AL 500 LAC-50
21 2681	LUG PADMOUNT FOR NO 12 COPPER	3M	LUG PAD MT NO 12 CU H10-12RK
21 2682	COVER URD 600V F/ URD SUBNER CONN NO4 &NO2 MMW & MDP NO2 &2/0 KLP	ANDERSON	CVRURD600VSUBCON 2/0KLP SB-2

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 2684	COVER URD 600V F/URD SUBNER CONN 2/0 A 4/0 MMN & MDP & 4/0 XLP	ANDERSON	CVRURD600VSUBCON 4/0XLP SB-3
21 2685	COVER URD 600V F/URD SUBNER CONN 500 MCM MMN&MDP ORKLP	ANDERSON	CVR URD 600V 500 MCM LB-B
21 2687	COVER URD 600V F/URD SUBNER CONN NO 4 XLP	ANDERSON	CVR URD 600V NO4 X LP SB-1
21 2689	COVER URD 600V F/URD SUBNER CONN BLANK	BLACKBURN ANDERSON	CVR URD 600V BLANK SO SO-1
21 2700	MOLE STUD 6 OUTLET #6-600KCM 1 1/2 INCH - 12 STUD 2000 AMPERE	BURNDY	MOLE STUD 6 OUT I 1/2IN ZMLDN6-20
21 2710	MOLE STUD 6 OUTLET FOR #6 - 600KCM CABLE DOUBLE RISERS. FITS 1-1/2 INCH - 12 THREADS PER INCH STUD 2000 AMPERES.	BURNDY	MOLE STUD 6DUT 1-1/2 DBL Z2MLDN6-20
21 2730	MOLE STUD 4 OUTLET #6-600KCM 1 1/2 INCH - 12 STUD 2000 AMPERE	BURNDY	MOLE STUD 4 OUT 1 1/2IN ZMLDN4-20
21 2760	MOLE STUD 6 OUTLET #6-600 KCM 3 INCH - 12 STUD 2500 AMPERE	BURNDY	MOLE STUD 6 OUT 3 INCH ZMLDN6-25
21 2784	MOLE STUD CONN 6 POSITIONS FOR NO 6 STR TO 600KCM CABLE DOUBLE RISERS FITS 3 IN K 12 THREADS PER INCH STUD 3 1/4 INCHES LONG 3000 AMPERE	MAC PRODUCTS BURNDY	MOLE STUD 6DUT3IN DBL MEDD 300-6B Z2MLDN 6-30
21 2850	MOLE UNDERGROUND 8 OUTLET TWO WAY #6 STR-600KCM 2500 AMP	BURNDY	MOLE UNGR 8 OUT 600 MCM ZM8-25
21 2880	MOLE UNDERGROUND 12 OUTLET TWO WAY #6 STR-600KCM 2500 AMP	BURNDY	MOLE UNGR 12 OUT 600MCM ZM12-25
21 2940	MOLE UNDERGROUND 16 OUTLET TWO WAY #6 STR-600MCM 2500 AMP	BURNDY	MOLE UNGR 16 OUT 600MCM ZM16-25
21 2970	MOLIMETER UNDERGROUND 4/0 STR.RUBBER INSULATED	BURNDY	MOLIMETER UNGR 4/0 STR YFM2BCR
21 3000	MOLIMETER UNDERGROUND 500MCM	BURNDY BURNDY BURNDY	MOLIMETER UNGR 500 MCM YFM34CR YFM34CR YFM34CR

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 3090	PLUG RUBBER UNDERGROUND NETWORK CONNECTOR FOR A MDLE OUTLET	BURNDY	PLUG RUBBER NETWORK CON 229P
21 3152	PLUG URD LOADBREAK BUSHING 35KV SINGLE PHASE FOR USE WITH S/C21-4112 ELBOW	ELASTIMOLD	PLUG URD L/B BU 35KV 1P 370IA4
21 3200	BUSHING WELL-CLAMP IN 200AMP, 125KV BIL, 15.2KV MAX LINE-GRD TO REPLACE PRIMARY BUSHING ON 7.2 AND 12.47KV PDLE MOUNT TRANSFORMERS. REQUIRES BUSHING INSERT S/C 21-3210 TO ACCEPT 15KV, 200AMP LOAD BREAK ELBOWS. ===== EACH ASSEMBLY WILL INCLUDE: 1 HI-WELL # 70212182	HOWARD INDUST CENTRAL MOLDN	BUSHING WELL CLAMP IN 0060-012048-000 70212196
21 3210	PLUG URD LOAD BREAK BUSHING 15KV	COOPER POWER ELASTIMOLD	PLUG URD L/B BU 15KV LBI215 1601-A4
21 3240	PLUG URD LOADBREAK BUSHING 15 KV DOUBLE 200AMP	COOPER POWER	PLUG URD L/B BU 15KVDBL LFI215
21 3270	PLUG URD PARKING INSULATED F/15KV 200AMP LOADBREAK ELBOW	BLACKBURN ELASTIMOLD COOPER POWER	PLUG PARKING 15KV 200A J29B 161SOP 2625063B01M
21 3280	PLUG URD PARKING INSULATED FOR 35KV 200A LOADBREAK ELBOW S/C 21-4112	ELASTIMOLD	PLUG PARKING 35KV 200A 372SDP
21 3300	PLUG URD DEADEND 15KV 600AMP	ELASTIMOLD	PLUG URD D/E 15KV 600A 650BIP
21 3301	STUD THREADED FOR USE WITH 15KV 600 AMPERE BUSHINGS AND ELBOWS	ELASTIMOLD	STUD THREADED 600A 15KV 650SA
21 3330	PLUG URD CONNECT 15KV 600AMP	ELASTIMOLD	PLUG URD CONN 15KV 600A K650CP
21 3340	PLUG URD CONNECTOR 35KV 600AMP	ELASTIMOLD	PLUG URD CONN 35KV 600A 750CP
21 3346	PLUG URD BASIC 35KV 600AMP	ELASTIMOLD	PLUG URD BAS 35KV 600A 750BIP
21 3347	STUD THREADED FOR USE WITH 600 AMP 35KV BUSHING AND ELBOWS	ELASTIMOLD	STUD THD 600 AMP 35KV 750SA

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 3348	ELBOW TAP PLUG FOR 600 AMP BUSHING TO ALLOW USE OF 200 AMP TAPS - 35KV	ELASTIMOLD	ELBOW TAP PLUG 750ETP
21 3700	STAND PARKING TEMPORARY FOR FEED THROUGH BUSHING SEE DISTRIBUTION STANDARDS PAGE 393-2 FOR CONTRUCTION	STEEL PRD INC. T.N. DICK	STAND PARK TEMP FD THRU CMP DWG. 393-2 CMP DWG. 393-2
21 3750	RACK MDLE SPECIAL ORDER MADE PER CMPCD SPECIFICATIONS AS REQUIRED FOR EACH SPECIFIC JOB APPLICATION		RACK MDLE SPECIAL ORDER
21 3780	URD FEED THRU 15KV 2 WAY	BLACKBURN COOPER POWER ELASTIMOLD	URD FEED THRU 15KV 2WAY JFT2B10C LPF215H 164FT
21 3784	URD FEED THRU 35KV 200AMPERE LOADBREAK 2 WAY FOR USE WITH S/C 21-4112 ELBOW	ELASTIMOLD	URD FEED THRU 35KV 2WAY 373FT
21 3870	RECEPTACLE URD JUNCTION 3 WAY 15KV ANY SURFACE MOUNT	ELASTIMOLD	RCPT JCT 3 WAY ANY MT 164J3
21 3960	RECEPTACLE URD JUNCTION 4 WAY 15KV ANY SURFACE MOUNT	ELASTIMOLD	RCPT JCT 4 WAY ANY MT 164J4
21 3990	URD LOAD BREAK ELBOW FOR 15KV NO2 WITH 175 AND 220 MIL INSULATION	COOPER POWER ELASTIMOLD CHARDON	URD ELBOW L/B #2 LE215A04T 166-LR-B-5220 9U01AAE623
21 4112	RECEPTACLE URD ELBOW LOADBREAK 35KV 1/0 CONCENTRIC OR COMPRESSED ALUMINUM SEE 21-3152 FOR ONE PHASE BUSHING SEE 21-3154 FOR THREE PHASE BUSHING	ELASTIMOLD	RCPT EL L/B 35KV 1/0STR 376LR-J5240
21 4115	ELBOW LOADBREAK URD 35KV 4/0 CABLE STRANDED OR COMPRESSED	ELASTIMOLD	ELBOW L/B 35KV 4/0 URD 376LR-K5270
21 4230	RECEPTACLE URD LOAD BREAK ELBOW 15KV NO 4/0 ALUM OR COPPER (USE 21-1484 AS REPLACEMENT CONNECTOR AND 21-1500 AS REPLACEMENT CONTACT PIN)	ELASTIMOLD CHARDON	RCPT EL L/B 4/0 AL&CU 166LR-C-5270 9U01AAD648
21 4320	RECEPTACLE 15KV URD DEAD END CAP (BUSHING COVER)	COOPER POWER ELASTIMOLD CHARDON	RCPT 15KV URD D/E CAP LPC215 160DRG 9U01AEW400

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 4328	RECEPTACLE 35KV URD DEAD END CAP FOR USE WITH S/C 21-3968 4 WAY JUNCTION	ELASTIMOLD	RCPT D/END L/B 35KV URD 375DR0(3)A
21 4380	RECEPTACLE URD DEAD END (BUSHING COVER) 600 AMPERE 15KV	ELASTIMOLD	RCPT D/END 15KV 600A 656DR
21 4500	URD LOADBREAK ELBOW 15KV TO FIT 35KV 1/0 CONCENTRIC & COMPRESSED ALUMINUM	COOPER POWER ELASTIMOLD CHARDON	URD ELBOW L/B 15KV F/35 LE215006T 166LR-0-5240 9U01AAD665
21 4530	URD SEAL KIT FOR 15 & 35 KV LOADBREAK ELBOWS ON JACKETED CABLE	3M	URD ELBOW SEAL KIT 8452
21 4620	SLEEVE MOLE OUTLET INSULATED 4/0 CU	&URNDY	SLV MOLE INS 4/0 CU 272C3029
21 4650	SLEEVE MOLE OUTLET INSULATED 500 MCM CU	BURNDY	SLV MOLE INS 500MCM CU 2BBC3429
21 4860	SLEEVE LEAD SPLICING 5 INCH		SLEEVE LEAD SPLICE 5
21 4862	SLEEVE LEAD SPLICING 5 1/2 INCH INSIDE DIAMETER		SLEEVE LEAD SPLICE 5 1/2
21 4890	SOCKET AND NUT ASSEMBLY UNDERGROUND FOR USE W/&URNDY MOLE 4/0	BURNDY	SOCKET & NUT ASY 4/0 Z2&NR
21 4920	SOCKET AND NUT ASSEMBLY UNDERGROUND FOR USE W/&URNDY MOLE 500 MCM	BURNDY	SOCKET & NUT ASY 500MCM Z34NR
21 5100	SPLICER STRAIGHT URD 4/0 AL 15KV (USE 5&-5220 SLEEVES AS REPLACEMENT SLEEVES)	3M	SPL URD STRAIGHT 4/0AL 5412-CI-4/0
21 5130	SPLICING KIT URD 15KV #2 AWG STRANDED AL MOLDED RUBBER	ELASTIMOLD 3M	SPL KIT URD 15KV #2AL 15PCJ1F1220 5411-CI-21
21 5132	SPLICE KIT REPAIR 15KV #2 ALUMINUM (REPLACES UP TO 6 INCHES OF CABLE)	3M	SPL KIT 15KV#2AL REPAIR 5411R/CIR-21
21 5150	SPLICE COVER KIT FOR 15KV 4/0 AND #2AL SPLICES ON JACKETED CABLE	3M	SPL CVR 15KV 4/0 & #2 SJ-1A
21 5151	SPLICE COVER KIT FOR DIRECT &URIAL CABLE 1/0 35KV JACKETED	3M	SPLICE COVER 35KV SJ-2A
21 5210	SPLICE COVER KII FOR 600V 12-2UF STRAIGHT SPLICE	3M	SPL CVR KIT 600V 12-2UF B2-A1

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 5211	SPLICE SLEEVE VINYL INSULATED NO 12 SEAMLESS	3M	SPLICE SLEEVE NO 12 MV10BCX
21 5220	SPLICE COVER KIT URD 600V NO 2 & 4	3M	SPL KIT URD 600V NO 2&4 8424-&
21 5250	SPLICE COVER KIT URD 600V 2/0 & 4/0	3M	SPL KIT URD 2/0&4/0 XLP 8426-11
21 5280	SPLICING KIT URD FOR STREET LIGHT TAP 600V NO 4 MMN & MDP TO NO 12 IN KIT FITS CABLE WITH A DIAMETER RANGING FROM 0.37 INCHES MIN. TO 0.43 INCHES MAX.	BUCHANAN	SPL KIT URD 4MMN-12TW B3S-A0B1-C
21 5310	SPLICING KIT URD FOR STREET LIGHT TAP 600V NO 2 MMN & MDP TO NO 12 TW KIT FITS CABLE WITH A DIAMETER RANGING FROM 0.42 INCHES MIN. TO 0.505 INCHES MAX.	BUCHANAN	SPL KIT URD 2MMN-12TW B3S-EAFB1-C
21 5340	SPLICING KIT URD FOR STREET LIGHT TAP 600V NO 4 XLP TO NO 12 TW, KIT FITS CABLE WITH A DIA. RANGING FROM 0.33 INCHES MIN. TO 0.38 INCHES MAX.	BUCHANAN	SPL KIT URD 4XLP-12TW B3S-A0B1-C (S/C 21-5340)
21 5440	SPLICE COVER KIT URD 600V 500KCM	3M	SPL KIT URD 600V 500KCM &427-12
21 5455	SPLICING KIT 15KV 350KCM ALUMINUM DUCT CABLE POLYETHYLENE INSULATED	3M	SPL 15KV 350KCM AL DUCT 5503-CI-350
21 5465	SPLICER KIT, COLD SHRINK,FOR 15KV 175MIL 500KCMIL COPPER OR ALUMINUN CABLE-SPLICE 800V FITS CABLES WITH JACKET CONCENTRIC NEUTRAL OR DRAIN WIRES TYPE CABLE WITH PRIMARY INSULATION O.D. 1.02-1.55 INCHES. INCLUDES CONNECTOR FOR 500KCMIL ALUMINUN OR COPPER CONDUCTOR.	3M	SPLICER 15KV 500 CU&AL 5417-500-AL
21 5470	SPLICE SHIELDING AND GROUNDING KIT FOR USE WITH 15KV COLD SHRINK SPLICE S/C 21-5465 WHEN SPLICING TAPE SHIELDED CABLES	3M	SPLICE SHIELD & GRD KIT SG-2

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 5690	SPLICE KIT 15KV COLD SHRINK FOR SPLICING 4/0PILC TO 350KCM POLY/EPR OR 4/0 PILC. REQUIRES OIL STOP SLEEVE USE S/C# 58-3330 FOR 350KCM AL TO 4/0 CU	3M	SPL 4/0PILC TO 350POLY QS-2012T
21 5700	SPLICING KIT URD 34.5KV 1/0	COOPER POWER ELASTIMOLD 3M	SPL KIT URD 34KV 1/0 AL SP35E004 35PCJ1K1240 5432/CI-1/0A
21 5710	SPLICE KIT URD 34.5KV 1/0 AL TO 4/0 AL	ELASTIMOLD	SPL KT URD 35KV 1/0-4/0 35PCJ2K1270-J1240
21 5728	SPLICING KIT FOR 35KV FOR 350-750KCMIL CABLE WITH 345MIL INSULATION. SPLICE BODY FOR USE WITH CABLES HAVING PRIMARY INSULATION O.D. RANGE OF 1.31-2.12 INCHES. CONNECTOR SLEEVE FOR 500KCMIL COPPER OR ALUMINUM INCLUDED. FOR 350 KCMIL ALUMINUM OR COPPER USE S/C# 58-3180 FOR 750 KCMIL USE S/C# 58-3540.	3M	SPL KIT 35KV-750KCMIL 5536-500-AL
21 5740	SPLICE KIT URD 34.5KV 750KCM ALUMINUM XLP INSULATED	ELASTIMOLD	SPL KIT URD 35KV 750AL M650S-P0380-PD380
21 5840	GROUND DEVICE DRAIN WIRE SHIELDED 500KCM 11KV XLPE CABLE WITH 220MIL INSUL TO ELASTIMOLD 650 SERIES ACCESORIES	ELASTIMOLD	GRND DEV F/WIRESHD 500K GRND DEV F/WIRESHD 500K857 31-MA-JA
21 5845	CABLE ADAPTER DRAIN WIRE SHIELDED 750KCM 35KV XLPE CABLE WITH 345 NIL INSUL TO ELASTIMOLD 650 SERIES ACCESORIES FOR USE WITH S/C21-5740 SPLICE ETC.	ELASTIMOLD	C8L ADPT 750KCM TO ACC 31NA-PA
21 5847	SHIELDING WIRE ADAPTER GROUNDING KIT FOR TAPE SHIELD CABLES TO BE USED WITH S/C 21-5849	3N	GRND KIT/TAPE SHD CABLE GSNA-8
21 5848	TERMINATOR, SILICON RUBBER, COLD SHRINK, FOR USE WITH CABLES HAVING PRIMARY INSULATION O.D. RANGE OF 0.72-1.29 INCHES. FITS 15KV #2, 1/0, AND 4/0 URD AND SUBMARINE CABLES. REQUIRES TERMINAL CONNECTOR, RECOMMENDED PIN TERMINALS ARE: #2AL OR CU- S/C 11-9045, 1/0AL- S/C 11-9048 AND 4/0AL- S/C 11-9072	3M	TERM SIL RUB 15KV#2-4/0 7653-S-4

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
21 5849	TERMINATOR, SILICON RUBBER, COLD SHRINK, FOR USE WITH CABLES HAVING PRIMARY INSULATION O.D. RANGE OF 1.05-1.80 INCHES. FITS 15KV-350, 500, AND 750 MCM AND 35KV - 1/0, 2/0, 4/0, 350, 500 AND 750 MCM URD, SUBMARINE AND DUCT TYPE CABLES. REQUIRES S/C 21-5847 FOR USE W/ SHIELDED CABLES. REQUIRES PIN OR LUG TERMINAL CONNECTOR.RECOMMENDED PIN TERMINALS	3M	TERM SIL RUB 15 & 35 KV 7655-S-4
21 6220	WEATHER HEAD SERVICE ENTRANCE CABLE UP TO 3 NO 2 1 AND 8 # 5552	BLACKHAWK &RISCON	WEATHER HEAD SERV CAB #720 100SE
22 0922	GUARD LINE CLIP ON 1 INCH 10 BY 8 FT	HENDRIX HENDRIX	GUARD LINE CLIP ON STAN LD-1 LINE DUC REG
22 0923	GUARD LINE CLIP ON JUMBO K 8 FT LONG	HENDRIX HENDRIX	GUARD LINE CLIPON JUMBO LD-2 LINE DUC JUMBO
22 1500	SPACER WITH TIES - SINGLE PHASE FOR UP TO 20 KV	HENDRIX	SPACER - SINGLE - 20KV H20V
22 1520	SPACER WITH TIES FOR 15KV CABLE	HENDRIX RELIABLE ELEC	SPACER W/TIES F/15KV H-15D S-8
22 1525	SPACER CABLE CLAMP 15KV HENDRIX	HENDRIX	SPACER CABLE CLAMP 15KV RTL-15
22 1530	GRIP, NEOPRENE COATED, PREFORMED, PARTIAL TENSION, FOR 1/0 SPACER CABLE APPLICATIONS ONLY	HENDRIX	GRIP D/E 1/0 SPACER CBL ND-0115
22 1531	GRIP, NEOPRENE COATED, PREFORMED, PARTIAL TENSION, FOR 336.4 SPACER CABLE APPLICATIONS ONLY	HENDRIX	GRIP D/E 336 SPACER CBL ND-0120
22 1532	GRIP, NEOPRENE COATED, PREFORMED, PARTIAL TENSION, FOR 477 SPACER CABLE APPLICATIONS ONLY	HENDRIX	GRIP D/E 477 SPACER CBL ND-0122
23 0520	CONDUIT GALVANIZED 1 1/4 INCH		CDT GALV 1 1/4 IN
23 0530	CONDUIT STEEL GALVANIZED 2 INCH INSIDE DIAMETER		CDT STL G 2 IN ID

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
23 0536	CONDUIT STEEL GALVANIZED 2 1/2 INCH INSIDE DIAMETER		CDT STL G 2 1/2 IN ID
23 0550	CONDUIT STEEL GALVANIZED 4 INCH INSIDE DIAMETER		CDT STL G 4 IN ID
23 0555	CONDUIT STEEL GALVANIZED 5 INCH INSIDE DIAMETER		CDT STL G 5 IN ID
23 0560	CONDUIT STEEL GALVANIZED RIGID 6 INCH ID		CDT STL G 6 IN ID
23 0730	CONDUIT PVC RIGID SCHEDULE 40 2 1/2 INCH INSIDE DIAMETER		CDT PVC 2I/2 IN SCH 40
23 0738	CONDUIT PVC 4 INCH NOMINAL 0.130 MINIMUM WALL BY 4.500 OUTSIDE DIAMETER WITH ONE BELLED END PER LENGTH	CARLON	CDT PVC 4IN 0.130 WALL 4BB1S
23 0748	CONDUIT PVC 6 INCH NOMINAL 0.155 MINIMUM WALL BY 6.625 OUTSIDE DIAMETER WITH ONE BELLED END PER LENGTH	CARLON	CDT PVC 6IN 0.155 WALL 4B8I7
23 4260	CONDUIT FITTING PLUG 6 INCH GALVANIZED STEEL THREADED		C/F PLUG 6IN GALV STL
23 4280	CONDUIT FITTING KORDUCT PLASTIC PLUG 4 INCH INSIDE DIAMETER	JOHNS MAN	CF KORD PLST PLUG 4IN SI-67
23 4283	CONDUIT FITTING PLUG PVC 6 INCH	CARLON	C/F PLUG PVC 6 INCH P258R
23 5225	CONDUIT FITTING BELL END PVC 4IN FOR CONCRETE ENCASEMENT	CARLON	C/F BELL END PVC 4IN E997N
23 5241	CONDUIT FITTING PVC BELL END 6 INCH	CARLON	C/F BELL END PVC 6 INCH E997R
23 5416	CONDUIT FITTING STEEL GALVANIZED BEND 90 DEGREE 4 INCH 48 INCH RADIUS		CF G BEND 90 4 IN R 48
23 5425	CONDUIT FITTING STEEL GALVANIZED BEND 90 DEGREE 6 INCH 48 INCH RADIUS		CF G BEND 90 6 IN R 48
23 5476	CONDUIT FITTING BEND PVC 5 DEGREE 4 INCH	CARLON	C/F BEND PVC 5 DEG 4 IN E244N
23 5486	CONDUIT FITTING BEND PVC 5 DEGREE 6 INCH	CARLON	C/F BEND PVC 5 DEG 6 IN E244R

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
23 5709	CONDUIT FITTING PVC BEND 90DEGREE 4 INCH FOR CONCRETE ENCASEMENT 0.130 MIN WALL BY 4.500 OUTSIDE DIAMETER 36 INCH RADIUS	CARLON	C/F BEND PVC 90 DEG 4IN E7840N
23 5830	CONDUIT FITTING STEEL GALVANIZED GROUNDED BUSHING 4 INCH	O-Z GEDNEY O-Z GEDNEY	CF STL G GRO BU 4 IN BLG-4124 BLG-4I24
23 5840	CONDUIT FITTING STEEL GALVANIZED GROUNDED BUSHING 6 INCH	O-Z GEDNEY	CF STL G GRD BU 6 IN BLG-6124
23 8126	CONDUIT FITTING SPACER PLASTIC INTERMDIA 4 IN X 1 1/2 IN SEPARATION	UNDERGROUND	C/F SPACER 4X1 I/2 INTM PRODUCTS CODE 185
23 8128	CONDUIT FITTING SPACER PLASTIC INTERNED 6IN X 1 I/2IN SEPARATION INTERLOCX	UNDERGROUND	C/F SPACER INT I 1/2X6 PRODUCTS CODE I32
23 8176	CONDUIT FITTING SPACER PLASTIC BASE 4IN X 1 1/2IN SEPARATION X 3IN BASE	UNDERGROUND	C/F SPACER 4X1 I/2 BASE PRODUCTS CODE 186
23 8178	CONDUIT FITTING SPACER PLASTIC BASE 6IN X 1 I/2IN SEPARATION 3IN RISE INTERLOCKING	UNDERGROUND	C/F SPACE BASE 6XI I/2 PRODUCTS CODE I33
23 8295	CONDUIT FITTING HDT DIP GALVANIZED STRAP 2 HOLE 4 INCH POLE MOUNTING 7/16 INCH HOLES	DAPS	CF GALV STP 2H 4IN POLE CMP 42
23 0313	CONDUIT FITTING HOT DIP GALVANIZED STRAP 2 HOLE 6 INCH POLE MOUNTING 9/16 INCH HOLES	DAPS	CF GALV STP 2H 6IN POLE CMP 62
23 9011	U GUARD 2 INCH X 10 FOOT SCHEDULE 40 PVC WITH BELL END TO FIT OVER 2 INCH CONDUIT	CARLON	U GUARD 2"X10' BELL END S9011
23 9015	U GUARD 4 INCH X 10 FOOT SCHEDULE 40 PVC WITH BELL END TO FIT OVER 2 1/2 TO 4 INCH CONDUIT	CARLON	U GUARD 4"X10' BELL END S90I5
23 9025	U GUARD TO CONDUIT ADAPTER 4 INCH	CARLON	U GUARD COND ADAPTER 4" E939N
23 9111	U GUARD BACKING PLATE 2 INCH X 10 FOOT FOR USE WITH S/C 23-9011	CARLON	U GUARD BACX PLATE 2"10 S9111
23 9115	U GUARD BACKING PLATE 4 INCH X 10 FOOT FOR USE WITH S/C 23-9015	CARLON	U GUARD BACK PLATE 4XI0 S91I5

LINE ITEN	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
25 0I20	ANCHOR EXPANDING B NAY 200 SQ IN 1IN ROD	JOSLYN NUBBELL	ANC EXP BNAY-I0 IN HOLE J8200-I 1082
25 0180	ANCHOR LOG 6 X B IN X 4 FT	ALL MAKES	ANC LOG 6XB IN X 4 FT ONG TIISR-36
25 0240	ANCHOR POLE KEY EXPANDING	A B CHANCE	ANC POLE KEY EXPANDING P4817
25 0360	ANCHOR ROCK EXPANDING 30XI ROD 2 3/8 IN LEDGE HOLE	JOSLYN A B CHANCE	ANC ROCK 30IN 2 3/8IN JR130L RI30L
25 0390	ANCHOR ROCK EXPANDING S3X1ROD 2 3/8 IN LEDGE HOLE	JOSLYN A B CHANCE NUBBELL	ANC ROCK S3IN 2 3/8IN JR153L RI53L R153L
25 0405	ANCHOR ROCK EXPANDING 72X1 ROD 2 3/8 IN LEDGE HOLE	JOSLYN A B CHANCE	ANC ROCK 72IN 2 3/8IN JR172L RI72L
25 0420	ANCHOR ROCK EXPANDING 96X1ROD 2 3/8 IN LEDGE HOLE	JOSLYN A B CHANCE	ANC ROCK 96IN 2 3/8IN JRI96L RI96L
25 0470	ANCHOR POWER INSTALLED 15 INCH SINGLE HELIX FOR 3/4" OR I" ROD	DIXIE ELECT	ANC PWR 15 IN 1 HELIX DT-154
25 0515	ANCHOR POWER INSTALLED 10 INCH 10,000 LB TORQUE SINGLE 1/2 INCH THICK CURVED LEADING EDGE HELIX	DIXIE ELECT A B CHANCE	ANC PWR IHEL HI TORQ I0 DT-I04-1 T102-S229
25 053I	ANCHOR ROD 3/4 INCH X 7 FEET WITH TRIPLE EYE NUT FOR POWER INSTALLED SCREW ANCHOR	DIXIE ELECT JOSLYN	ANC ROD 7FTX3/4 PWR 075T DIXIE ELECT J12254R.3
25 0532	ANCHOR ROD I INCH X 7 FEET WITH TRIPLE EYE NUT FOR POWER INSTALLED SCREW ANCHOR	DIXIE ELECT A B CHANCE JOSLYN	ANC ROD 7FTX1IN PWR D100T EI02-00S3 JI2255R.3
25 0540	ANCHOR EXTENSION ROD 3/4 INCH X 3 I/2 FT WITH COUPLING	DIXIE ELECT JOSLYN A B CHANCE	ANC EXT ROD 3 1/2FTX3/4 D-753 1/2-C J12250 I2250

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
25 0570	ANCHOR EXTENSION ROD I INCH X 3 1/2 FEET WITH COUPLING	DIXIE ELECT JOSLYN A B CHANCE	ANC EXT ROD 3 1/2FT X1 D-1003 1/2-C J12251 12251
25 0575	COUPLING, ONE INCH FOR USE WITH S/C 25-0531,25-0532,25-0540, AND 25-0570	DIXIE ELECT JOSLYN A B CHANCE	COUPLING, ONE INCH D-354 J2316I.2 I2247P
25 0670	BRACE SIDEWALK CLAMP DOUBLE	COOPER POWER	BRACE SIDWALK CL DOUBLE 0502
25 0680	BRACE SIDEWALK POLE PLATE	COOPER PONER	BRACE SIDWALK POLE PLT 0G101
25 0810	GRIP GUY GALV 5/16 PREFORMED	PREFORMED HELICAL OULNISON	GL GUY PREF GRIP 5/16 GDE-1106 HG209S/I6 SGG-0790
25 0840	GRIP GUY GALV 7/16 PREFORMED	PREFORMED HELICAL OULNISON	GL GUY PREF GRIP 7/16 GDE-110B HG2117/16 SGG-110S
25 0841	GRIP GUY 7/16 AUTOMATIC FOR ANCHOR END ONLY OF 7 STRAND 7/16 GALVANIZED GUY STRAND	FARGO RELIABLE ELEC	GRIP GUY 7/I6 AUTOMATIC GDE-703 5203
25 II10	EYE GUY AUXILIARY	FLAGG	EYE GUY AUXILIARY PAI55
25 I230	GUY MARKER PLASTIC GRAY	ELECTRICAL NTLS CO	GUY MARKER PLASTIC GRAY 70-7G-N0C
25 I260	GUY MARKER PLASTIC YELLOW	ELECTRICAL NTLS CO	GUY MARKER PLAST YELLON 70-7Y-N0C
25 I3B0	HOOK GUY FOR I/4 - 7/16 STRAND	MACLEAN CONTINENTAL ELECTRI JOSLYN	HOOK GUY 7/I6 STRAND AG-6X B-3/4 P133A
25 I600	INSULATOR GUY STRAIN FIBERGLASS 30,000 LB 78IN.	HUGHES BROS INC CONTINENTAL ELECTRI FLAGG	INS GY STN 30K LB 78IN CF695-7BR GCC30-7BR 300-78

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
25 1620	INSULATOR STRAIN FIBERGLASS 21000 LB 36 INCH	HUGHES BROS IMC	INS STRAIN 21000LBX36IN
		CONTINENTAL ELECTRI	CF694YCC36R
		FLAGG	GYCC21-36R
			210-36CY
25 1650	SWITCH MAT, 4FT X 6FT, 6 IN X 6 IN MESH, NO. 6 SOLID COPPER, 1/0 SOLID COPPER CENTER WIRE WITH 6 IN OVERHANG BOTH ENDS	ERICO	SN MAT 4X6FT N/6IN MESH NTKS3371
25 1680	MOULDING PLASTIC 1/2 IN FOR GROUND WIRE (50 PIECES = 400LF)	NEWMAN, M M	MOULDING PLAS 1/2 IN GR
		ELECTRICAL NTLS CO	GWN-1/2
		VPANDC	PEGM1/2-B
			VP-1/2/GWN
25 1740	PIPE STEEL GALV 2 INCH X 21 FOOT FOR SIDEWALK GUYS		PIPE STEEL GALV 2 IN
25 1800	PLATE GUY ATTACHMENT F/FIBERGLASS STRAIN INSULATOR	CONTINENTAL ELECTRI	PLATE GUY ATT FG INS
		FLAGG	PEP66-4S
		FLAGG	PX-88
			PX-88
25 1860	ROD GROUND GALVANIZED PLAIN WITH CONE POINT PER EEI SPEC TDJ-30 3/4 INCH X 8 FEET	BLACKBURN	ROD GROUND GALV 3/4X8FT
		GALVAN	GR7508
		JOSLYN	GR7508
		PORCELAIN PRO	J5338
		A B CHANCE	7348
			8618
25 1950	ROD GROUND COPPER-COVERED SECTIONAL 3/4 INCH X 10 FEET (3/4 INCH FULL SIZE SHANK WITH CUT THREADS) FORWARD FACTORY CERTIFICATION OF 10 MIL MINIMUM COPPER COVERING AT ANY POINT WITH EACH SHIPMENT OF RODS.	JOSLYN	ROD GR C/W SEC 3/4X10
		ERITECH	J9170-13
		ERITECH	633403
		BLACKBURN	633403
			7510S-1SN
25 1955	ROD GROUND ACCESSORY STEEL DRIVING STUD 3/4 INCH	ERITECH	ROD GR ACC STL STUD 3/4
		JOSLYN	DS
		HUBBARD	J9187
		ITT BLACKBURN	29535
			70 DS
25 1960	ROD GROUND ACCESSORY COUPLER 3/4 INCH COPPERCLAD	ERITECH	ROD GR ACC CPL 3/4 INCH
		JOSLYN	CR34
		ITT BLACKBURN	J9183
		HUBBARD	70 C
			9535

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
25 2040	ROD ANCHOR GALVANIZED DOUBLE STRAND EYE PER EEI SPEC TD-2 3/4IN X 8FT	JOSLYN	ROD GUY DT 3/4 X 8 FT
		A B CHANCE	J7528
		HUBBELL	5358
			5358
25 2100	ROD GUY TWIN EYE 1IN X 10FT	JOSLYN	ROD GUY TWIN EYE 1X10FT
		A B CHANCE	J7540
			5370
25 2730	WIRE 5/16 EXTRA HIGH STRENGTH CLASS "A" GALVANIZED PREFORMED STRAND PER ASTM SPEC A475	FLORIDA WIRE & CBL	WIRE 5/16 EHS 7STR GUY
		FLORIDA WIRE & CBL	250' COILS-10/CYL
			5/16 GUY WIRE GRAYBAR
25 2790	WIRE 7/16 UTILITIES GRADE CLASS "A" GALVANIZED PREFORMED STRAND PER ASTM SPEC A475		WIRE 7/16GALV7STR MI G
			7/16 GUY WIRE GRAYBAR
27 0310	BOLT CARRIAGE GALVANIZED, WITH SQUARE NUT, PER ANSI C135.1-1979 3/8 X 5 INCH	COOPER POWER	B CARR GALV 5/8 X 5
		JOSLYN	DF1C5
		A B CHANCE	J8635
			8635
27 0406	BOLT EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 3/4 X 10 IN	JOSLYN	B EYE GALV 3/4 X 10
		A B CHANCE	J9510
		HUBBELL	29980
			29980
27 0406	BOLT EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 3/4 X 12 IN	JOSLYN	B EYE GALV 3/4 X 12
		A B CHANCE	J9512
		HUBBELL	29982
			29982
27 0432	BOLT THIMBLE EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 3/4 X 12 IN	JOSLYN	B GUY EYE GALV 3/4 X 12
		A B CHANCE	J8062
			5612
27 0452	BOLT EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 5/8 X 8 IN	COOPER POWER	B EYE GALV 5/8 X 8
		JOSLYN	DF2E8
		A B CHANCE	J9408
			29958
27 0454	BOLT EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 5/8 X 10 IN	COOPER POWER	B EYE GALV 5/8 X 10
		JOSLYN	DF2E10
		A B CHANCE	J9410
			29960

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 0456	BOLT EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 5/8 X 12 IN	COOPER POWER	B EYE GALV 5/8 X 12 DF2E12
		JOSLYN	J9412
		A B CHANCE	29962
		HUBBELL	29962
27 0482	BOLT THIMBLE EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 5/8 X 8 IN	COOPER POWER	B GUY EYE GALV 5/8 X 8 DG1F8
		JOSLYN	JB0S0
27 0484	BOLT THIMBLE EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 5/8 X 10 IN	COOPER POWER	B GUY EYE GALV 5/8 X 10 DG1F10
		JOSLYN	JB0S1
		A B CHANCE	5510
27 0486	BOLT THIMBLE EYE GALVANIZED ROLLED THREADS WITH SQUARE NUT PER EEI STANDARD TDJ-1 5/8 X 12 IN	COOPER POWER	B GUY EYE GALV 5/8 X 12 DG1F12
		JOSLYN	JB0S2
		A B CHANCE	5512
27 0950	BOLT, MACHINE, SERIES 18-8 STAINLESS STEEL HEX HEAD 3/8 INCH - 16 THREAD X 3/4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 100 TAPED BOXES	WESCO	B MACH SS 3/8-16 X 3/4 3/8-16X3/4 SS BOLT
27 0960	BOLT, MACHINE, SERIES 18-8 STAINLESS STEEL HEX HEAD 3/8 INCH - 16 THREAD X 1 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 100 TAPED BOXES	WESCO	B MACH SS 3/8-16 X 1 3/8-16X1 SS BOLT
27 1500	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 3/4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13 X 3/4 1/2-13X3/4 SS BOLT
27 1510	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 7/8 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13 X 7/8 1/2-13X7/8 SS BOLT

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 1530	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 1 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13 X 1 1/2-13X1 SS BOLT
27 1540	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 1 1/4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13X1 1/4 1/2-13X1-1/4 SS BOLT
27 1550	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 1 1/2 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13X 1 1/2 1/2-13X1-1/2 SS BOLT
27 1560	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 1 3/4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13X 1 3/4 1/2-13X1-3/4 SS BOLT
27 1570	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 2 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13 X 2 1/2-13X2 SS BOLT
27 1580	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 2 1/4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	WESCO	B MACH SS 1/2-13X 2 1/4 1/2-13X2-1/4 SS BOLT

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 1590	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 2 1/2 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	NESCO	8 MACH SS 1/2-13X 2 1/2 1/2-13X2-1/2 SS BOLT
27 1600	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 2 3/4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	NESCO	8 MACH SS 1/2-13X 2 3/4 2-3/4 SS BOLT
27 1610	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 3 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 50 TAPED BOXES	NESCO	8 MACH SS 1/2-13 X 3 1/2-13X3 SS BOLT
27 1620	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 3 1/4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 25 TAPED BOXES	NESCO	8 MACH SS 1/2-13X 3 1/4 1/2-13X3-1/4 SS BOLT
27 1630	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 3 1/2 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 25 TAPED BOXES	NESCO	8 MACH SS 1/2-13X 3 1/2 1/2-13X3-1/2 SS BOLT
27 1640	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 4 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE STANDARD PACKAGE OF 25 TAPED BOXES	NESCO	8 MACH SS 1/2-13 X 4 1/2-13X4 SS BOLT

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 1650	BOLT, MACHINE, SERIES 316 STAINLESS STEEL HEX HEAD 1/2 INCH - 13 THREAD X 4 1/2 INCH SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL STANDARD PACKAGE OF 25 TAPED BOXES	NESCO	8 MACH SS 1/2-13X 4 1/2 1/2-13X4-1/2 SS BOLT
27 2052	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 1/2 X 6 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 1/2 X 6 DF286 J8706 8706
27 2053	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER AINSI C135.1-1979, 1/2 X 7 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 1/2 X 7 DF287 J8707 8707
27 2056	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 1/2 X 10 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 1/2 X 10 DF2810 J8710 8710
27 2081	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 5/8 X 7 INCH	COOPER POWER JOSLYN A B CHANCE HUBBELL	8 MACH SQ GALV 5/8 X 7 DF387 J8807 8807 8807
27 2082	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 5/8 X 8 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 5/8 X 8 DF388 J8808 8808
27 2084	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 5/8 X 10 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 5/8 X 10 DF3810 J8810 8810
27 2086	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 5/8 X 12 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 5/8 X 12 DF3812 J8812 8812
27 2088	BOLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 5/8 X 14 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 5/8 X 14 DF3814 J8814 8814

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 2140	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 8 IN	COOPER POWER JOSLYN A B CHANCE	8 MACH SQ GALV 3/4 X 8 OF488 J8908 8908
27 2142	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 10 IN	COOPER POWER JOSLYN	8 MACH SQ GALV 3/4 X 10 OF4810 J8910
27 2144	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 12 IN	COOPER POWER JOSLYN JOSLYN	8 MACH SQ GALV 3/4 X 12 OF4812 COOPER PWR J8912 J8912 JOSLYN
27 2146	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 14 IN	COOPER POWER JOSLYN	8 MACH SQ GALV 3/4 X 14 OF4814 J8914
27 2150	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 16 IN	COOPER POWER JOSLYN	8 MACH SQ GALV 3/4 X 16 OF4816 J8916
27 2154	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 18 IN	COOPER POWER JOSLYN	8 MACH SQ GALV 3/4 X 18 OF4818 J8918
27 2158	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 20 IN	COOPER POWER JOSLYN	8 MACH SQ GALV 3/4 X 20 OF4820 J8920
27 2162	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 22 IN	COOPER POWER JOSLYN	8 MACH SQ GALV 3/4 X 22 DF4822 J8922
27 2166	8OLT MACHINE GALVANIZED, SQUARE HEAD, WITH SQUARE NUT, PER ANSI C135.1-1979, 3/4 X 24 IN	COOPER POWER JOSLYN	8 MACH SQ GALV 3/4 X 24 DF4824 J8924
27 2172	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 5/8 X 16 IN	COOPER POWER JOSLYN A B CHANCE HUBBELL	8 SPACE GALV 5/8 X 16 OF2016 J8866 8866 8866
27 2173	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 5/8 X 18 IN	COOPER POWER JOSLYN A B CHANCE	8 SPACE GALV 5/8 X 18 DF2018 J8868 8868

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 2174	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 5/8 X 20 IN	COOPER POWER JOSLYN A B CHANCE	8 SPACE GALV 5/8 X 20 DF2020 J8870 8870
27 2175	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 5/8 X 22 IN	COOPER POWER JOSLYN A B CHANCE HUBBELL	8 SPACE GALV 5/8 X 22 DF2022 J8872 8872 8872
27 2176	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 5/8 X 24 IN	COOPER POWER JOSLYN A B CHANCE	8 SPACE GALV 5/8 X 24 DF2024 J8874 8874
27 2178	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 5/8 X 26 INCH	COOPER POWER JOSLYN A B CHANCE HUBBELL	8 SPACE GALV 5/8 X 26 DF2026 J8876 8876 8876
27 2222	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 3/4 X 16 IN	COOPER POWER JOSLYN	8 SPACE GALV 3/4 X 16 DF3016 J8886
27 2223	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 3/4 X 18 IN	COOPER POWER JOSLYN	8 SPACE GALV 3/4 X 18 DF3018 J8888
27 2224	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 3/4 X 20 IN	COOPER POWER JOSLYN	8 SPACE GALV 3/4 X 20 DF3020 J8890 JOSLYN
27 2225	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 3/4 X 22 IN	COOPER POWER JOSLYN	8 SPACE GALV 3/4 X 22 OF3022 J8892
27 2226	8OLT DOUBLE ARM GALVANIZED, WITH SQUARE NUTS, PER ANSI C135.1-1979 3/4 X 24 IN	COOPER POWER JOSLYN	8 SPACE GALV 3/4 X 24 DF3024 J8894
27 2228	8OLT DOUBLE ARM GALVANIZED, WITH FOUR SQUARE NUTS, PER ANSI C135.1-1979 3/4 X 26 INCH	JOSLYN A B CHANCE	8 SPACE GALV 3/4 X 26 J8896 8896
27 2229	8OLT DOUBLE ARM GALVANIZED, WITH FOUR SQUARE NUTS, PER ANSI C135.1-1979 3/4 X 28 INCH	COOPER POWER JOSLYN	8 SPACE GALV 3/4 X 28 DF3028 J8897

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 2540	BOLT LAG FETTER DRIVE PILOT POINT GALVANIZED ROLLED THREADS PER EEI STANDARD TOJ-3 1/2 X 4 INCH	COOPER POWER JOSLYN	B LAG GALV FET 1/2 X 4 DF9L4 J8754P
27 2550	BOLT TOE LAG FETTER DRIVE REGULAR POINT 3/8 X 2 1/2 INCH	COOPER POWER JOSLYN	B TOE LAG 3/8 X 2 1/2 DF6L250 J8742-1/2
27 2555	BOLT LAG WASHER HEAD GIMLET POINT FOR PLASTIC U GUARD 1/4 X 2 INCH	JOSLYN	B LAG 1/4X2 F/U GUARD J26486.1
27 2560	BOLT U MESS INSIDE ANGLE FOR BA4-1S USED WITH CLAMP S/C 11-1330	HENDRIX	B U MESS I/SD ANG F/8A4 U8
27 2630	BRACE ALLEY ARM WOOD 8FT 3IN	ALUMA-FORM	BRACE ALLEY WD 8FT 3IN RAA8-99
27 2670	BRACE XARM FLAT 28 INCH	JOSLYN ALUMA-FORM	BRACE XARM 28 IN J22984 RAF-626
27 2700	BRACKET ALLEY ARM 3 PHASE FIBERGLASS WITH ALLEY ARM BRACE USE WITH POLE EYE PLATE (S/C 25-1800)	CONTINENTAL ELECTRI	BKTALLEYARM3PHFIBERGLAS CED-3026
27 2850	CLEVIS THIMBLE EYE FORGED GALVANIZED 5/8 IN GROOVE 5/8 PIN	JOSLYN	CLV THIMBLE 5/8 PIN JO 555
27 2904	CLEVIS THIMBLE WITH 5/8 INCH BOLT, RATED 20000 LB	CONTINENTAL ELECTRI BETHEA FLAGG	CLEVIS THIMBLE 20000 LB CT-88 F5A-88-5 PA-271
27 3185	GAIN CROSSARM WITHOUT TEETH ON CURVED SURFACE FOR 8 FOOT CROSSARM ONLY.	MACLEAN	GAIN XARM 8 FT. CAG-44-5
27 3280	GUARD POLE HUB 18" HIGH X 14" WIDE STEEL		GUARD HUB
27 3290	HOOK SERVICE GALVANIZED DRIVE HEAD 7/16 X 4 3/4 IN	A B CHANCE JOSLYN	HOOK GALV DRIVE HEAD C20S-0190 J3316P
27 3300	HOOK SERVICE HOUSE 3/8 X 3 1/2 SHANK HOT DIP GALVANIZED	HUBBELL	HOOK GALV SCREW TYPE 8777
27 3302	HOOK SERVICE HOUSE 3/8 X 6 INCH SHANK HOT DIP GALVANIZED (NO SUPPLIERS AVAILABLE)	A B CHANCE	HOOK SERVICE 3/8 X 6 X8777 A B CHANCE

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 3400	LINK CONNECTING CLEVIS EYE 14 INCH WITH 3/4 INCH CLEVIS OPENING, 5/8 INCH ROUND GALVANIZED COTTER BOLT, BRASS OR STAINLESS STEEL MUMPED COTTER KEY (6,000 LB. MINIMUM ULTIMATE STRENGTH)	JOSLYN	LINK CONN 3/4 X 14 IN J6658
27 3410	LINK CONNECTING FIGURE 8	LINE HARDWARE CO LINDSEY	LINK CONNECTING FIG 8 FL8-30 3414
27 3430	NUT EYE ROUND 5/8 TAP	JOSLYN A B CHANCE	NUT EYE ROUND 5/8 TAP J1092 6502
27 3440	NUT EYE ROUND 3/4 TAP	JOSLYN A B CHANCE HUBBELL	NUT EYE ROUND 3/4 TAP J1093 6503 6503
27 3450	NUT EYE THIMBLE 5/8 TAP	JOSLYN A B CHANCE	NUT EYE THIMBLE 5/8 TAP J6510 6510
27 3460	NUT EYE THIMBLE 3/4 TAP	JOSLYN A B CHANCE HUBBELL	NUT EYE THIMBLE 3/4 TAP J6511 6511 6511
27 3640	NUT, HEX, SERIES 18-8 STAINLESS STEEL 1/4 INCH THREAD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 200) (TAPED BOXES)	WESCO	NUT HEX SS 1/4-20 1/4-20 SS HEX NUT
27 3650	NUT, HEX, SERIES 18-8 STAINLESS STEEL 3/8 INCH - 16 THREAD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 200) (TAPED BOXES)	WESCO	NUT HEX SS 3/8-16 3/8-16 SS HEX NUT
27 3660	NUT, HEX, SERIES 316 STAINLESS STEEL 1/2 INCH - 13 THREAD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 200) (TAPED BOXES)	WESCO	NUT HEX SS 1/2-13 1/2-13 SS HEX NUT

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 3850	PIN STEEL 5/8 X 2 X 12 1/2 INCH	COOPER POWER	PIN STL 5/8 X 12 1/2 OP2S33
		JOSLYN	J2072
		A B CHANCE	883
27 3860	PIN STEEL 5/8X2X8 INCH LAG	COOPER POWER	PIN STL 5/8 X 8 IN LAG OP1L2
		JOSLYN	J231
		A B CHANCE	888
		HUBBELL	888
27 3870	PIN STEEL 5/8 INCH FOR ANGLES	JOSLYN	PIN STL 5/8 IN F/ANGLES J626Z
27 3874	PIN ANGLE BRACKET 1 INCH LEAD THREAD	CONTINENTAL ELECTRI	PIN ANGLE BRACKET 1 IN AP8-8
		JOSLYN	AP8-8
		BARRON BETHEA	P8A-84-1
		FLAGG	P402
27 3900	PIN STEEL F/27KV INS TREE WIRE	COOPER POWER	PIN STL 27KV TREE WIRE OP1411
		JOSLYN	J246262
27 3980	PIN STEEL SHORT SHANKED 3/4 INCH	HENDRIX	PIN SHORT SHANK 3/4 IN SSP-2
27 4044	PLATE POLE DOUBLE EYE	BETHEA	PLATE POLE DOUBLE EYE PE-8-707
		JOSLYN	PX-42
		JOSLYN	PX42
27 4170	POLE TOP PIN 24 X 1 3/8 INCHES 8 5 INCH HOLE SPACING, GALVANIZED STEEL	COOPER POWER	POLE TOP PIN 24X1 3/8INCH OP24PS
		HUGHES BROS INC	2770-H24-CS-130
27 4180	CLAMP DUCTILE IRON AERIAL CABLE WITH CLAMPING RANGE OF .375 - .828	MACLEAN	CLAMP AERIAL CABLE HBXN-82
27 4190	POLE TOP PIN 30 INCH FIBERGLASS	MACLEAN	POLE TOP PIN 30 IN FG G1HAR130AS1
27 4214	POLE TOP EXTENSION 30 INCH STEEL CHANNEL FOR SPACER CABLE	HENDRIX	POLE TOP EXT 30IN STEEL XPT-30
27 4218	POLE TOP EXTENSION 60 INCH FIBERGLASS (PER CMP SPECIFICATION OF 06/28/93)	ADVANCED MTL INC	POLE TOP EXT 60IN FIBER AM-60A-CMP
		NIGHLINE	HL-44A SPEC #86

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 4220	POLE TOP EXTENSION 60 INCH FOR SPACER CABLE	HENDRIX	POLE TOP EXT F/SPACER C XPT-60
27 4225	POLE TOP EXTENSION 75 INCH FOR SPACER CABLE	HENDRIX	POLE TOP EXT SPACER 75 IN XPT-75
27 4230	BRACE PUSH ACCESS CONN ANGLE SPAR	FLAGG	BRACE PUSH ANGLE SPAR PAX138
		CONTINENTAL ELECTRI	USA-8040-6
27 4320	SHACKLE 1/2IN WITH 5/8 PIN GALV	JOSLYN	SHACKLE 1/2 IN W/5/8PIN J2742
27 4400	STAPLE COPPER COATED 1 1/2X5/16X0.144 IN (USE S/C 27-4402)	A B CHANCE	STAPLE CW F/4 GRD WIRE C20S-0225 A8 CHANCE
		JOSLYN	J6494 JOSLYN
27 4402	STAPLES, GALVANIZED 1 1/2 X 3/8 X 0.148 REPLACES S/C 27-4400	A B CHANCE	STAPLES GALV F/4 GRD WR C20S-0214
		ELECTRICAL MTLS CO	01.5X3/8G
		JOSLYN	J172
27 4405	STAPLE COPPER COATED 2 X 1/2 X .162 INCH (USE S/C 27-4410)	ELECTRICAL MTLS CO	STAPLE CU COATED 2X1/2 C2-.50P ELEC MAT'LS
		JOSLYN	J6496 JOSLYN
27 4410	STAPLE GALVANIZED 2X1/2X.162 IN	A B CHANCE	STAPLE F/ 1/2IN HOLDING C20S-0216
		LARSON	2916
27 4420	STEP POLE STL HOOK HEAD 5/8 X 10	JOSLYN	STEP POLE 5/8 X 10 J1110
27 4560	WASHER LOCK SPRING GALVANIZED 5/8 STANDARD PACKAGE OF 200 TAPED BOXES	NARREN FST	WSH LOCK RD GALV 5/8
		JOSLYN	J139
27 4570	WASHER LOCK SPRING GALVANIZED 3/4	A B CHANCE	WSH LOCK RD GALV 3/4 4037 CHANCE
27 4580	WASHER LOCK DOUBLE COIL SPRING GALVANIZE FOR 3/8IN BOLT	A B CHANCE	WSH 2 TURN SPR GALV 3/8 C20S-0188
		GREAVES	GLW60C
		JOSLYN	J175
		SHAKEPROOF	3/8 141X094 OC

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 4590	WASHER LOCK DOUBLE COIL SPRING GALVANIZE FOR 1/2IN BOLT	A B CHANCE GREAVES JOSLYN SHAKEPROOF	WSH 2 TURN SPR GALV 1/2 C20S-0185 GLW 30C J176 1/2 17IX125 OC
27 4600	WASHER LOCK DOUBLE COIL SPRING GALVANIZE FOR 5/8IN BOLT	A B CHANCE GREAVES JOSLYN SHAKEPROOF	WSH 2 TURN SPR GALV 5/8 C20S-0186 GLW10C J177 5/8 203X156
27 4610	WASHER LOCK DOUBLE COIL SPRING GALVANIZE FOR 3/4IN BOLT	A B CHANCE HUBBELL GREAVES JOSLYN	WSH 2 TURN SPR GALV 3/4 C20S-0187 C20S-0187 GOC54 J178
27 4612	WASHER LOCK DOUBLE COIL SPRING GALVANIZE FOR 7/8 IN BOLT	EATON HUGHES BROS INC	WSH 2 TURN SPR GALV 7/8 SLW2-80
27 4640	WASHER, SPLIT LOCK, SERIES 18-8 STAINLESS STEEL, 1/4 INCH ID, 7/16 INCH OD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 100) TAPED BOXES	NESCO	WASHER LOCK SS 1/4 1/4 SS SPLIT LOCK
27 4650	WASHER, SPLIT LOCK, SERIES 18-8 STAINLESS STEEL, 5/16 INCH ID, 11/16 INCH OD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 100) TAPED BOXES	NESCO	WASHER LOCK SS 5/16 5/16 SS SPLIT LOCK
27 4661	WASHER, SPLIT LOCK, SERIES 18-8 STAINLESS STEEL, 3/8 INCH ID, 5/8 INCH OD, SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 200) (TAPED BOXES)	NESCO	WASHER LOCK SS 3/8 3/8 SS SPLIT LOCK

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 4671	WASHER, SPLIT LOCK, SERIES 18-8 STAINLESS STEEL, 1/2 INCH ID, 7/8 INCH OD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 200) (TAPED BOXES)	NESCO	WASHER LOCK SS 1/2 1/2 SS SPLIT LOCK
27 4678	WASHER, ROUND BELLEVILLE SPRING, TYPE 301 STAINLESS STEEL, FULL HARD, 1.125 OD, 0.515 ID, 0.125 THICKNESS GOODLOS TO FLATTEN. USED WITH 1/2 INCH 316 STAINLESS STEEL HARDWARE FOR ELECTRICAL CONNECTIONS. -SHIPMENT TO INCLUDE CERTIFICATION OF MATERIAL. FURNISH IN LOTS OF 50 IN TAPED BOXES.	SOLON MFG	WASHER ROUND BELLEVILLE 818-125-301
27 4770	WASHER, FLAT, SERIES 18-8 STAINLESS STEEL, 1/4 INCH ID, 11/16 INCH OD STANDARD PACKAGE OF 200 ZIP-LOCKED BAG	NESCO	WASHER FLAT RD SS 1/4 1/4 SS RD FLAT WASH
27 4780	WASHER, FLAT, SERIES 18-8 STAINLESS STEEL, 3/8 INCH ID, 7/8 INCH OD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 200) (TAPED BOXES)	NESCO	WASHER FLAT RD SS 3/8 3/8 SS RD FLAT WASH
27 4790	WASHER, FLAT, SERIES 316 STAINLESS STEEL, 1/2 INCH ID, 1 1/4 INCH OD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 200) (TAPED BOXES)	GRAYBAR ELECTRIC CO INC NESCO	WASHER FLAT RD SS 1/2 SSAE12-316 1/2 SS RD FLAT WASH
27 4795	WASHER, FLAT, SERIES 18-8 STAINLESS STEEL, 5/8 INCH ID, 1 1/2 INCH OD SHIPMENT TO INCLUDE WRITTEN CERTIFICATION OF STAINLESS STEEL TYPE (STANDARD PACKAGE OF 100) (TAPED BOXES)	NESCO	WASHER FLAT RD SS 5/8 5/8 SS RD FLAT WASH
27 4810	WASHER SQUARE FLAT GALVANIZED PER EEI STANDARD TDJ-10 2 1/4X2 1/4X3/16, 13/16 HOLE	HUBBARD JOSLYN A B CHANCE	WSHFLTGALVSQ2 1/4X3/16 H7814 J1076 6814

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
27 4820	WASHER SQUARE CURVED GALVANIZED STANDARD TDJ - 10 2 1/2 X 2 1/2 X 3/16 11/16 HOLE	JOSLYN A & CHANCE HUBBELL	WSH CURV GALV 2 1/2 J6822 6822 6822
27 4821	WASHER SQUARE CURVED GALVANIZED PER EEI STANDARD TDJ-10 3X3X1/4,13/16 HOLE	JOSLYN HUBBELL A & CHANCE	WSH CURV GALV 3X3X1/4 J6823 1/2/6822 6822 1/2
27 4831	WASHER SQUARE FLAT GALVANIZED PER EEI STANDARD TDJ-10 3 X 3 X 1/4, 13/16 HOLE	COOPER POWER JOSLYN A & CHANCE	WSH FLAT GALV 3X3X1/4 OF2W7 J1079 6817
27 4840	WASHER SQUARE FLAT GALVANIZED PER EEI STANDARD TDJ-10 4 X 4 X 3/16, 7/8 HOLE	JOSLYN A & CHANCE HUBBELL	WSH FLAT GALV 4X4X3/16 J1080 6818 6818
27 4850	WASHER OBLONG CURVED GALVANIZED WITH BOSS 3X4, 7/8 HOLE	FLAGG	WSH CURV GALV 3X4 P-120
31 0323	INSULATOR PIN TYPE 15 KV PORCELAIN	FLORIDA WIRE & CBL COOPER POWER PORCELAIN PRO VICTOR	INS PIN TYPE 15KV FH2064R HP2108 366S 6R
31 0352	INSULATOR PIN TYPE FOR TREE WIRE 15 KV	HENDRIX	INS PIN TYPE TREE 15KV HPI-15F
31 0356	INSULATOR POLYETHYLENE VICE TOP PIN TYPE 15KV - FOR TREE WIRE	HENDRIX	INS PIN VICE 15KV TREE HPI-15VTP
31 0419	INSULATOR PIN TYPE 27 KV ANSI CLASS 55-6	COOPER POWER PORCELAIN PRO VICTOR	INS PIN TYPE 27KV HP2308 386ST 386ST
31 0456	INSULATOR POLYETHYLENE VICE TOP PIN TYPE 35KV - FOR TREE WIRE	HENDRIX	INS PIN VICE 35KV TREE HPI-35VTP
31 0468	INSULATOR PIN TYPE F/27KV TREE WIRE	HENDRIX HENDRIX	INS PIN TYPE TREE 27KV HPI-35 HPI-35 HENDRIX

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
31 0640	INSULATOR 15KV, ONE PIECE, DEADEND/ SUSPENSION, SILICON RUBBER HOUSING, 7500L8S (RTL) CLEVIS/TONGUE END FITTINGS	K-LINE SEDIVER	INSULATOR 15KV COMP D/E KL-15ASCTN 001-11-70-15-CI(SIL)
31 0659	INSULATOR SUSPENSION 6 INCH DISC GRAY PORCELAIN ANSI CLASS 52-1 WITH 5/8 INCH ROUND COTTER BOLT SQUARE CUT BRASS OR STAINLESS STEEL HUMPED COTTER KEY AND ANTI ROTATION LUGS	VICTOR PORCELAIN PRO	INS SUSP 6 IN DISC OR 5 804 86012
31 0700	INSULATOR 35KV, ONE PIECE, DEADEND/ SUSPENSION, SILICON RUBBER HOUSING, 10,000L8(RTL), CLEVIS/TONGUE END FITTINGS	K-LINE	INSULATOR 35KV COMP D/E KL-35SCTN
31 0739	INSULATOR SUSPENSION RATED 20000 LBS MBE STRENGTH W/ 10 IN DISC, 5.75 IN SPACING AND DARK BROWN GLAZE COLOR, IN ACCORDANCE WITH ANSI CLASS 52.3	PORCELAIN PRO LAPP	INS SUS 10 IN 20M BROWN 81022B 8200
31 1982	INSULATOR STATION POST 34KV 200KV BIL TR 210 STANDARD STRENGTH NON STACKING GRAY 7.5 INCH DIAMETER	NGK-LOCKE VICTOR NEWELL LAPP	INS STA POST 34KV GRAY PSO2010 1753 231004 9785-70
31 2878	GUARD WILDLIFE FOR 15 KV AND 34.5 KV RECLOSER BUSHINGS (LARGE SKIRT DIAMETER- "PR", "PRM", "RVE" & "NVE" RECLOSERS) AND LARGE DIAMETER PORCELAIN 34.5KV ARRESTORS	FARGO	WILDLIFE GUARD LARGE GS 567
31 2880	BIRDGUARD FOR 5 AND 15KV TRANSFORMER AND RECLOSER BUSHINGS. FITS BUSHINGS WITH A MAX. DIAMETER OF 4.75 INCHES.	FARGO RELIABLE ELEC	BIRDGUARD 5&15KV BUSH GS560 S635
31 2881	BIRDGUARD HOT STICK APPLICABLE 5-35KV FITS BUSHINGS WITH A MAX. DIAMETER OF 4 1/4 INCHES	FARGO	BIRDGUARD HOT ST 5-35KV GS-565
31 2882	BIRDGUARD FOR NON-ENERGIZED INSTALLATION ONLY. FITS BUSHINGS WITH A MAX. DIAMETER OF 4 1/2 INCHES	ELECTRICAL MTLS CO	BIRDGUARD NON-ENERGIZED WLP-1
36 0270	STEEL, SHAPES, GALV		STL SHP GALV

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
37 2090	TRANSPONDER, LOAD SURVEY, PULSE OPERATED (MCT-240P), 12.5 KHZ (DISTRIBUTION CARRIER SYSTEM)	ABB	X-PONDER MCT-240P PULSE 556BC06G04
37 2091	TRANSPONDER, METERING AND CONTROL MCT-250, 12.5KHZ (DISTRIBUTION CARRIER) (DISTRIBUTION CARRIER SYSTEM)	ABB	X-PONDER MCT-250P PULSE 556BC06G11
37 2092	TRANSPONDER, LOAD SURVEY AND TWO CONTROL RELAYS, PULSE OPERATED (MCT-248P) 12.5 KHZ (DISTRIBUTION CARRIER SYSTEM)	ABB	X-PONDER MCT-248P PULSE 556BC06G12
37 2094	TRANSPONDER, THREE EXTERNAL PULSE INPUTS , TWO STATUS INPUTS, & TWO CONTROL OUTPUTS (MCT318SMD) 12.5 KHZ (DISTRIBUTION LINE CARRIER SYSTEM) (TWO-WAY DEVICE) USES: CAP BANK CONTROL & MONITORING AND VOLTAGE REGULATION CONTROL.	ABB	X-PONDER,MCT318SMD PULSE 5025219G07 (MCT318SMD)
37 2098	TRANSPONDER, "A" BASE WHICH IS SURFACE MOUNTED 240 VAC, PULSE INITIATOR INPUT FOR BASIC METERING, DISTRIBUTION CARRIER TRANSPONDER, 12.5 KHZ FREQUENCY, USED TO MONITOR RECLOSERS		X-PONDER MCT210A PULSE
49 0060	ARRESTER LIGHTNING DISTRIBUTION 10KV WITH ISOLATOR AND ANIMAL PROTECTION	COOPER POWER JOSLYN OHIO BRASS	ARR DIST 10KV UHS100S0A1A1A1A ZHP010-0000100 217609-8790
49 0120	ARRESTER, DISTRIBUTION CLASS, 27KV DUTY CYCLE, 22KV MCOV, POLYMER HOUSED WITH ISOLATOR	COOPER POWER JOSLYN	ARRESTER, DISTRIBUTION UHS27110B1A1A1A B154C0027J005
49 0130	ARRESTOR LIGHTNING 27KV DISTRIBUTION CUBICLE MOUNTING W/O ISOLATOR FOR USE IN LIVE FRONT PADMOUNT TRANSFORMERS INCLUDES MOUNTING BRACKET	JOSLYN OHIO BRASS	ARR DIST 27KV CUB MTG JB154C0027J179 213622-7232

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
49 1400	BRACKET LIGHTNING ARRESTER MOUNTING FOR 3 ARRESTERS. USE ON RECLOSER HANGERS S/C 52-0860, 52-0920, OR 52-0930 USE STANDARD ARRESTERS LESS CROSSARM BRACKET	COOPER POWER	BKT ARR 3UNIT F/RECLOSR KA12GH3
49 1430	GROUND STRAP FOR USE WHEN MOUNTING LA'S ON TRANSFORMERS - 12 3/4 INCH LONG	OHIO BRASS	GROUND STRAP FOR LA'S 89646-4010
49 1700	CUTOUT LOADBREAK 100A 7.2/12.47KV	ABB ABB	C/O L/BK 100A 7/12KV 1C08030A17 8434C94A17
49 1701	EXPULSION CAP FOR ALL MAKES OF 50 AMP AND 100 AMP DOUBLE VENTING CUTOUTS	UTILITY SOLUTIONS ABB	EXP CAP 50&100A ALL C/O USCO-62-03 12A00128H01
49 1720	CUTOUT LOADBREAK 200A 7.2/12.47KV	ABB ABB	C/O L/BK 200A 7/12KV 1C08030A18 8434C94A18
49 1722	SOLID FUSEHOLDER CAP FOR S/C 49-1700	ABB	SOLID CAP FOR S/C491700 162A775H01
49 1725	SOLID FUSEHOLDER CAP FOR S/C 49-1720	ABB	SOLID CAP FOR S/C491720 162A775H03
49 1724	SOLID FUSEHOLDER CAP FOR S/C 49-1800	ABB	SOLID CAP FOR S/C491800 3A31186H01
49 1760	CUTOUT LOADBREAK 100AMP 20/34.5KV	ABB	C/O L/BK 100A 20/35KV 279C790A49
49 1800	CUTOUT NON-LOADBREAK 100A 15KV	PLH MFG CO ABB	C/O FUSE 100A 15KV SIL-115-19SE X12CHNAA11
49 1844	FUSE CURRENT LIMITING 7200/12470 BACK UP USE WITH 50KVA AND SMALLER PROTECTED TRANSFORMER OR 8T OR SMALLER FUSE	G E CO	FUSE CL 7/12KV 8T MAX 9F59UBC121
49 1845	FUSE CURRENT LIMITING 7200/12470 BACK UP USE WITH 100KVA PROTECTED TRANSFORMER OR 15T OR SMALLER FUSE	G E CO	FUSE CL 7/12KV 15T MAX 9F59UBC122
49 1848	FUSE CURRENT LIMITING 20/35KV BACK UP USE WITH PROTECTED TRANSFORMERS OR 8T MAXIMUM SIZE FUSE	A B CHANCE G E CO	FUSE CL 20/35KV 8T MAX C70L-13KAEO 9F59UBE121

LINE

ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
49 1900	CUTOUT LOADBREAK SOLID BLADE 300AMP 7.2/12.47KV	A&B A&B A&B	C/O L-8KR SOL BLD 12.47 1C08030A19 1C08030A19 8434C94A14
49 1960	CUTOUT LOADBREAK WITH SOLID BLADE 300AMP 20/34.5KV	A&B A&B	C/O 300A20/35 L/BK SOL 1C08030A21 279C789A45
49 1970	DISCONNECT 15KV IN-LINE FOR USE ON 1/0 AAAC WIRE CONNECTORS INCLUDED USE YELLOW AMPACT CARTRIDGE TO INSTALL	AMP	DISCONNECT 15KV I/O I/L 109203-8
49 1975	DISCONNECT 15V IN-LINE FOR USE ON 336 AAAC WIRE CONNECTORS INCLUDED USE YELLOW AMPACT CARTRIDGE TO INSTALL	AMP	DISCONNECT 15KV IN-LINE 109203-2
49 1980	DISCONNECT 35KV INLINE FOR USE ON 336 AAAC WIRE CONNECTORS INCLUDED USE YELLOW AMPACT CARTRIDGE TO INSTALL	AMP	DISCONNECT 35KV IN-LINE 109202-2
49 1985	DISCONNECT 35KV IN-LINE FOR USE ON 1/0 ALUMINUM AND ACSR	AMP	DISC 35KV IN-LINE 1/0 1-109202-0
49 2560	FUSE MOUNTING, 34.5KV, SMD-20, 200E, VERTICAL OFFSET, TR-ZIG GRAY STATION POST INSULATORS, TERMINAL PADS TO BE TINNED, (STANDARD CMP BASE, 2 1/2" K 30" MOUNTING HOLES)	S & C ELECTRIC	FUSE PWR MTG F/SMD-20 192504-S109
49 4826	FUSE LINK 3 AMP 4-12 KV	KEARNEY	FUSE LINK 3 AMP 4-12 KV 51003
49 4828	FUSE LINK 3 AMP 34KV	KEARNEY	FUSE LINK 3 AMP 34KV 51003-53
49 4830	FUSE LINK 6AMP 4-12KV	KEARNEY	FUSE LINK 6A 4-12KV 51006
49 4832	FUSE LINK 6 AMPERE 20/35KV	KEARNEY	FUSE LINK 6A 20/35KV 51006-53
49 4845	FUSE LINK 10AMP 4-12KV	KEARNEY	FUSE LINK 10A 4-12KV 51010
49 4847	FUSE LINK 10 AMPERE 20/35KV	KEARNEY	FUSE LINK 10A 20/35KV 51010-53

LINE

ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
49 4860	FUSE LINK 15AMP 4-12KV	KEARNEY	FUSE LINK 15A 4-12KV 51015
49 4862	FUSE LINK 15 AMPERE 20/35KV	KEARNEY	FUSE LINK 15A 20/35KV 51015-53
49 4875	FUSE LINK 25AMP 4-12KV	KEARNEY	FUSE LINK 25A 4-12KV 51025
49 4877	FUSE LINK 25 AMPERE 20/35KV	KEARNEY	FUSE LINK 25A 20/35KV 51025-53
49 4890	FUSE LINK 40AMP 4-12KV	KEARNEY	FUSE LINK 40A 4-12KV 51040
49 4892	FUSE LINK 40 AMPERE 20/35KV	KEARNEY	FUSE LINK 40A 20/35KV 51040-39
49 4920	FUSE LINK 65AMP 4-12KV	KEARNEY	FUSE LINK 65A 4-12KV 51065
49 4922	FUSE LINK 65 AMPERE 20/35KV	KEARNEY	FUSE LINK 65A 20/35KV 51065-39
49 4950	FUSE LINK 100AMP 4-12KV	KEARNEY	FUSE LINK 100A 4-12KV 51100
49 4952	FUSE LINK 100 AMPERE 20/35KV	KEARNEY	FUSE LINK 100A 20/35KV 51100-39
49 4965	FUSE LINK 140AMP 4-12KV	KEARNEY	FUSE LINK 140A 4-12KV 51140
49 4980	FUSE LINK 200AMP 4-12KV	KEARNEY	FUSE LINK 200A 4-12KV 51200
49 7570	FUSE UNIT F/SMD-20 34KV 50E VERY SLOW FOR USE IN SMD-20 FUSE MOUNTING	S & C ELECTRIC	FU U F/SMD-20 34KV 50E 604050
49 7585	FUSE UNIT F/SMD-20 34KV 65E VERY SLOW	S & C ELECTRIC	FU U F/SMD-20 34KV 65E 604065
49 7600	FUSE UNIT F/SMD-20 34KV 80E VERY SLOW	S & C ELECTRIC	FU U F/SMD-20 34KV 80E 604080
58 1860	SLEEVE LOOP HYSPL 4/0 ACSR	BURNDY	SLV LOOP HYSP 4/0 ACSR YCS28R

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
SB 2280	SLEEVE FULL TENSION 1/0 AAAC 1/0ACSR ALUMINUM COMPRESSION	HOMAC HOMAC	SLV FULL TENSION1/0AAAC ACSR-1/0 FT HS-10
SB 2610	SLEEVE 4/0 FULL TENSION COMPRESSION FOR ACSR, ALL ALUMINUM, 5005, 6201 AND COMPRESSED CONDUCTORS	BURNDY	SLV 4/0 AL FULL TENSION YDS28RL
SB 2640	SLEEVE FULL TENSION COMPRESSION FOR 336.4 ALL ALUMINUM CONCENTRIC AND COMPACT	BLACKBURN ANDERSON	SLV FULL TEN 336.4 AL AC336 FTA-337
SB 2670	SLEEVE PARTIAL TENSION COMPRESSION FOR 477 ALL ALUMINUN SPACER CABLE	ANDERSON BURNDY	SLV PT TEN 477AL SPACER PTA-477 YCS331A
SB 2690	SPLICE COVER KIT FOR COVERED 336.4 AND 477 ALUMINUM CONDUCTOR S/C 20-7981 20-7995 AND 20-7996. EACH KIT CONTAINS 3 COLD SHRINK SPLICER COVERS PLUS MASTIC TAPE	3M	SPLICE CVR336-477SPACER 5743
SB 2695	SPLICER COVER KIT FOR COVERED 1/0 ALUM CONDUCTOR S/C 20-7958 AND 20-7990 EACH KIT CONTAINS 3 COLD SHRINK SPLICE COVERS PLUS MASTIC TAPE	3M	SPLICER COVER 1/0 SPACER 5742 3M
SB 2970	SLEEVE HYLINK 4/0 STR COPPER	BURNDY	SLV HYL 4/0 STR CU YS28
SB 3060	SLEEVE HYLINK 500 MCM COPPER	BURNDY	SLV HYL 500MCM CU YS34
SB 3150	SLEEVE HYLINK NO 2 STR	BURNDY	SLV HYL 2 STR YS2CL
SB 3210	SLEEVE HYLINK 350 MCM COPPER	BURNDY	SLV HYL 350MCM CU YS31
SB 3390	SLEEVE HYTEE 500KCM COPPER RUN & 4/0 STR COPPER TAP	BURNDY	SLV HYTEE 500KCM-4/0 CU YST342B
SB 3450	SLEEVE HYTEE 500 MCM COPPER RUN & TAP	BURNDY	SLV HYTEE 500MCM CU YST343A
SB 3538	SLEEVE 750KCM COPPER FOR 5KV & UP CABLE	BURNDY	SLV 750KCM CU 5KV & UP YS39T

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
SB 3570	SLEEVE HY REDUCER 500KCMIL TO 350KCMIL ALUMINUM	HOMAC BURNDY	SLV HY RED 500K-350K AL SACS00R350 YRB34U31
SB 4350	SLEEVE COMPRESSION PARTIAL TENSION FOR NO 4 BARE SERVICE DROP NEUTRAL	MICOPRESS NICOPRESS	SLV MICO 4 ACSR 170P 1704P
SB 4360	SLEEVE COMPRESSION PARTIAL TENSION FOR 1/0 AAAC SERVICE DROP NEUTRAL	BLACKBURN	SLV SEMI-TEN 1/0-1/0 IR66
SB 4620	SLEEVE URD SERVICE CABLE 4 ALUM TO 4 ALUM	HOMAC	SLV URD 4AL - 4AL SAC4
SB 4770	SLEEVE URD SERVICE CABLE 2 ALUM TO 2 ALUM	HOMAC HOMAC	SLV URD 2AL - 2AL SAC2 SAC2 HOMAC
SB 4860	SLEEVE NON-TENSION SERVICE 1/0AAAC NEUT TO 2/0STR AL/CU	BLACKBURN HOMAC	SLV NTEN 1/0AAAC-2/0AL KL46-1 K1U2010
SB 5190	SLEEVE URD SERVICE CABLE 2/0 ALUM TO 2/0 STR ALUM/CU	BLACKBURN HOMAC	SLV URD 2/0AL-2/0AL&CU KL476-1 SAC-20
SB 5220	SLEEVE URD SERVICE CABLE 4/0 ALUM TO 4/0 ALUM/CU	BLACKBURN HOMAC	SLV URD 4/0AL-4/0AL&CU KL698-1 SAC-40
SB 5250	SLEEVE NON-TENSION SERVICE 336.4 ALUM TO 300/350MCM ALUM/CU	HOMAC	SLV NTEN 336.4-350AL&CU X1U336
SB 5260	SLEEVE URD CABLE 500KCM TO 500KCM ALUM USE WITH S/C 21-5440 OR 21-5490 SPLICE KITS	3M	SLV URD CBL 500AL-500AL CI-500
SB 5340	SLEEVE COMPRESSION COMPACT 336400 AL SPACER CABLE	ANDERSON	SLV SPL COMPACT 336.4AL ESP FTA-337
SB 5461	SPLICE AUTOMATIC 1/0 AAAC ONLY	RELIABLE ELEC	SPLICE AUTO 1/0AAAC ALSS207
SB 5491	SPLICER AUTOMATIC NO. 4/0AAAC	RELIABLE ELEC FARGO	SPL AUTO 4/0 AAAC ALSS266.8 RELIABLE ELEC GL-409A FARGO
SB 5730	SPLICER AUTOMATIC 336400 ALUM	BLACKBURN RELIABLE ELEC	SPL AUTO 336.4BR 8 TREE ATS266336 765BAP

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
58 6705	SPLICE GUY AUTOMATIC 5/16 EHS	RELIABLE ELEC	SPL GUY AUTO 5/16 5041
58 6707	SPLICER GUY AUTOMATIC 7/16	RELIABLE ELEC	SPLICER GUY AUTO 7/16 5043
58 6780	SPLICER AUTO MESSENGER FOR .052	RELIABLE ELEC	SPL AUTO5044F/052 5044
62 0050	BRACKET CABLE POSITIONING	ALUMA-FORM	BKT CABLE POSITIONING CS-B20
62 0100	BRACKET, EQUIP MOUNTING FOR CROSSARMS NEMA "B" FOR USE WITH ARRESTERS, CUTOUTS, AND TERMINATORS	MACLEAN A B CHANCE	BKT EQUIP MTG CROSSARM APP-1339 MACLEAN C206-0283
62 0140	BRACKET EQUIPMENT MOUNTING 18 INCH WITH TWO CAPTIVE 1/2 X 2" BOLTS	A B CHANCE JOSLYN HUGHES BROS INC MACLEAN	C206-0283 CHANCE J24712 JOSLYN BKT EQUIP MTG 18 IN CF892B-18-1/2X2 G1N0A118ATB
62 0200	BRACKET NEUTRAL-SPREADER	MACLEAN HENDRIX HENDRIX ENERSCAN	G1N0A118ATB (NPS) BKT NEUTRAL-SPREADER S604 S604 HENDRIX 2920 ENERSCAN
62 0210	BRACKET SPREADER FOR 336,400 SECONDARY TRIPLEX AND QUADRAPLEX	RELIABLE ELEC	BKT SPREADER 336 SECOND S601
62 0230	BRACKET NEUTRAL CLAMP STEEL	LINE HARDWARE CO JOSLYN JOSLYN ENERSCAN	BKT NEUTRAL CLAMP STEEL NWB-50 LINE HARDWARE C PX77 PX77 JOSLYN 25101 ENERSCAN
62 0290	BRACKET MESS TANGENT 14 IN WITH MC-2 CLAMP FOR 5/16 TO 3/4 INCH MESS	HENDRIX	BKT MESS TANGENT 14 IN BM-14A
62 0350	BRACKET MESSENGER AND CONDUCTOR DEADEND FOR SPACER CABLE	HENDRIX	BKT MESS B COND D/E BD-35
62 0360	BRACKET, VERTICAL TAP 35 KV FOR SPACER CABLE	HENDRIX	BRACKET VERTICAL TAP 35 KV BV-35 BV-35
62 0380	BRACKET STIRRUP FOR USE WHEN INSTALLING S/C 62-0390 AND S/C 62-0395	HENDRIX	BKT STIRRUP TS-1

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
62 0390	BRACKET - 14" ANTI-SWAY FOR USE WITH S/C 62-0290 FOR SPACER CABLE	HENDRIX	BRACKET - ANTI-SWAY 14" BAS-14F
62 0395	BRACKET - 24" ANTI-SWAY FOR USE WITH S/C 62-0320 FOR SPACER CABLE	HENDRIX	BRACKET - ANTI-SWAY 24" BAS-24F
62 0400	BRACKET ANGLE 15KV DOUBLE CIRCUIT SPACER CABLE	HENDRIX	BRACKET - DOUBLE CIR BA6-15
62 0440	BRACKET ANGLE 15KV 4 CONDUCTOR	HENDRIX	BKT ANG 15KV 4 WIRE BA4-15
62 0470	BRACKET ANGLE 15KV 3 CONDUCTOR	HENDRIX	BKT ANG 15KV 3C BA3-15
62 0480	BRACKET ANGLE 35KV 3 CONDUCTOR SPACER CABLE	HENDRIX	BKT ANGLE 35KV 3C SPACE BA3-35
62 0485	BRACKET 2 PIN FOR SPACER CABLE	HENDRIX	BKT 2 PIN SPACER CABLE 2IP
62 0495	BRACKET TRANSFORMER SECONDARY LEAD WITH INSULATOR	COOPER POWER	BKT TRN SEC LEAD W/INS DT4M11
62 0500	INSULATOR CABLE SUPPORT FOR UP TO 2 7/8 INCH OUTSIDE DIAMETER CABLE USES 3 INCHES OF SPACE ON NOB-LOC CABLE SUPPORT	COOPER POWER	INS CBL RACK 1 7/16 IN DE6U1
62 0560	INSULATOR CABLE SUPPORT FOR UP TO 4 INCH OUTSIDE DIAMETER CABLE USES 4 INCHES OF SPACE ON NOB-LOC CABLE SUPPORT	COOPER POWER	INS CBL RACK UNDGR DE3U1
62 0570	RACK CABLE MANHOLE NOB-LOC 11 HOLES ON TWO INCH CENTERS FOR NOB-LOC CABLE SUPPORTS LENGTH OVERALL 34 7/8 INCH	COOPER POWER CONTINENTAL ELECTRI	RACK CBL MANHOLE 11HOLE DU1810 SF-CR-1304
62 0640	SUPPORT CABLE NOB-LOC 3 7/8 IN LONG	COOPER POWER	SUPPORT CBL 3 7/8 IN DU1S1
62 0670	SUPPORT CABLE NOB-LOC 7 7/8 IN LONG	COOPER POWER	SUPPORT CBL 7 7/8 IN DU1S2
62 0700	SUPPORT CABLE NOB-LOC 14 7/8 IN LONG	COOPER POWER	SUPPORT CBL 14 7/8 IN DU1S4
62 0730	SUPPORT CABLE NOB-LOC 11 7/8 IN LONG	COOPER POWER	SUPPORT CBL 11 7/8 IN DU1S3

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
62 1460	CABINET URD TERMINAL SINGLE PHASE STEEL 18IN X 30IN X 30IN HIGH, HINGED LID	MAYSTEEL	CABINET URD TERM 1 PH CW330-18TH
62 1490	CABINET URD TERMINAL THREE PHASE STEEL 40IN X 52IN X 36IN HIGH, WITH THREE DOORS	MAYSTEEL MAYSTEEL	CAB URD TERM 3PH STEEL CW3652-40SH-3-PHASE 621490
62 1491	CABINET URD TERMINAL THREE PHASE FIBERGLASS - TOP COVER 63 IN X 34 IN X 58 IN HIGH CAN BE PARTIALLY BURIED - DOES NOT REQUIRE SEPARATE PAD BOX		CAB URD TERM 3PH FIBER
62 1500	FIBERGLASS PADMOUNT SPACER 4INCH HIGH	HIGHLINE	PADMOUNT SPACER FG 4" HL-45S-4
62 1505	FIBERGLASS PADMOUNT SPACER 10 INCH HIGH	HIGHLINE	PADMOUNT SPACER FG 10" HL-45S-10
62 1525	DOOR FOR SIDEWALK VAULT 4 X 8 FOOT TY JO	BILCO	DOOR F/SIDEWALK VAULT
62 1580	GRATING ONLY FOR SIDEWALK FRAME TYPE J RIVETED GRATING 1/8IN BEARING BARS W/SERR-CRIMP CRIMP BAR STANDARD WIDTH 39 1/2IN 46 BEARING BARS SPAN 25 1/2IN TO OUTSIDE OF BAND BEARING BARS TO BE 1 1/4 X 1/8IN	IKG-BORDEN	GRATE F/SIDEWALK FRAME PORT ONG. S257-I
62 1610	GRATING FRAME FOR SIDEWALK	IRVING	GRATE FRAME F/SIDEWALK ONG-AS257-2
62 1620	GRATING FOR TRANSFORMER VAULT SIDEWALK 42 X 70 INCHES X 1 INCH DEEP STEEL HOT DIP GALVANIZED DRAWING D-725-A	IRVING	GRATE F/SWLK GALV 42X70 RIVETED TYPE D
62 1690	GRATING FOR TRANSFORMER VAULT H20 LOADING 35 X 42 INCHES X 3 1/2 INCHES DEEP STEEL HOT DIP GALVANIZED FOR ROAD DRAWING D-724-A	IRVING	GRATE F/ROAD GALV 42X35 HEAVYWELD TYPE HB
62 1771	FRAME HANDHOLE FIBER GLASS WITH COVER 36 X 26 X 16 INCH DEEP OUTSIDE 25 X 16 X 16 INCH DEEP INSIDE 22 X 12 INCH OPENING	HIGHLINE	FR H/H 36X26X16 W/CVR HL 41 B
62 1780	FRAME HANDHOLE LOWER SEC 3X3X4 TYB	ETHERIDGE FDY	FR H/H LOWER SEC
62 1785	FRAME HANDHOLE TOP SEC F/TY B		FR H/H TOP SEC TY B

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
62 1790	GALVANIZED STEEL PLATE 16"X24"X1/4" USED ON 7'X7' TRANSFORMER FOUNDATION TO COVER A PORTION OF THE CABLE HOLE WHEN THE TRANSFORMER DOES NOT COMPLETELY COVER IT.		STEEL PLATE FOR 7X7 PAD
62 1795	GALVANIZED STEEL PLATE 24"X24"X1/4" USED ON 9'X9' TRANSFORMER FOUNDATION TO COVER A PORTION OF THE CABLE HOLE WHEN THE TRANSFORMER DOES NOT COMPLETELY COVER IT.		STEEL PLATE FOR 9X9 PAD
62 1830	FRAME MANHOLE ROUND 32 INCH WITH COVER 6 INCH DEEP	ETHERIDGE FDY	FR H/H RD 32IN W/COVER M326
62 1970	FRAME MANHOLE COVER ROUND 27 1/2		FR M HOLE CVR RD 27 1/2
62 2510	IRON PULLING MANHOLE PRE-FABRICATED	T.W. DICK JOSLYN	IRON PULLING MANHOLE J8120
64 0062	SWITCH, STANDARD, AIR, GROUP OPERATED, VERTICAL, OUTDOOR, 15KV, 110KV BIL, 600-1200 AMPS CONTINUOUS, 61KA MOMENTARY, TR 205 GRAY INSULATORS WITH HORN GAP AND SWING HANDLE OPERATING MECHANISM FOR HORIZONTAL UPRIGHT MOUNTING. REFER TO ATTACHED SPECIFICATION 24-51 FOR DESIGN, FABRICATION, AND SHIPPING REQUIREMENTS.	PASCOR	SW STD GR OP 15KV 600-1200 VBPA-18-323-001
64 0555	SWITCH A/B 15 KV 600A 3P LOADBREAK VERTICAL SIDEBREAK	S & C ELECTRIC BRIDGES ELECT	SW A/B 15KV600A LDB VER 147512-E0703 973V-30
64 0660	SWITCH 34.5KV 600A INTERUPT HOOKSTICK OPERATED HORIZONTAL 3 PHASE AIRBREAK SWITCH REFER TO S/C 64-0666 OR S/C 64-0667 FOR LA MOUNTING BRACKETS	BRIDGES ELECT	SW A/B 35KV HOOK/HORIZ 994X-H
64 0666	SWITCH ACCESSORY BRACKET FOR TWO ARRESTORS TO FIT S&C #147412-E0701R2 & 147432-E0711R2, S/C 64-0315	S & C ELECTRIC	SW BKT ARRESTER S&C DBL 5023R1
64 0668	ARRESTOR BRACKET FOR BRIDGES AIRBREAK SWITCH	BRIDGES ELECT	ARRESTOR BKT FOR A/B SW 2388

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
64 0675	SWITCH A/B 20/34.5KV 600A INTERUPT VERTICAL 3 PHASE SIDEBREAK	BRIDGES ELECT	SW A/B34KV VERT/SIDEBRK 994V-30
64 0676	SWITCH A/B 20/34.5 KV 600A INTERUPT VERTICAL 3 PHASE VERTICAL BREAK	S & C ELECTRIC	SW A/B34KV VERT/VERTBRK 135744R1-E-ED154
64 2745	SWITCH, AIR, HOOK, BYPASS, 3 BLADE, 15KV, 600 AMPS CONTINUOUS, PER USCO DRAWING C-3029 SHEET 23 WITH SPECIAL BASE PER USCO DRAWING A-673 SHEET 73 (FOR TWO POLE STRUCTURES)	USCO	SH,AIR,HK,BYPASS 15KV HD-RA-3 SPECIAL
64 2885	SWITCH DISC 27KV 600A UNDER ARM 150 KV BIL	CLEAVELAND PR A B CHANCE	SW DISC 27KV UNDER ARM C102A88G03LS H30-648
67 0021	HANGER CROSSARM MOUNTING STEEL GALV FOR TRANSFORMERS WITH 11-1/4 INCH SUPPORT LUG SPACING		HGR TRN XARM 11-1/4"
67 0041	HANGER CROSSARM MOUNTING STEEL GALV FOR TRANSFORMERS WITH 23-1/4 INCH SUPPORT LUG SPACING		HGR TRN XARM 23-1/4"
67 0101	MOUNT TRANSFORMER FOR 3 UNIT CLUSTER 3 TO 100 KVA FOR 8 TO 12 IN POLE	ALUMA-FORM	MT TRN 3/3-100/12 IN PO 15M3-6
67 0121	MOUNT TRANSFORMER FOR 3 UNIT CLUSTER 3 TO 100 KVA FOR 10 TO 14 IN POLE	ALUMA-FORM	MT TRN 3/3-100/14 IN PO 15M3-6-14
67 0141	MOUNT TRANSFORMER FOR 3 UNIT CLUSTER 167 KVA FOR 10 TO 14 INCH POLE	ALUMA-FORM ALUMA-FORM	MT TRN 3/167/14 IN POLE 15M3-9-14 15N3-9-14
67 0161	PLATE TRANSFORMER ADAPTER FOR HANGING SINGLE PHASE TRANSFORMERS WITH TYPE C LUGS ON CLUSTER MOUNT	ALUMA-FORM	PLATE TRN ADAPT 2000 L8 321-A
67 0181	PLATE TRANSFORMER ADAPTER FOR DIRECT POLE MOUNTING OF TRANSFORMERS WITH TYPE C LUGS	FLAGG CONTINENTAL ELECTRI	PLATE TRN MTG TO 500KVA PAT 4 T84
67 0261	PLATFORM TRANS ALUM 16FT 13500L8 CAP	ALUMA-FORM	PLATFORM TRN AL 16 FT HD2-PAL-16
67 3921	SKIRT FOR MOUNTING THREE PHASE SWITCH CABINET ON FIBERGLASS BOX PAD S/C 67-3961 (PER ATTACHED DISTRIBUTION STANDARDS PAGE 393-3 (FOR CONSTRUCTION)	STEEL PRO INC. T.W. DICK T W DICK CO INC	SKIRT 3PH SWITCH CABINET CHP 393-3 CHP 393-3 673921

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
67 3931	PAD COVER FLAT FIBERGLASS F/43X38 WITH FARGO TYPE LOCK	HIGHLINE	PAD COVER FLAT FARGO LK HL-4S-2EF
67 3932	FARGO TYPE LOCK KIT TO LOCK DOWN FIBER-GLASS PADMOUNT COVER (1 EA = 4 LOCK KITS)	HIGHLINE HIGHLINE	FARGO TYPE LOCK KIT 30953 50953 HIGHLINE
67 3941	PAD COVER DOMED FIBERGLASS TO HOUSE 15KV URD LOADBREAK JUNCTIONS ON 43 X 38 INCH TOP FIBERGLASS BOX PAD	HIGHLINE	PAD COVER DOMED FIBERGL HL8IP/IS
67 3961	PAD TRN URD FIBERGLASS 43X38X32 DEEP BOX	ELECTRI GLASS NORDIC HIGHLINE HIGHLINE	PAD TRN URD FIBERGLASS BP2000-LF-CHP BP38-43-32-18-CHP HL-48 HL-48
67 3971	PADMOUNT FIBERGLASS JUNCTION BOX, SINGLE PHASE,FOR MOUNTING FEED THRU RECEPTACLES, 36"X36"X19", WITH COVER AND TWO HI LOCKING ASSEMBLIES, BOTTOM OPENING 28" X 28", COLOR MUNSELL GREEN	ADVANCED M.L INC	PAD MT FIBERGLASS ENCL AM-3619-2M1
74 0330	BRACE WOOD CROSSARM 35 INCH, 34.5KV AND 115KV, PAIR TO BE USED FOR 5 FOOT CROSSARM BOLT SPACING WITH 18 INCH DROP SPACING	JOSLYN ALUMA-FORM	BRACE WOOD XARM 35" JS160 R 6018A 11/16
74 0510	XARM 6 PIN B 3 1/2 X 4 1/2 X 8 FEET PER CMP SPECIFICATION OF 11/08/95	HATH PAT	XARM 6PIN B XARM 6PINB
74 0540	XARM 8 PIN B 3 3/4 X 4 3/4 X 10 FEET PER CMP SPECIFICATION 11/08/95	HUGHES BROS INC	XARM 8 PIN B PARRALLAN PSL
74 0930	PLATFORM TIMBER 4 3/4 X 5 3/4 X 18 FOR USE WITH S/C 67-0261 PER CMP SPEC 10/28/86	FORTEK KOPPERS	PLATFORM TIMBER 18 FOOT SPEC 10/28/86 FOR-TEK SPEC 10/28/86 KOPPERS
74 0990	POLE 30/3 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 30/3 PINE TREATED 30/3 FOR-TEK 30/3 KOPPERS
74 1020	POLE 30/4 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 30/4 PINE TREATED POLE 40/2 PINE TREATED 30/4 SPP FOR-TEK 30/4 SPP KOPPERS

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
74 1050	POLE 30/5 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 30/5 PINE TREATED 30/5 SPP FOR-TEK 30/5 SPP KOPPERS
74 1110	POLE 35/2 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 35/2 PINE TREATED 35/2 SPP FOR-TEK 35/2 SPP KOPPERS
74 1141	POLE 35/3 SPP OR NPP PER ENCE GUIDELINE G-5	KOPPERS FORTEK	POLE 35/3 SPP OR NPP 35/3 NPP OR SPP KOPPERS 35/3 NPP OR SPP FOR-TEK
74 1170	POLE 35/4 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 35/4 PINE TREATED 35/4 SPP FOR-TEK 35/4 SPP KOPPERS
74 1200	POLE 35/5 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 35/5 PINE TREATED 35/5 SPP FOR-TEK 35/5 SPP KOPPERS
74 1215	POLE 40/1 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 40/1 PINE TREATED 40/1 SPP FOR-TEK 40/1 SPP KOPPERS
74 1230	POLE 40/2 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 40/2 PINE TREATED POLE 40/2 SPP 40/2 SPP FOR-TEK 40/2 SPP KOPPERS
74 1261	POLE 40/3 SPP OR NPP PER ECNE GUIDELINE G-5	FORTEK KOPPERS	POLE 40/3 SPP OR NPP 40/3 SPP OR NPP FOR-TEK 40/3 SPP OR NPP KOPPERS
74 1290	POLE 40/4 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 40/4 PINE TREATED 40/4 SPP FOR-TEK 40/4 SPP KOPPERS
74 1320	POLE 40/5 PINE FULL LENGTH TREATED	FORTEK KOPPERS	POLE 40/5 PINE TREATED 40/5 SPP FOR-TEK 40/5 SPP KOPPERS
74 1335	POLE 45/1 SPP PER ECNE SPEC P-3 REV 1	FORTEK KOPPERS	POLE 45/1 SPP 45/1 SPP FOR-TEK 45/1 SPP KOPPERS
74 1350	POLE 45/2 SPP PER ECNE SPEC P-3 REV 1	FORTEK KOPPERS	POLE 45/2 PSP POLE 45/2 SPP 45/2 SPP FOR-TEK 45/2 SPP KOPPERS

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
74 1380	POLE 45/3 SPP PER ECNE SPEC P-3 REV 1	FOR-TEK	POLE 45/3 SPP POLE 45/3
74 1410	POLE 45/4 SPP PER ECNE SPEC P-3 REV 1	FORTEK KOPPERS	POLE 45/4 PSP POLE 45/4 SPP 45/4 SPP FOR-TEK 45/4 SPP KOPPERS
74 1440	POLE 45/5 SPP PER ECNE SPEC P-3 REV 1	FORTEK KOPPERS	POLE 45/5 PSP POLE 45/5 SPP 45/5 SPP FOR-TEK 45/5 SPP KOPPERS
74 1455	POLE 50/H1 SPP PER ANSI 05.1-1979 UNFRAMED, TREATED PER ANPA C4-80 WITH PENTACHLOROPENAL IN OIL TO A MINIMUN RETENTION OF 0.38 PCF	FORTEK KOPPERS	POLE 50/N1 SPP UNFRAMED 50/H1 SPP FOR-TEK 50/N1 SPP KOPPERS
74 1460	POLE 50/1 SPP PER CMP SPEC OF 02/29/88	FORTEK KOPPERS	POLE 50/1 SPP 50/1 SPP FOR-TEK 50/1 SPP KOPPERS
74 1470	POLE 50/2 SPP PER ANSI 05.1-1979 UNFRAMED, TREATED PER ANPA C4-80 WITH PENTACHLOROPHENOL IN OIL TO A MINIMUN RETENTION OF 0.38 PCF	FORTEK KOPPERS	POLE 50/2 PSP 50/2 SPP FOR-TEK 50/2 SPP KOPPERS
74 1500	POLE 50/3 SPP PER ANSI 05.1-1979 UNFRAMED, TREATED PER ANPA C4-80 WITH PENTACHLOROPHENOL IN OIL TO A MINIMUN RETENTION OF 0.38 PCF	FORTEK KOPPERS	POLE 50/3 PSP 50/3 SPP FOR-TEK 50/3 SPP KOPPERS
74 1520	POLE 55/N1 SPP PER ANSI 05.1-1979 UNFRAMED, TREATED PER ANPA C4-80 WITH PENTACHLOROPENOL IN OIL TO A MINIMUN RETENTION OF 0.38 PCF	FORTEK KOPPERS	POLE 55/N1 SPP UNFRAMED 55/N1 SPP FOR-TEK 55/H1 SPP KOPPERS
74 1525	POLE 55/1 SPP PER ANSI 05.1-1979 UNFRAMED, TREATED PER ANPA C4-80 WITH PENTACHLOROPHENOL IN OIL TO A MINIMUM RETENTION OF 0.38 PCF	FORTEK KOPPERS	POLE 55/1 SPP, UNFRAMED 55/1 SPP FOR-TEK 55/1 SPP KOPPERS
74 1530	POLE 55/2 SPP PER ECNE GUIDELINE G-5	FORTEK KOPPERS	POLE 55/2 SPP 55/2 SPP FOR-TEK 55/2 SPP KOPPERS
74 1560	POLE 55/3 SPP PER ANSI 05.1-1979 UNFRAMED, TREATED PER ANPA C4-80 WITH PENTACHLOROPHENOL IN OIL TO A MINIMUM RETENTION OF 0.38 PCF	FORTEK KOPPERS	POLE PSP 55/3 55/3 SPP FOR-TEK 55/3 SPP KOPPERS

LINE ITEH	DESCRIPTION	HANUFACTURER NAHE	PART NUHBER
74 1565	POLE 60/1 SPP PER ANSI 05.1-1979 UNFRAHED, TREATED PER AWPA C4-80 WITH PENTACHLOROPHENOL IN OIL TO	FORTEK KOPPERS	POLE 60/1 SPP, UNFRAHED 60/1 SPP FOR-TEK 60/1 SPP KOPPERS
74 1570	POLE 60/2 SPP PER ANSI 05.1-1979 UNFRAHED, TREATED PER AWPA C4-80 NITH PENTACHLOROPHENOL IH OIL TO A HINIHUH RETENTION OF 0.5B PCF	FORTEK KOPPERS	POLE 60/2 SPP, UNFRAHE 60/2 SPP FOR-TEK 60/2 SPP KOPPERS
74 1575	POLE 60/3 SPP PER ANSI 05.1-1979 UNFRAHED, TREATED PER AWPA C4-80 WITH PENTACHLOROPHENOL IN OIL TO A MINIHUH RETENTION OF 0.5B PCF	FORTEK KOPPERS	POLE 60/3 SPP UNFRAHED 60/3 SPP FOR-TEK 60/3 SPP KOPPERS
74 15B0	POLE 6S/3 SPP PER AHSI 05.1-1979 UNFRAHED, TREATED PER AWPA C4-19B0 WITH PEHTACHLOROPHENOL IN OIL TO A MINIHUH RETENTION OF 0.5B PCF	FORTEK KOPPERS	POLE 6S/3 SPP, UNFRAHED 6S/3 SPP FOR-TEK 6S/3 SPP KOPPERS
74 1720	POLE WESTERH CEDAR UNTREATED 3S/S	FORTEK KOPPERS	POLE WC UNTREATED 3S/S WC UNTREATED 3S/S FOR-TEK WC UNTREATED 3S/S KOPPERS
74 1740	POLE WESTERH CEDAR UNTREATED 40/4	FORTEK KOPPERS	POLE WC UNTREATED 40/4 WC UNTREATED 40/4 FOR-TEK WC UNTREATED 40/4 KOPPERS
74 1760	POLE WESTERN CEDAR UNTREATED 45/3 PER ANSI 05.1-19B7 UNFRAHED	FORTEK KOPPERS	POLE WC 45/3 UNTREATED WC UNTREATED 45/3 FOR-TEK WC UNTREATED 45/3 KOPPERS
74 1770	POLE WESTERN CEDAR UNTREATED 50/2 PER ANSI 05.1-19B7 UNFRAHED	FORTEK KOPPERS	POLE WC 50/2 UNTREATED WC UNTREATED 50/2 FOR-TEK WC UNTREATED 50/2 KOPPERS
B1 3020	COHPOUND DUCT SEAL	HAC HAC	COHPOUND DUXSEAL SEAL/1 COHPOUND SEAL/1 COHPOUND HAC
B1 4900	HARKING FLAG, WHITE 4" X 5" - 30" STAFF	BLACKBURH SETOH	FLAG, HARKING - WHITE PHF30WHITE SETOH
B1 4905	HARKING FLAG, RED 4" X 5" - 30" STAFF	SETON	FLAG, HARKING - RED PHF30RED SETOH
B1 5400	KIT CLEANING FOR P.E. INSULATION WITH 3 SOLVENT SATURATED CLEANING PADS AND 4 FEET OF 1 IHCH NIDE ALUHINUH OXIDE GRIT CLOTH	3H 3H SPEED SYSTEM	KIT CABLE CLEAHING CC-2 CC-2 3H HP3H SPEED SYSTEM

LINE ITEM	DESCRIPTION		HANUFACTURER NAME	PART NUHBER
B1 5407	LABEL CABLE KIT CONTAINING 25 HOUNTING BARS 50 TIES, 50 EACH LETTERS, AND NUMBERS		RELIABLE ELEC	LABEL CABLE KIT S-BS0-KIT
B1 540B	LABEL CABLE HOUHTING BAR BLACK POLY (PACKAGE 100 PER PKG)		RELIABLE ELEC RELIABLE ELEC RELIABLE ELEC	LABEL CABLE MTG BAR SB50 SB50 RELIABLE SB50 RELIABLE ELEC
B1 5409	LABEL CABLE TIE (PACKAGE 100 PER. PKG)		RELIABLE ELEC THOHAS B BETTS THOHAS B BETTS TYTON	LABEL CABLE TIE SB50T RELIABLE ELEC TY52BHX TY52BHX T&B TS0L-0 25/PKG TYTON
B1 5410	LABEL CABLE NUHBER CHARACTER	0	RELIABLE ELEC RELIABLE ELEC	LABEL CABLE NUHBER 0 SB50N-0 SB50N-0 RELIABLE
B1 5411	LABEL CABLE CHARACTER NUMBER 1, LETTER I, OR DASH	1 I -	RELIABLE ELEC RELIABLE ELEC	LABEL CABLE 1 I OR - SB50N-1 SB50N-1 RELIABLE
B1 5412	LABEL CABLE NUMBER CHARACTER	2	RELIABLE ELEC	LABEL CABLE NUMBER 2 SB50N-2
B1 5413	LABEL CABLE NUMBER CHARACTER	3	RELIABLE ELEC RELIABLE ELEC RELIABLE ELEC	LABEL CABLE NUHBER 3 SB50N-3 SB50N-3 RELIABLE SB50N-3 RELIABLE ELEC
B1 5414	LABEL CABLE NUMBER CHARACTER	4	RELIABLE ELEC	LABEL CABLE NUHBER 4 SB50N-4
B1 5415	LABEL CABLE NUMBER CHARACTER	5	RELIABLE ELEC RELIABLE ELEC	LABEL CABLE NUHBER 5 SB50N-5 SB50H-5 RELIABLE
B1 5416	LABEL CABLE NUHBER CHARACTER	6&9	RELIABLE ELEC	LABEL CABLE NUHBER 6,9 SB50N-6
B1 5417	LABEL CABLE NUHBER CHARACTER	7	RELIABLE ELEC	LABEL CABLE NUNBER 7 SB50N-7
B1 541B	LABEL CABLE NUHBER CHARACTER	B	RELIABLE ELEC	LABEL CABLE NUHBER B SB50N-B
B1 5419	LABEL CABLE NUMBER ONE-HALF	1/2	RELIABLE ELEC RELIABLE ELEC	LABEL CABLE NUHBER 1/2 SB50PR-1/2 SB50PR-1/2 RELIABLE

LINE

ITEM	DESCRIPTION		MANUFACTURER NAME	MANUFACTURER PART NUMBER
81 5420	LABEL CABLE DECIMAL POINT	.		LABEL CABLE NUMBER .
			RELIABLE ELEC	SB50PR-.
			RELIABLE ELEC	SB50PR-. RELIABLE
81 5421	LABEL CABLE LETTER CHARACTER	A		LABEL CABLE LETTER A
			RELIABLE ELEC	SB50L-A
			RELIABLE ELEC	SB50L-A RELIABLE
			RELIABLE ELEC	SB50L-A RELIABLE ELEC
81 5422	LABEL CABLE LETTER CHARACTER	B		LABEL CABLE LETTER B
			RELIABLE ELEC	SB50L-B
			RELIABLE ELEC	SB50L-B RELIABLE
81 5423	LABEL CABLE LETTER CHARACTER	C		LABEL CABLE LETTER C
			RELIABLE ELEC	SB50L-C
			RELIABLE ELEC	SB50L-C RELIABLE
			RELIABLE ELEC	SB50L-C RELIABLE ELEC
81 5424	LABEL CABLE LETTER CHARACTER	D		LABEL CABLE LETTER D
			RELIABLE ELEC	SB50L-D
			RELIABLE ELEC	SB50L-D RELIABLE
81 5425	LABEL CABLE LETTER CHARACTER	E		LABEL CABLE LETTER E
			RELIABLE ELEC	SB50L-E
81 5426	LABEL CABLE LETTER CHARACTER	F		LABEL CABLE LETTER F
			RELIABLE ELEC	SB50L-F
81 5427	LABEL CABLE LETTER CHARACTER	G		LABEL CABLE LETTER G
			RELIABLE ELEC	SB50L-G
81 5428	LABEL CABLE LETTER CHARACTER	H		LABEL CABLE LETTER H
			RELIABLE ELEC	SB50L-H
81 5430	LABLE CABLE LETTER CHARACTER	J		LABEL CABLE LETTER J
			RELIABLE ELEC	SB50L-J
81 5431	LABLE CABLE LETTER CHARACTER	K		LABEL CABLE LETTER K
			RELIABLE ELEC	SB50L-K
81 5432	LABEL CABLE LETTER CHARACTER	L		LABEL CABLE LETTER L
			RELIABLE ELEC	SB50L-L
			RELIABLE ELEC	SB50L-L RELIABLE
			RELIABLE ELEC	SB50L-L RELIABLE ELEC
81 5433	LABEL CABLE LETTER CHARACTER	M		LABEL CABLE LETTER M
			RELIABLE ELEC	SB50L-M
			RELIABLE ELEC	SB50L-M RELIABLE

LINE

ITEM	DESCRIPTION		MANUFACTURER NAME	MANUFACTURER PART NUMBER
81 5434	LABEL CABLE LETTER CHARACTER	N		LABEL CABLE LETTER N
			RELIABLE ELEC	SB50L-N
			RELIABLE ELEC	SB50L-N RELIABLE
			RELIABLE ELEC	SB50L-N RELIABLE ELEC
81 5435	LABEL CABLE SYMBOL PHASE	O		LABEL CABLE SYMBOL O
			RELIABLE ELEC	SB50PR-O
			RELIABLE ELEC	SB50PR-O RELIABLE
			RELIABLE ELEC	SB50PR-O RELIABLE ELEC
81 5436	LABEL CABLE LETTER CHARACTER	P		LABEL CABLE LETTER P
			RELIABLE ELEC	SB50L-P
			RELIABLE ELEC	SB50L-P RELIABLE
			RELIABLE ELEC	SB50L-P RELIABLE ELEC
81 5437	LABEL CABLE LETTER CHARACTER	Q		LABEL CABLE LETTER Q
			RELIABLE ELEC	SB50L-Q
81 5438	LABEL CABLE LETTER CHARACTER	R		LABEL CABLE LETTER R
			RELIABLE ELEC	SB50L-R
			RELIABLE ELEC	SB50L-R RELIABLE
81 5439	LABEL CABLE LETTER CHARACTER	S		LABEL CABLE LETTER S
			RELIABLE ELEC	SB50L-S
			RELIABLE ELEC	SB50L-S RELIABLE
81 5440	LABEL CABLE LETTER CHARACTER	T		LABEL CABLE LETTER T
			RELIABLE ELEC	SB50L-T
			RELIABLE ELEC	SB50L-T RELIABLE
			RELIABLE ELEC	SB50L-T RELIABLE ELEC
81 5441	LABEL CABLE LETTER CHARACTER	U		LABEL CABLE LETTER U
			RELIABLE ELEC	SB50L-U
			RELIABLE ELEC	SB50L-U RELIABLE
81 5442	LABEL CABLE LETTER CHARACTER	V		LABEL CABLE LETTER V
			RELIABLE ELEC	SB50L-V
			RELIABLE ELEC	SB50L-V RELIABLE
81 5443	LABEL CABLE LETTER CHARACTER	W		LABEL CABLE LETTER W
			RELIABLE ELEC	SB50L-W
81 5444	LABEL CABLE LETTER CHARACTER	X		LABEL CABLE LETTER X
			RELIABLE ELEC	SB50L-X
			RELIABLE ELEC	SB50L-X RELIABLE
81 5445	LABEL CABLE LETTER CHARACTER	Y		LABEL CABLE LETTER Y
			RELIABLE ELEC	SB50L-Y

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
B1 5446	LABEL CABLE LETTER CHARACTER Z	RELIABLE ELEC	LABEL CABLE LETTER Z SB50L-Z
B1 5447	LABEL 4 1/2 X 8 BLACK ON ORANGE & WHITE PRESSURE SENSITIVE VINYL FOR PADMOUNT EQUIPMENT ...WARNING HAZARDOUS VOLTAGE KEEP OUT PER CMP SPEC OF 03/96	LEM LEM BRADY ALLIED DECALS	LABEL WARNING KEEP OUT B927 NEMA-FIG 1 B927 NEMA-FIG 1 LEM B927 NEMA-FIG 1 BRADY NEMA-FIG 1 ALLIED DECAL
B1 5448	LABEL 4 1/2 X 8 BLACK & RED ON WHITE PRESSURE SENSITIVE VINYL FOR PADMOUNT EQUIPMENT DANGER HAZARDOUS VOLTAGE KEEP OUT PER CMP SPEC OF 03/96	BRADY LEM LEM ALLIED DECALS	LABEL DANGER KEEP OUT B927 NEMA-FIG 2 BRADY DANGER KEEP OUT DANGER KEEP OUT LEM NEMA-FIG 2 ALLIED DECALS
B1 5449	LABEL 4 X 6 BLACK ON WHITE PRESSURE SENSITIVE VINYL ASBESTOS WASTE HATERIAL ETC	CMP CO BRADY	LABEL ASBESTOS WASTE GRAPHICS DEPT LABEL ASBESTOS WASTE BRADY
B1 5450	LABEL 6 X 6 BLACK ON YELLOW PRESSURE SENSITIVE VINYL CAUTION CONTAINS PCB'S (POLYCHLORNATED BIPHEMYLS) ETC	BRADY BRADY GRAPHICS DEPT	LABEL CAUTION PCB CAUTION/PCB'S CAUTION/PCB'S BRADY CMP CO
B1 5453	LABEL 3 X 5 BLACK ON YELLOW PRESSURE SENSITIVE VINYL REVERSE PRINTING LOOP FEED	BRADY BRADY	LABEL LOOP FEED LOOP FEED LOOP FEED BRADY
B1 5454	LABEL 3X5 BLACK ON YELLOW PRESSURE SENSITIVE VINYL CAUTION HULTIPLE CABLES	BRADY	LABEL CAUTION HULTIPLE CAUTION HULTIPLR BRADY
B1 5455	LABEL 3 X 5 BLACK ON YELLOW PRESSURE SENSITIVE VINYL CAUTION ONE PHASE OF THREE PHASE FEED	BRADY	LABEL CAUTION 1 PH OF 3 CAUTION 1PH OF 3 BRADY
B1 5456	LABEL 3 X 5 BLACK ON YELLOW PRESSURE SENSITIVE VINYL EMERGENCY SPARE ETC	EASTERN METAL	LABEL EMERGENCY SPARE LABEL EMERG SPARE EASTERN
B1 5457	LABEL 4 1/2 X 5 BLACK ON YELLOW PRESSURE SENSITIVE VINYL CAUTION DO NOT TIE ALIVE	BRADY	LABEL DO NOT TIE ALIVE DO NOT TIE LIVE BRADY
B1 5458	LABEL 4 X 4 GREEN ON WHITE PRESSURE SENSITIVE VINYL GREEN CROSS 3 5/8 X 3 5/8 X 7/8 STROKE	BRADY BRADY	LABEL GREEN CROSS GREEN CROSS GREEN CROSS BRADY

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
B1 5459	LABEL 7X10 GREEN ON WHITE PRESSURE SENSITIVE VINYL SAFETY ADVISORY LIVE FRONT PADMOUNT TRANSFORMER PER CMP SPEC DATED 03/96.	WESCO	LABEL SAFETY LIVE FRONT SAFETY LIVE FRONT
B1 5460	LABEL 6 X 6 RED ON YELLOW PRESSURE SENSITIVE VINYL HAZARDOUS WASTE FEDERAL AND STATE LAW PROHIBITS ETC	WESCO	LABEL HAZARDOUS WASTE HAZARDOUS WASTE
B1 5461	LABEL 6X6 RED ON WHITE W/ MAGNETIC BACKING	WESCO	LABEL RED CROSS MAGNETIC WESCO
B1 5462	LABEL 6X6 RED ON WHITE PRESSURE SENSITIVE VINYL RED CROSS 4X4X1 1/4 INCH STROKE	WESCO	LABEL RED CROSS PRESSURE RED CROSS
B1 5463	LABEL 3X5 BLACK ON WHITE PRESSURE SENSITIVE VINYL H O W/GRAPHIC SYMBOL	BRADY BRADY	LABEL NORMALLY OPEN NORMALLY OPEN NORMALLY OPEN BRADY
B1 5464	LABEL 8 X 5 BLACK ON YELLOW PRESSURE SENSITIVE VINYL ORM-E	BRADY	LABEL ORM-E 8X5 ORM-E 8X5 BRADY
B1 5466	LABEL 1.6 X 5.2 BLACK ON WHITE PRESSURE SENSITIVE VINYL PRIVATELY OWNED CABLES	BRADY BRADY	LABEL PRIVATE CABLES PRIVATE CABLES PRIVATE CABLES BRADY
B1 5467	LABEL 1.6 X 5.2 BLACK ON WHITE PRESSURE SENSITIVE VINYL LOAD CAPACITY - 4000 LBS CAPACITY 4-35' POLES CAPACITY 3-40' POLES	BRADY	LABEL LOAD CAP 4000 LBS LOAD CAP 4000 LBS BRADY
B1 5468	LABEL 1.6 X 5.2 BLACK ON WHITE PRESSURE SENSITIVE VINYL LOAD CAPACITY - 8000 LBS CAPACITY 9-35' POLES CAPACITY 6-40' POLES	BRADY	LABEL LOAD CAP 8000 LBS LOAD CAP 8000 LBS BRADY
B1 5482	LABEL 3 X 5 BLACK ON BLUE POLYESTER 17 FOR 175 WATT MERCURY STREETLIGHT		LABEL STREETLIGHT 175 M
B1 5483	LABEL 3 X 3 BLACK ON BLUE POLYESTER 25 FOR 250 WATT MERCURY STREETLIGHT		LABEL STREETLIGHT 250 M
B1 5488	LABEL 3 X 3 BLACK ON GOLD POLYESTER 5 FOR 50 WATT SODIUM STREETLIGHT		LABEL STREETLIGHT 50 S
B1 5489	LABEL 3 X 3 BLACK ON GOLD POLYESTER 7 FOR 70 WATT SODIUM STREETLIGHT		LABEL STREETLIGHT 70 S

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
B1 5490	LABEL 3 X 3 BLACK ON GOLD POLYESTER 10 FOR 100 WATT SODIUM STREETLIGHT		LABEL STREETLIGHT 100 S
B1 5491	LABEL 3 X 3 BLACK ON GOLD POLYESTER 15 FOR 150 WATT SODIUM STREETLIGHT		LABEL STREETLIGHT 150 S
B1 5492	LABEL 3 X 3 BLACK ON GOLD POLYESTER 25 FOR 250 WATT SODIUM FIXTURE		LABEL STREETLIGHT 250 S
B1 5493	LABEL 3 X 3 BLACK ON GOLD POLYESTER 40 FOR 400 WATT SODIUM FIXTURE		LABEL STREETLIGHT 400 S
B1 5498	LABEL 5 1/4 X 7 BROWN ON ORANGE PRESSURE SENSITIVE VINYL UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN 10 FEET OF ENERGIZED POWER LINES	BRADY	LABEL UNLAWFUL TO OPERA UNLAWFUL TO OPERATE BRADY
B1 5500	LABEL - NON-HAZARDOUS WASTE - 6" X 6"		LABEL - NON HA2 WASTE
A1 5513	MARKER BOARD #2 PINE BLACK 1"X6"X6" WITH NAIL HOLE AND GALVANIZED BO NAIL (DISCONTINUED)		(DISCONTINUED)
B1 5515	MARKER NAIL STAINLESS STEEL 1 INCH RING	GEO GEO SWAN SECURE PRODUCT GEO	MARKER NAIL 1" SS PREMAX GN3D PREMAX GN3D GEO 304 SS B1-5515 GEO
B1 5516	MARKER NAIL ALUMINUM ROOFING 7/16 INCH HEAD 1 1/4 INCH SHANK FOR POINT AND MARKER DISCS; PACKED 500 PER CARTON	OSMOSE OSMOSE	MARKER NAIL ROOFING AL OZS OZS OSMOSE
B1 5517	MARKER, POLE, BOTTOM OF CMP SPACE 3 1/4 X 2 1/2	PREMAX PREMAX	MARKER,POLE,CMP SPACE BOTTOM OF CMP SPACE BOTTOM OF CMP SPACE/PREMAX
B1 5518	MARKER POLE EMBOSSED PRIVATE LINE 1.5 X 5.75 INCH ALUMINUM	PREMAX PREMAX	MARKER POL PRIVATE LINE PRIVATE LINE PRIVATE LINE/PREMAX
B1 5519	MARKER POLE EMBOSSED ALUMINUM CNP CO 3/4 X 3 3/8 INCH	PREMAX PREMAX	MARKER POLE TAG CNP CO DESIGN 12 CNP CO DESIGN 12 CNP CO PREMAX
B1 5520	MARKER POLE EMBOSSED ALUMINUM 0 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 0 ROMAN 2" 0 ROMAN 2" 0 PREMAX

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
B1 5521	MARKER POLE EMBOSSED ALUMINUM 1 2 INCH HIGH	PREMAX	MARKER POLE TAG 1 ROMAN 2" 1
B1 5522	MARKER POLE EMBOSSED ALUMINUM 2 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 2 ROMAN 2" 2 ROMAN 2" 2 PREMAX
B1 5523	MARKER POLE EMBOSSED ALUMINUM 3 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 3 ROMAN 2" 3 ROMAN 2" 3 PREMAX
B1 5524	MARKER POLE EMBOSSED ALUMINUM 4 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 4 ROMAN 2" 4 ROMAN 2" 4 PREMAX
B1 5525	MARKER POLE EMBOSSED ALUMINUM 5 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 5 ROMAN 2" 5 ROMAN 2" 5 PREMAX
B1 5526	MARKER POLE EMBOSSED ALUMINUM 689 2 INCH HIGH	PREMAX	MARKER POLE TAG 6A9 ROMAN 2" 6 & 9
A1 5527	MARKER POLE EMBOSSED ALUMINUM 7 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 7 ROMAN 2" 7 ROMAN 2" 7 PREMAX
B1 5528	MARKER POLE EMBOSSED ALUMINUM 8 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 8 ROMAN 2" 8 ROMAN 2" 8 PREMAX
A1 5529	MARKER POLE EMBOSSED ALUMINUM 1/2 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 1/2 ROMAN 2" 1/2 UA2-1/2 ROMAN 2" PREMAX
B1 5531	MARKER POLE EMBOSSED ALUMINUM A 2 INCH HIGH	PREMAX	MARKER POLE TAG A ROMAN 2" A
B1 5532	MARKER POLE EMBOSSED ALUMINUM B 2 INCH HIGH	PREMAX	MARKER POLE TAG B ROMAN 2" B
B1 5533	MARKER POLE EMBOSSED ALUMINUM C 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG C ROMAN 2" C ROMAN 2" C PREMAX
B1 5534	MARKER POLE EMBOSSED ALUMINUM 1/3 2 INCH HIGH	PREMAX PREMAX	MARKER POLE TAG 1/3 UA2-1/3ROMAN 2" UA2-1/3ROMAN 2" PRENAX

LINE ITEM	DESCRIPTION		MANUFACTURER NAME	PART NUMBER
BI 5535	MARKER POLE EMBOSSED ALUMINUM 1/4 2 INCH HIGH		PREMAX PREMAX	MARKER POLE TAG 1/4 UA2-1/4ROMAN 2" UA2-1/4ROMAN 2" PREMAX
BI 5538	MARKER POLE EMBOSSED ALUMINUM J 2 INCH HIGH		PREMAX PREMAX	MARKER POLE TAG J ROMAN 2" J ROMAN 2" J PREMAX
BI 5542	MARKER POLE EMBOSSED ALUMINUM P 2 INCH HIGH		PREMAX PREMAX	MARKER POLE TAG P ROMAN 2" P ROMAN 2" P PREMAX
BI 5544	MARKER POLE EMBOSSED ALUMINUM S 2 INCH HIGH		PREMAX PREMAX	MARKER POLE TAG S ROMAN 2" S ROMAN 2" S PREMAX
BI 5551	MARKER POLE EMBOSSED ALUMINUM DATE 1 INCH DISC WITH CENTER HOLE ONE SIDE CMP CO. 1996 REVERSE SIDE CMP CO. 1997		OSMOSE OSMOSE	MARKER POLE DATE TAG I" DISC ALUM EMBOS I" DISC ALUM EMBOS OSMOSE
BI 5568	MARKER URD PRESSURE SENSITIVE CUSTOMER EQUIPMENT 2 7/8 INCH HIGH X 1 3/4 WIDE REFLECTIVE YELLOW ON BLACK OUTDOOR USE		BRADY BRADY	MARKER URD CUSTOMER EQU CUSTOMER EQUIP CUSTOMER EQUIP CUSTOMER EQUIP BRADY
BI 5569	MARKER URD PRESSURE SENSITIVE CMPCO 2 7/8 INCH HIGH X 1 3/4 WIDE REFLECTIVE YELLOW ON BLACK OUTDOOR USE		BRADY BRADY	MARKER URD 2 1/2" CMPCO CMPCO CMPCO BRADY
BI 5570	MARKER URD PRESSURE SENSITIVE 0 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" 0 NV25YBE-0 5000-0
BI 5571	MARKER URD PRESSURE SENSITIVE 1 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX PREMAX BRADY	MARKER URD 2 1/2" 1 NV25YBE-1 NV25YBE-1 PREMAX 5000-1 BRADY
BI 5572	MARKER URD PRESSURE SENSITIVE 2 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" 2 NV25YBE-2 5000-2
BI 5573	MARKER URD PRESSURE SENSITIVE 3 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" 3 NV25YBE-3 5000-3

LINE ITEM	DESCRIPTION		MANUFACTURER NAME	PART NUMBER
BI 5574	MARKER URD PRESSURE SENSITIVE 4 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" 4 NV25YBE-4 5000-4
BI 5575	MARKER URD PRESSURE SENSITIVE 5 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" 5 NV25YBE-5 5000-5
BI 5576	MARKER URD PRESSURE SENSITIVE 6&9 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX PREMAX BRADY	MARKER URD 2 1/2" 6&9 NV25YBE-6 NV25YBE-6 PREMAX 5000-6 BRADY
BI 5577	MARKER URD PRESSURE SENSITIVE 7 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" 7 NV25YBE-7 5000-7
BI 5578	MARKER URD PRESSURE SENSITIVE 8 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" 8 NV25YBE-8 5000-8
BI 5579	MARKER URD PRESSURE SENSITIVE 1/2 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX PREMAX BRADY	MARKER URD 2 1/2" 1/2 NV25YBE-1/2 NV25YBE-1/2 PREMAX 5000-1/2 BRADY
BI 5580	MARKER URD PRESSURE SENSITIVE POINT . 1/2 INCH HIGH REFELCTIVE YELLOW ON 2 7/8 INCH HIGH BLACK BACKGROUND		PREMAX PREMAX BRADY	MARKER URD POINT . NV25YBE-. NV25YBE-. PREMAX 5000-. BRADY
BI 5581	MARKER URD PRESSURE SENSITIVE A 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BALCK OUTDOOR USE		PREMAX PREMAX BRADY	MARKER URD 2 1/2" A NV25YBE-A NV25YBE-A PREMAX 5000-A BRADY
BI 5582	MARKER URD PRESSURE SENSITIVE B 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX PREMAX BRADY	MARKER URD 2 1/2" B NV25YBE-B NV25YBE-B PREMAX 5000-B BRADY
BI 5583	MARKER URD PRESSURE SENSITIVE C 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX PREMAX BRADY	MARKER URD 2 1/2" C NV25YBE-C NV25YBE-C PREMAX 5000-C BRADY
BI 5584	MARKER URD PRESSURE SENSITIVE D 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE		PREMAX BRADY	MARKER URD 2 1/2" D NV25YBE-D 5000-D

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
81 5585	MARKER URD PRESSURE SENSITIVE E 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE	PREMAX BRADY	MARKER URD 2 1/2" E HV25Y8E-E 5000-E
81 5586	MARKER URD PRESSURE SENSITIVE - 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE	PREMAX	MARKER URD 2 1/2" - HV25Y8E--
81 5587	MARKER URD PRESSURE SENSITIVE 2 1/2 INCH HIGH REFLECTIVE YELLOW ON BLACK OUTDOOR USE	PREMAX PREMAX	MARKER URD 2 1/2" NV25Y8E NV25Y8E PREMAX
81 5702	MASTIC PADS INSULATING 600 VOLT PVC BACKING 4 1/2 X 6 1/2 INCHES	3M 3M	MASTIC PADS 4 X 6 1/2IN 2200 UPC 21296 2200-6 1/2 X 4 1/2
81 5800	CONTACT AID ALUMINUM ZLM 802	A B CHANCE BURNDY TELEDYNE	CONTACT AID M1920-5 PEHA13-8 402.NO.11C
81 5806	CORD NEOPRENE COATED FOR TYING IN CABLE 1/8" (250' SPOOL)	ESSEX ESSEX	CORD NEOPRENE TYING EC-9-8N EC-9-8N ESSEX
82 0251	TAPE COLOR CODE 3/4" X 66' VINYL RED	3M 3M	TAPE RED 3/4 INCH SCOTCH 35 10810 35
82 0252	TAPE COLOR CODE 3/4" X 66' VINYL WHITE	3M 3M 3M	TAPE WHITE 3/4 INCH SCOTCH 35 10328 SCOTCH 35 10328 3M SCOTCH 35 10828 3M
82 0253	TAPE COLOR CODE 3/4" X 66' VINYL BLUE	3M 3M	TAPE BLUE 3/4 INCH SCOTCH 35 10836 35-BLUE-3/4X66FT
82 0254	TAPE COLOR CODE 3/4" X 66' VINYL ORANGE	3M 3M	TAPE ORANGE 3/4 INCH SCOTCH 35 10869 SCOTCH 35 10869 3M
82 0400	TAPE FRICTION 3/4 INCH X 60 FOOT ROLL	PLYMOUTH 3M 3M	TAPE FRICTION 3/4 X 60 1 XL PLYMOUTH 1755 BLACK 1755 3/4X82-1/2FT
82 0433	TAPE ELECTRICAL PLASTIC GENERAL PURPOSE (REFER TO STOCK CODES 82-0488 & 0489)	3M	TAPE ELECT PLASTIC 3/4 33+

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
82 0488	TAPE ELECTRICAL VINYL HEAVY DUTY 1 INCH X 36 YARD ROLL	3M 3M	TAPE ELECT HEAVY 1 INCH 37 1X36YD 37 1X36YD 3M
82 0489	TAPE ELECTRICAL VINYL HEAVY DUTY 2 INCH X 36 YARD ROLL	3M 3M	TAPE ELECT HEAVY 2 INCH 37 2" X 36YD 37 2" X 36YD 3M
82 0500	TAPE E/FUSING SELF-FUSING SILICON RUBBER TAPE GOOD FOR 7200 VOLTS WITH ONE LAYER AND 19.9KV WITH TWO LAYERS.	MIDSUN GROUP INC MIDSUN GROUP INC	TAPE SELF FUSING RUBSIL E/FTP-2.5 G E/FTP-2.5 G MIDSUN
82 0510	TAPE ELECTRICAL SPLICING HI-VOLTAGE 3/4	3M	TAPE ELEC HV SPL 3/4 IN 23
82 0515	TAPE ELECTRICAL SPLICING HI-VOLTAGE 1 IN	3M	TAPE ELEC HV SPL 1 IN 130C 1" X 30'
82 0570	TAPE ELECT RUB/SIL HI-TEMP 1 INCH X 30 FEET	3M	TAPE EL R/S HI/TEMP 1IN 70
82 0600	TAPE ELECT SELF-FUSING SEMI-COND	3M	TAPE EL SF SEMI-COND 13
82 0630	TAPE ELECTRICAL SHIELDING KNIT TINNED COPPER 1 INCH X 15 FOOT ROLL	CABLE CONN CO 3M	TAPE EL SHIELD 1 IN CU SB1-15 24
82 0690	TAPE ELECTRIC ARC AND FIREPROOFING 3 INCH X 20 FOOT ROLL	3M	TAPE ARC & FIREPROOFING 77
82 0800	TAPE RUBBER MASTIC 2INCH BY 10 FOOT ROLL	3M	TAPE RUBBER MASTIC 2IN 2228
82 0900	TAPE FIBER REINFORCED POLYESTER 12 MIL NON-WOVEN PACKED IN OIL 3/4 INCH BY 4 YDS		TAPE POLYESTER3/4INX4YD
82 1013	PADLOCK SINGLE USE 1 INCH CIRCULAR #6 ALUMOWELD SHACKLE ALUMINUM BODY 3/8 INCH SHEAR HEAD LOCK SCREW	FARGO UTILCO UTILCO	PADLOCK SINGLE USE AN GH307 FARGO PEL-1A PEL-1A UTILCO
82 1080	TAPE VARNISHED CAMBRIC YELLOW 36 INCH WIDE, (1 ROLL = 75 FEET)		TAPE V C Y 36 IN WIDE

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
82 II30	RIBBON, BRAZE ORANGE FOR WITNESSING STAKES 1 1/4 X 100FT (PREVIOUSLY B3-2254)	FORESTRY SUPP	RIBBON, BLAZE ORANGE
		THOR	58045-ORANGE GLO FOREST SU
		THOR	77-002 ORANGE TAPE
			77-002 ORANGE TAPE THOR
82 5607	SIGN, 24" X 18" WHITE ON RED STEEL OR FIBERGLASS "CAUTION CAPACITORS WAIT 10 MINUTES AFTER DE-ENERGIZING BEFORE ATTACHING GROUND CLUSTER DO NOT WORK ON STACKS UNLESS PHASE WIRES ARE SHORTED & GROUNDED. DANGER CAPACITOR FRAMES ARE ALIVE" PER CMP SPECIFICATION OF 03/86		SIGN CAUTION CAP STACKS
			CAUTION CAPACITORS
		LEM	CAUTION CAPACITORS
		BRADY	CAUTION CAPACITORS BRADY
		LEM	CAUTION CAPACITORS LEM
82 56I0	SIGN, 7 1/2" X II", WHITE ON RED STEEL OR FIBERGLASS : "CAUTION DO NOT BYPASS REGULATOR UNLESS IT IS ON NEUTRAL POSITION AND MOTOR CONTROL IS CUT OUT" PER CMP SPECIFICATION OF 03/86		SIGN DO NOT BYPASS REG
		STONEHOUSE	
		BRADY	CAUTION DO NO BY BRADY
		LEM	CAUTION DO NOT BY LEM
82 5619	SIGN 10X14 BLACK AND RED ON WHITE PLASTIC DANGER FIRE REGULATIONS DEMAND THAT THIS SPACE BE CLEAR AT ALL TIMES		SIGN DANGER FIRE REG
		LEM	DANGER FIRE REG
		BRADY	DANGER FIRE REG BRADY
		LEM	DANGER FIRE REG LEM
		SETON	I31K 10X14 BSR SETON
82 5620	SIGN, 10"X 14" BLACK & RED ON WHITE STEEL OR FIBERGLASS: DANGER HIGH VOLTAGE INSIDE KEEP OUT (WITH GRAPHIC SYMBOL) PER CMP SPEC OF 03/96		SIGN DANGER HIGH VOLTAGE
		LEM	DANGER HI VOLT
		LEM	DANGER HI VOLT LEM
82 5621	SIGN DANGER HIGH VOLTAGE 10 INCHES BY 14 INCHES BLACK AND RED ON WHITE, STEEL OR FIBERGLASS: DANGER HIGH VOLTAGE ABOVE KEEP OFF (WITH GRAPHIC SYMBOL) PER CMP SPEC OF 03/96		SIGN DANGER HIGH VOLTAGE
		LEM	DANGER HIGH VOLTAGE
		LEM	DANGER HIGH VOLTAGE LEM
82 5622	SIGN 10 X 14 BLACK ON ORANGE STEEL OR FIBERGLASS - WARNING,NO SMOKING, SPARKS OR OPEN FLAME		SIGN WARNING NO SMOKING
		LEM	WARNING NO SMOKING
		LEM	WARNING NO SMOKING LEM
82 5625	SIGN 7X10 BLACK ON YELLOW STEEL (30 GA) DONT TIE ALIVE		SIGN DONT TIE ALIVE
		LEM	DON'T TIE ALIVE
		BRADY	DON'T TIE ALIVE BRADY
		LEM	DON'T TIE ALIVE LEM

LINE ITEM	DESCRIPTION	MANUFACTURER NAME	PART NUMBER
82 5650	SIGN 10X14 BLACK ON WHITE STEEL KEEP GATE CLEAR -- DO NOT PLACE COMBUSTIBLE MATERIALS IN THIS AREA (LOWER RIGHT CORNER) CMP CO (PUNCH ALL FOUR CORNERS)	BRADY	SIGN KEEP GATE CLEAR -- KEEP GATE CLEAR BRADY
82 5655	SIGN 6X6 RED ON WHITE CREDIT CARD STOCK 4 X 4 X 1 1/4 INCH STROKE RED CROSS		SIGN LIFE SUPPORT EQUIP
		LEM	RED CROSS
		LEM	RED CROSS LEM
		BRADY	RED CROSS BRADY
82 5688	SIGN 2 1/2 X 1 1/2 WHITE ON GREEN PLASTIC WITH HOLDER SWITCH MAT BELOW		SIGN SWITCH MAT BELOW
		CMP CO	STATIONS DEPT
		LEM	B256B8
		LEM	B256B8 LEM
82 5691	SIGN SWITCH NUMBER HOLDER TO HOLD UP TO 10 CHARACTERS VERTICAL		SIGN SWITCH HOLDER 10V
		PREMAX	NVCS25-V10
		PREMAX	NVCS25-V10 PREMAX
82 5692	SIGN SWITCH NUMBER HOLDER TO HOLD UP TO 10 CHARACTORS HORIZONTAL		SIGN SWITCH HOLDER 10 H
		PREMAX	NVCS 25 H-10 PREMAX
82 5693	SIGN SWITCH NUMBER HOLDER TO HOLD UP TO 4 CHARACTERS HORIZONTAL		SIGN SWITCH HOLDER 4 H
		PREMAX	NVCS25-H4

*** E N D O F R E P O R T ***