

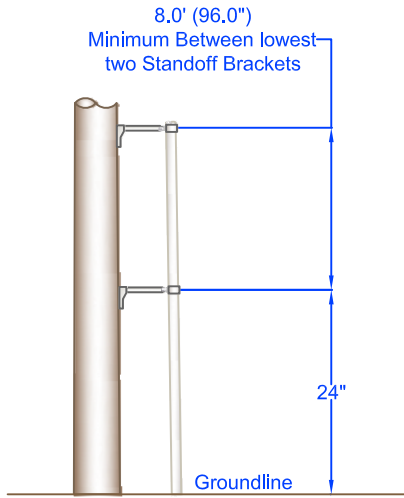
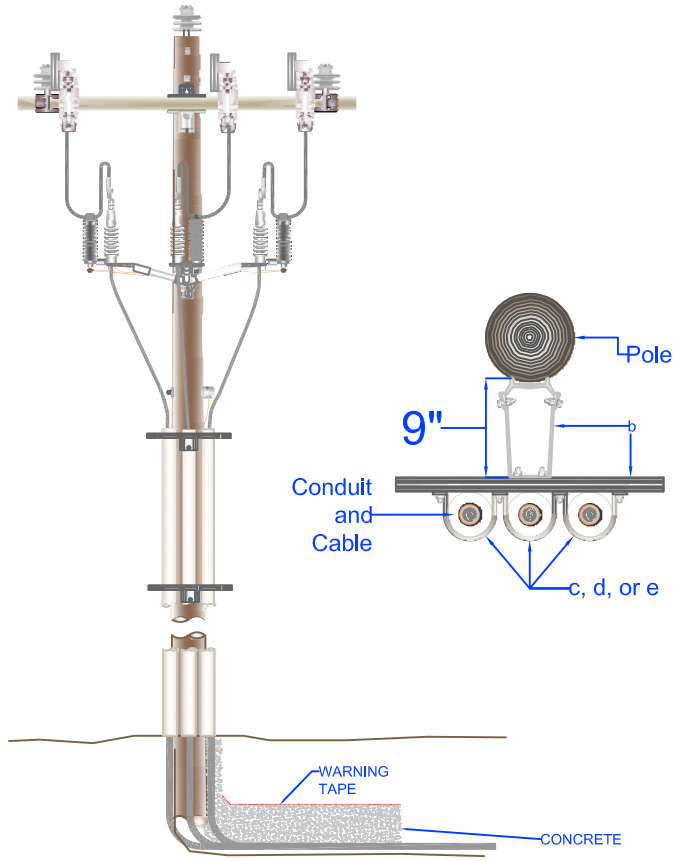
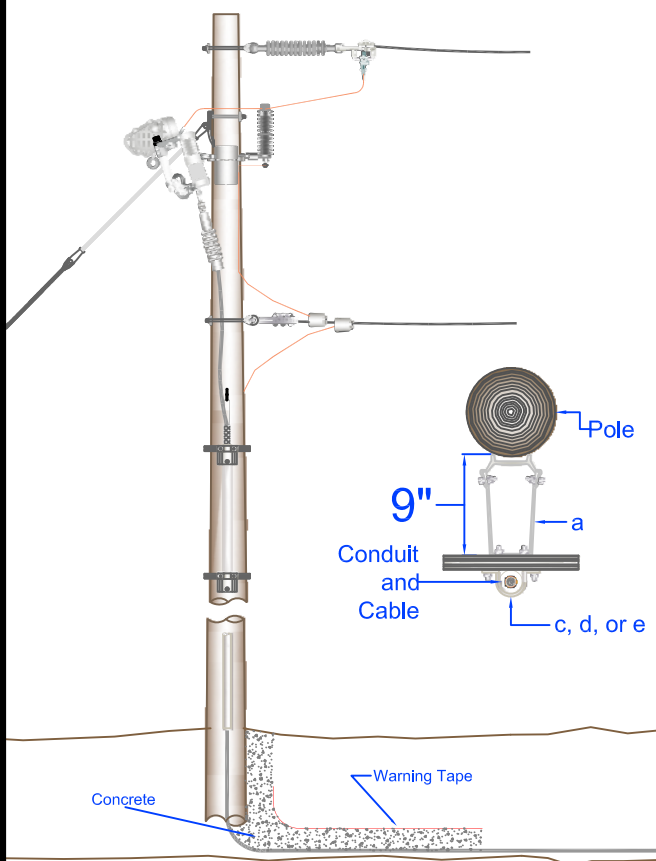
Unit	Item	Material Number	Description	1/0 Al Single Phase	1/0 Al Two Phase	1/0 Al Three Phase	4/0 Cu Three Phase	500 Cu Three Phase	1000 AL Three Phase
U-STANDARD-2	a	2000832	Riser Pole Standard 2"	1					
U-STANDARD-3	b	2000833	Riser Pole Standard 3"		1				
U-STANDARD-5	c	2000834	Riser Pole Standard 5"			1	1	1	
U-STANDARD-6	d	2000835	Riser Pole Standard 6"						1
U-VENT-BOOT-2_3	e	2000836	Riser Vent Boot 2" & 3" PVC	1	1				
U-VENT-BOOT-5	f	2000837	Riser Vent Boot 5" PVC			1	1	1	
U-VENT-BOOT-6	g	2000838	Riser Vent Boot 6" PVC						1



PEDERNALES ELECTRIC COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

Riser Pole Standard and Riser Vent Boots

drawn: JBS	approved MJB	date: January 26, 2011	U-STANDARD U-VENT-BOOT
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NESC Rule 217A2c:
 c. Standoff brackets on supporting structures shall be arranged so that there is not less than 2.45 m (8 ft) between either:
 (1) The lowest bracket and ground or other accessible surface, or
 (2) The two lowest brackets.
Exception: This rule does not apply where supporting structures are isolated.

Item	Material Number	Item Description	UM2-1.2	UM2-1.3	UM2-1.4	UM2-3.2	UM2-3.3	UM2-3.4
a	2000146	Bracket conduit 9" standoff 12"	1	1	1			
b	2000147	Bracket conduit 9" standoff 24"				1	1	1
c	2000908	Strap Kit 2"	1			3		
d	2000909	Strap Kit 3"		1			3	
e	2000910	Strap Kit 4"			1			3



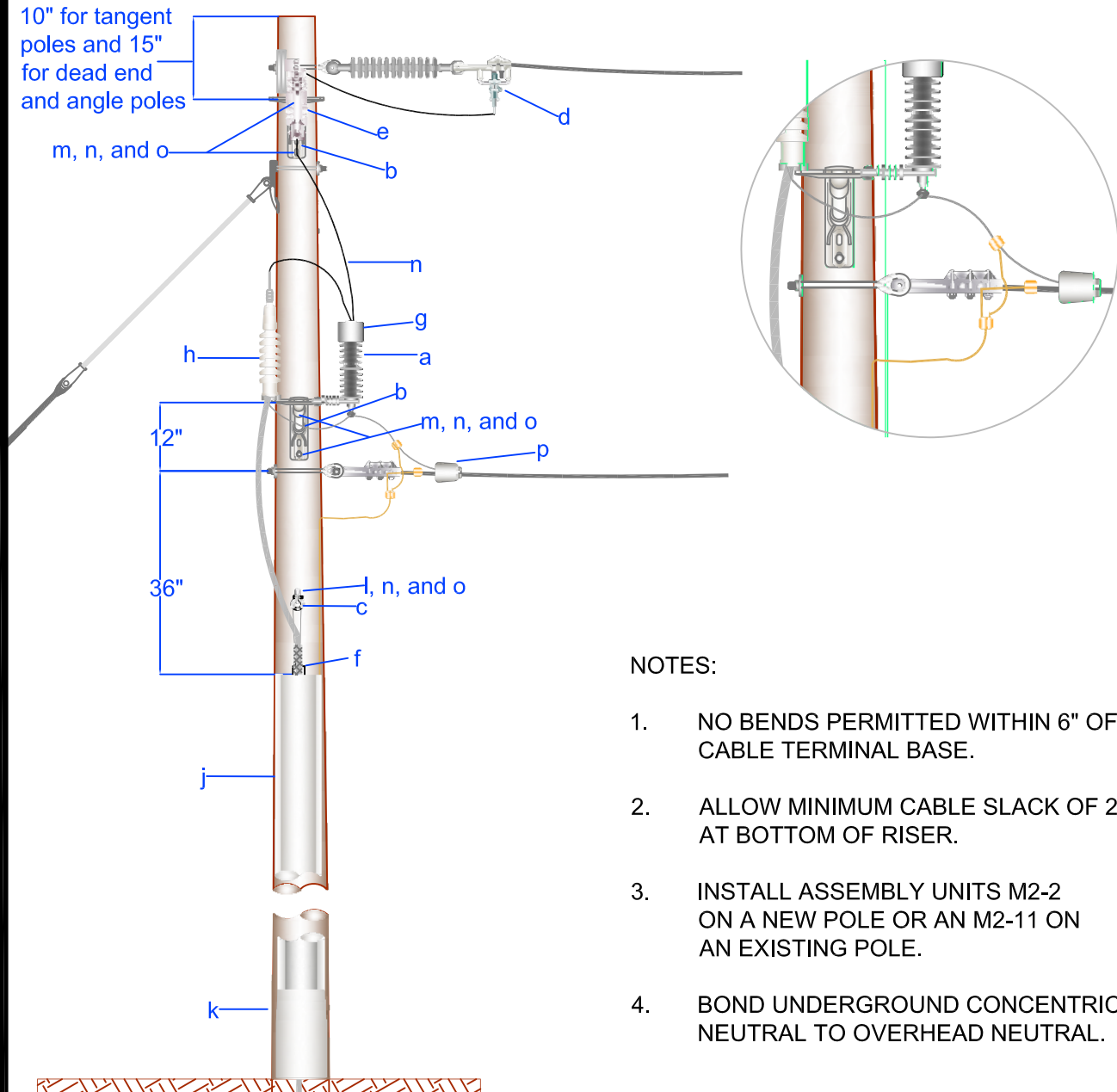
PEDERNALES ELECTRIC
 COOPERATIVE, INC.
 CONSTRUCTION ASSEMBLY UNIT

**Single Phase and Three Phase
 Riser Pole Conduit Standoff Brackets**

drawn: JBS	approved MJB	date: January 26, 2011
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**UM2-1
 UM2-3**

10" for tangent poles and 15" for dead end and angle poles



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE OR AN M2-11 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.

Item	Material Number	Item Quantity	Item Description	Item	Material Number	Item Quantity	Item Description
a	2000015	1	Arrester Dist 18KV MOV Riser	j	2000832	3	Riser Pole Standard 2"
b	2000166	2	Bracket Standoff 18" 3 Pos	k	2000836	1	Riser Vent Boot 2" & 3" Pvc
c	2000262	1	Clevis Anchor Shackle Sml	l	*	1	Bolt Eye 5/8"
d	2000278	1	Conn HL Gp 8-2/0-8-1/0	m	*	4	Bolt Machine 5/8"
e	2000426	1	Cutout 24.9KV 200A w/LB	n	*	5	Locknuts 5/8" M F
f	2000488	1	Grip Cable URD	o	*	5	Washers, Square 2 1/4"
g	2000495	1	Guard Bird, Arrester	p	*	As Req'd	Connectors
h	2000766	1	Pothead URD 25KV 1/0 Al	q	*	As Req'd	Jumpers

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.



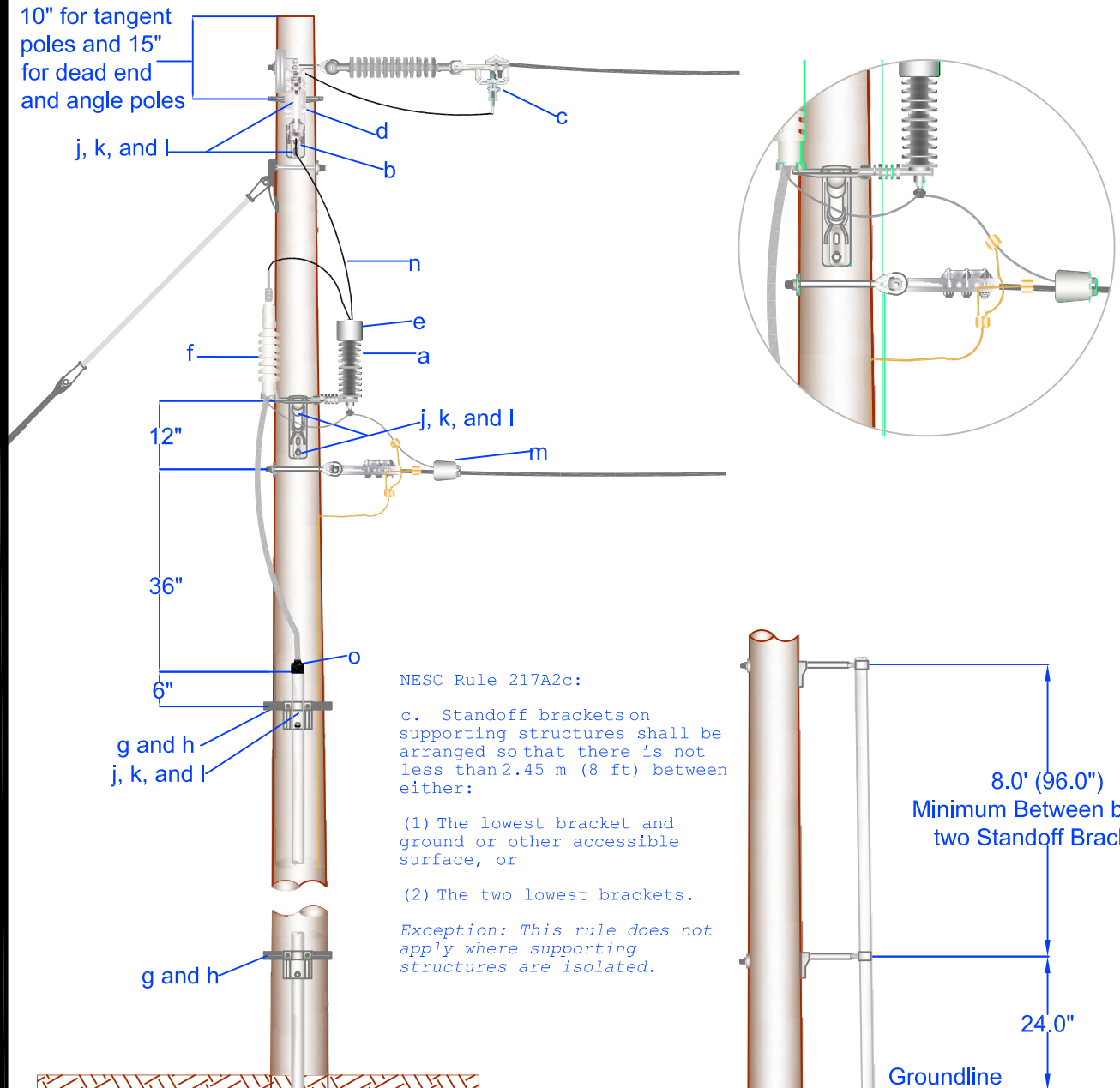
PEDERNALES ELECTRIC
COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

Single Phase #1/0 Riser

drawn:	approved	date:
JBS	MJB	April 7, 2014

VUM2-4

10" for tangent poles and 15" for dead end and angle poles



NESC Rule 217A2c:
 c. Standoff brackets on supporting structures shall be arranged so that there is not less than 2.45 m (8 ft) between either:
 (1) The lowest bracket and ground or other accessible surface, or
 (2) The two lowest brackets.
 Exception: This rule does not apply where supporting structures are isolated.

8.0' (96.0")
 Minimum Between bottom two Standoff Brackets

24.0"

Groundline

Item	Material Number	Item Quantity	Item Description	Item	Material Number	Item Quantity	Item Description
a	2000015	1	Arrester Dist 18KV MOV Riser	h	2000909	4	Strap Kit 3"
b	2000166	2	Bracket Standoff 18" 3 Pos	j	*	8	Bolt Machine 5/8"
c	2000278	1	Conn HL Gp 8-2/0-8-1/0	k	*	8	Locknuts 5/8" M F
d	2000426	1	Cutout 24.9KV 200A w/LB	l	*	8	Washers, Square 2 1/4"
e	2000495	1	Guard Bird, Arrester	m	*	As Req'd	Connectors
f	2000766	1	Pothead URD 25KV 1/0 Al	n	*	As Req'd	Jumpers
g	2000146	4	Bracket conduit 9" standoff 12"	o	*	1	Conduit Cap

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.



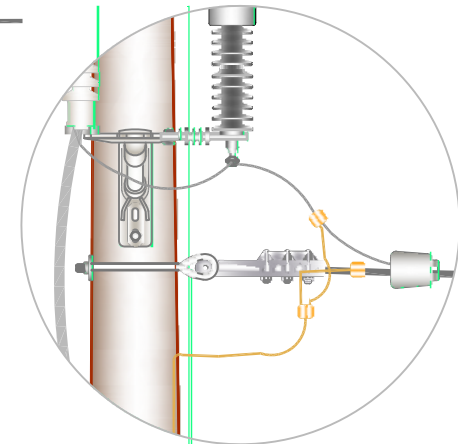
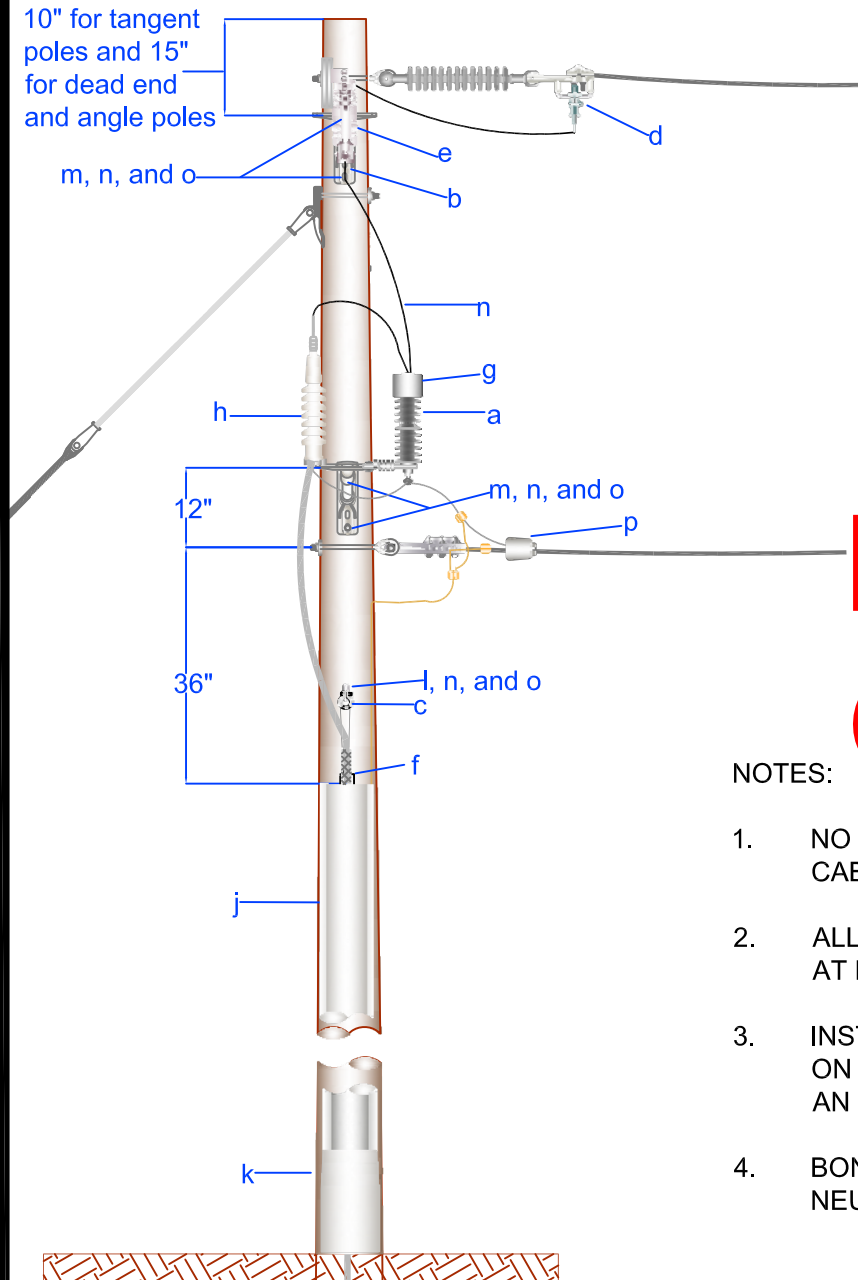
PEDERNALES ELECTRIC
 COOPERATIVE, INC.
 CONSTRUCTION ASSEMBLY UNIT

**Single Phase #1/0 Riser
 With Standoffs**

drawn:	approved	date:
JBS	MJB	February 20, 2012

VUM2-4S

10" for tangent poles and 15" for dead end and angle poles



Removal Only

NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE OR AN M2-11 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.

Item	Material Number	Item Quantity	Item Description	Item	Material Number	Item Quantity	Item Description
a	2000015	1	Arrester Dist 18KV MOV Riser	j	2000833	3	Riser Pole Standard 3"
b	2000166	1	Bracket Standoff 18" 3 Pos	k	2000836	1	Riser Vent Boot 2" & 3" Pvc
c	2000262	1	Clevis Anchor Shackle Sml	l	*	1	Bolt Eye 5/8"
d	2000278	1	Conn HL Gp 8-2/0-8-1/0	m	*	4	Bolt Machine 5/8"
e	2000426	1	Cutout 24.9KV 200A w/LB	n	*	5	Locknuts 5/8" M F
f	2000488	1	Grip Cable URD	o	*	5	Washers, Square 2 1/4"
g	2000495	1	Guard Bird, Arrester	p	*	As Req'd	Connectors
h	2000767	1	Pothead URD 25KV 4/0 CU	q	*	As Req'd	Jumpers

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.

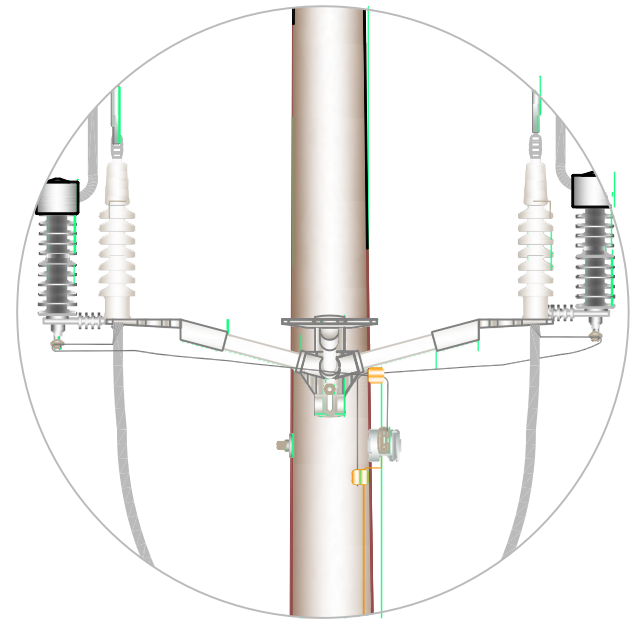
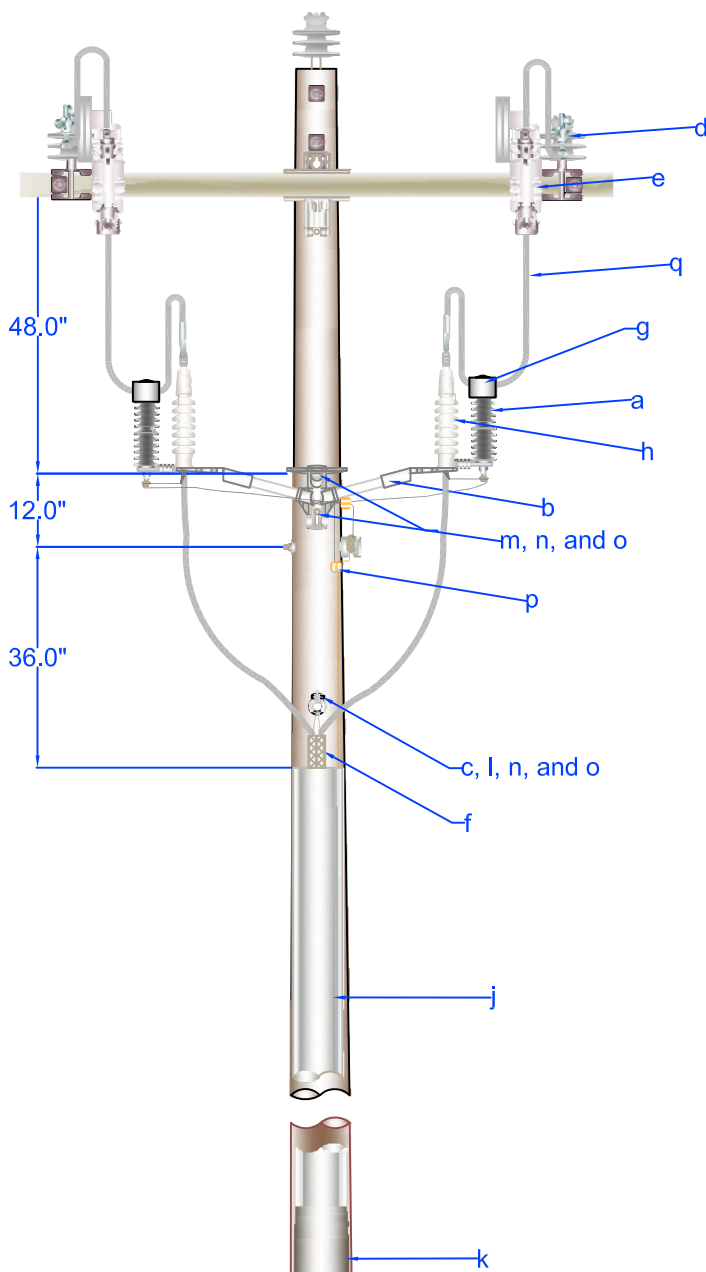


PEDERNALES ELECTRIC
COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

Single Phase #4/0 Cu Riser

drawn:	approved	date:
JBS	MJB	March 14, 2012

VUM2-4.1



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE OR AN M2-11 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.

Item	Material Number	Item Quantity	Item Description	Item	Material Number	Item Quantity	Item Description
a	2000015	2	Arrester Dist 18KV MOV Riser	j	2000833	3	Riser Pole Standard 3"
b	2000151	1	Bracket Equipment Mount FG 3Ph	k	2000836	1	Riser Vent Boot 2" & 3" Pvc
c	2000262	1	Clevis Anchor Shackle Sml	l	*	1	Bolt Eye 5/8"
d	2000278	2	Conn HL Gp 8-2/0-8-1/0	m	*	2	Bolt Machine 5/8"
e	2000426	2	Cutout 24.9KV 200A w/LB	n	*	3	Locknuts 5/8" M F
f	2000488	2	Grip Cable URD	o	*	3	Washers, Square 2 1/4"
g	2000495	2	Guard Bird, Arrester	p	*	As Req'd	Connectors
h	2000766	2	Pothead URD 25KV 1/0 Al	q	*	As Req'd	Jumpers

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.

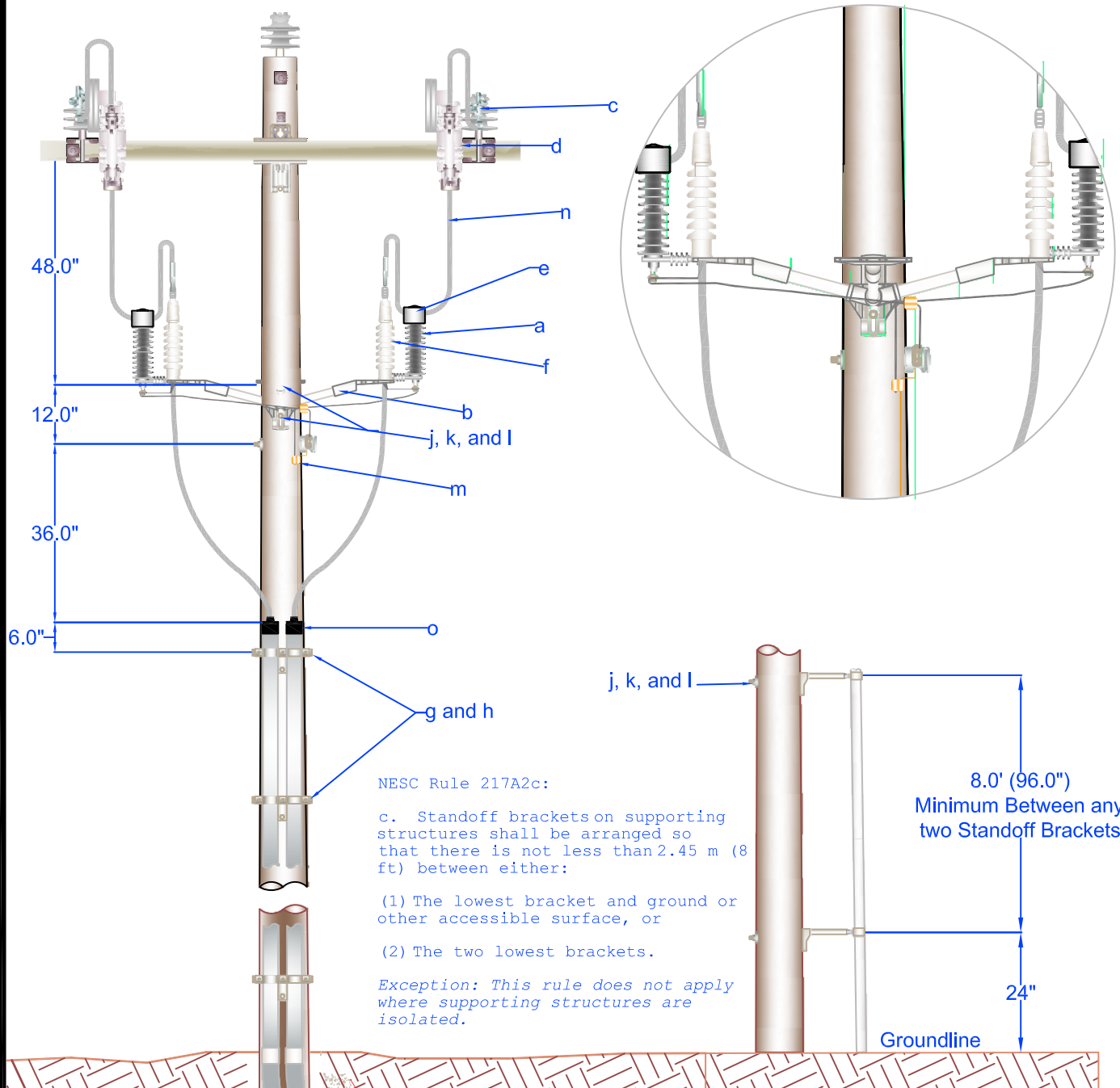


PEDERNALES ELECTRIC
COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

Two Phase #1/0 Riser

drawn: JBS	approved MJB	date: February 7, 2012
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VUM2-5



Item	Material Number	Item Quantity	Item Description	Item	Material Number	Item Quantity	Item Description
a	2000015	2	Arrester Dist 18KV MOV Riser	h	2000909	8	Strap Kit 3"
b	2000151	1	Bracket Equipment Mount FG 3Ph	j	*	6	Bolt Machine 5/8"
c	2000278	2	Conn HL Gp 8-2/0-8-1/0	k	*	6	Locknuts 5/8" M F
d	2000426	2	Cutout 24.9KV 200A w/LB	l	*	6	Washers, Square 2 1/4"
e	2000495	2	Guard Bird, Arrester	m	*	As Req'd	Connectors
f	2000766	2	Pothead URD 25KV 1/0 Al	n	*	As Req'd	Jumpers
g	2000147	4	Bracket conduit 9" standoff 24"	o	*	2	Conduit Cap

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.

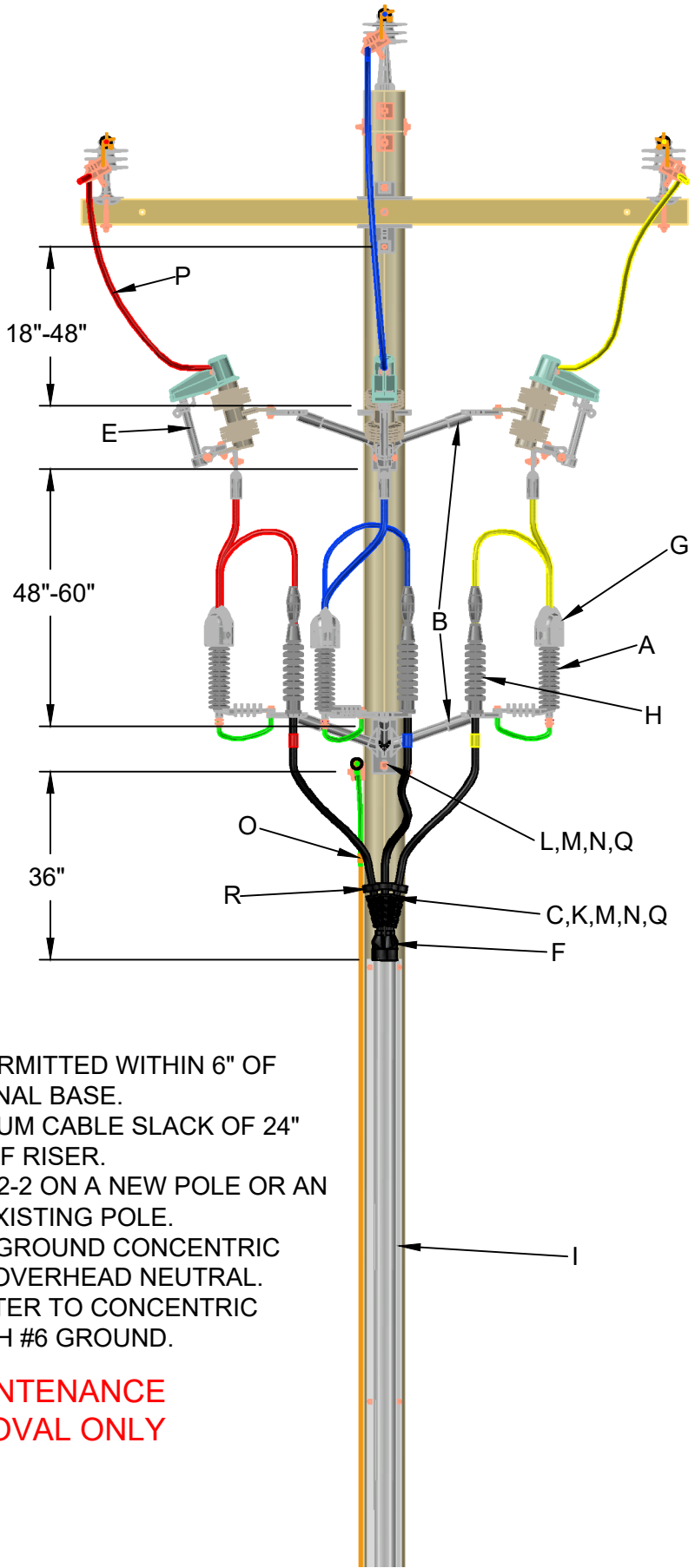
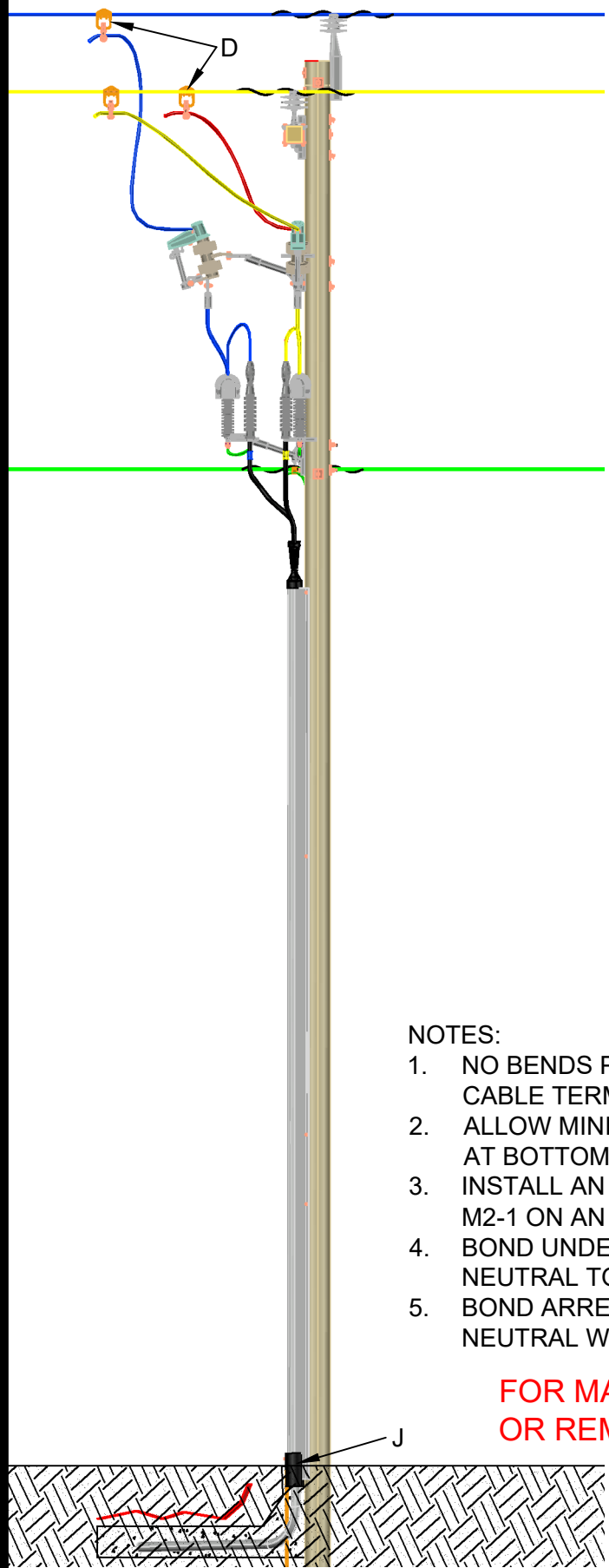


PEDERNALES ELECTRIC
 COOPERATIVE, INC.
 CONSTRUCTION ASSEMBLY UNIT

**2Ph #1/0 Riser
 with Standoffs**

drawn: JBS	approved MJB	date: February 7, 2012
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VUM2-5S



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL AN M2-2 ON A NEW POLE OR AN M2-1 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
5. BOND ARRESTER TO CONCENTRIC NEUTRAL WITH #6 GROUND.

**FOR MAINTENANCE
OR REMOVAL ONLY**

REV | A | DATE | 01/27/2022 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø 1/0 RISER
PAGE 1 OF 2

drawn: RWC	approved: MMG	date: 01/27/2022	VUM2-6

**FOR MAINTENANCE
OR REMOVAL ONLY**

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	2000015	ARRESTER DIST 18 kV MOV RISER	3
B	2000151	BRACKET EQUIPMENT MOUNT FG 3PH	2
C	2000262	CLEVIS ANCHOR SHACKLE SMALL	1
D	2000278	CONNECTOR HL GP 8-2/0-8-1/0	3
E	2000425	CUTOUT 24.9 kV 100A W/LB	3
F	2000488	GRIP CABLE URD	3
G	2000495	GUARD BIRD, ARRESTER	3
H	2000766	POTHEAD URD 25 kV 1/0 AL	3
I	2000834	RISER POLE STANDARD 5"	3
J	2000837	RISER VENT BOOT 5" PVC	1
K	*	BOLT EYE 5/8"	AS REQ'D
L	*	BOLT MACHINE 5/8"	AS REQ'D
M	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
N	*3000240 or	WASHER SQUARE FLAT 2 1/4" WITH 11/16" HOLE	AS REQ'D
N	*3000237 or	WASHER SQUARE CURVED 4" WITH 15/16" HOLE	AS REQ'D
N	*3000235	WASHER SQUARE CURVED 3" WITH 13/16" HOLE	AS REQ'D
O	*2000347	CONNECTOR SPLIT BOLT GP 6	AS REQ'D
P	*	JUMPERS	AS REQ'D
Q	*3000227	WASHER COIL 5/8"	AS REQ'D
R	2000145	BRACKET CABLE POSITIONER	3

*DENOTES "GRAB BAG" ITEM. ALL BOLT LENGTHS DEPEND ON POLE CLASS.

REV | A | DATE | 01/27/2022 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG

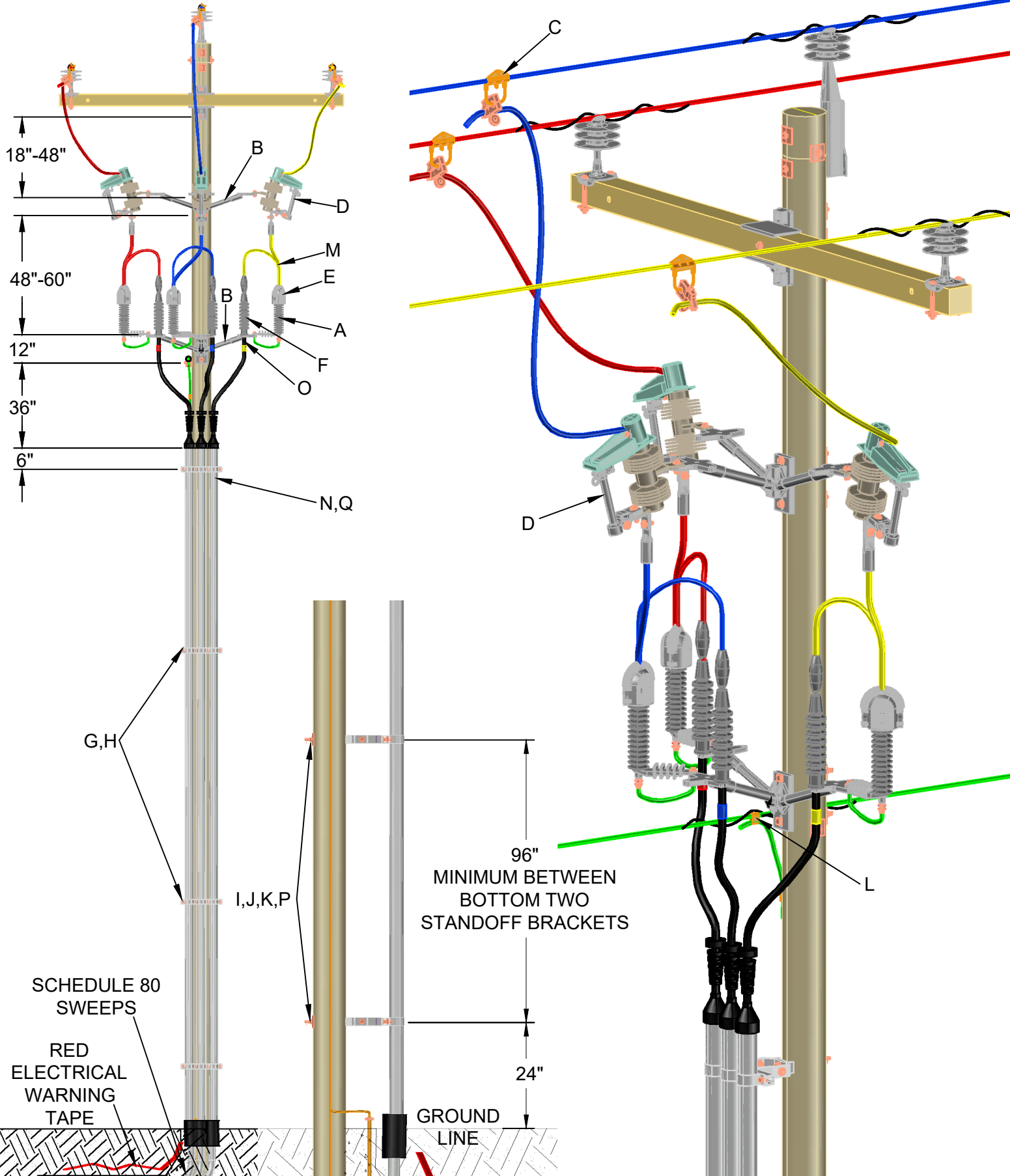


CONSTRUCTION
ASSEMBLY UNIT

3Ø 1/0 RISER
PAGE 2 OF 2

drawn:	approved:	date:
RWC	MMG	01/27/2022

VUM2-6



REV A DATE 01/27/2022 REVISION ISSUE FOR CONSTRUCTION BY RWC CHK SSS APR MMG



CONSTRUCTION ASSEMBLY UNIT

3Ø 1/0 RISER WITH STANDOFFS PAGE 1 OF 2

drawn:	approved:	date:	VUM2-6S
RWC	MMG	01/27/2022	

NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL AN M2-2 ON A NEW POLE OR AN M2-1 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
5. BOND ARRESTER TO CONCENTRIC NEUTRAL WITH #6 GROUND.

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	2000015	ARRESTER DIST 18 kV MOV RISER	3
B	2000151	BRACKET EQUIPMENT MOUNT FG 3PH	2
C	2000278	CONNECTOR HL GP 8-2/0-8-1/0	3
D	2000425	CUTOUT 24.9 kV 100A W/LB	3
E	2000495	GUARD BIRD, ARRESTER	3
F	2000766	POTHEAD URD 25 kV 1/0 AL	3
G	2000147	BRACKET CONDUIT 9" STANDOFF 24"	4
H	2000909	STRAP KIT 3"	12
I	*	BOLT MACHINE 5/8"	AS REQ'D
J	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
K	*3000240 or	WASHER SQUARE FLAT 2 1/4" WITH 11/16" HOLE	AS REQ'D
K	*3000237 or	WASHER SQUARE CURVED 4" WITH 15/16" HOLE	AS REQ'D
K	*3000235	WASHER SQUARE CURVED 3" WITH 13/16" HOLE	AS REQ'D
L	*2000347	CONNECTOR SPLIT BOLT GP 6	AS REQ'D
M	*	JUMPERS	AS REQ'D
N	2000458	FLOOD SEAL 3"	3
O	2000145	BRACKET CABLE POSITIONER	3
P	*3000227	WASHER COIL 5/8"	AS REQ'D
Q	2002699	GRIP CABLE URD CONDUIT RISER RINGGRIP 3"	3

*DENOTES "GRAB BAG" ITEM. ALL BOLT LENGTHS DEPEND ON POLE CLASS.

NESC RULE 217A2c:

STANDOFF BRACKETS ON SUPPORTING STRUCTURES SHALL BE ARRANGED SO THAT THERE IS NOT LESS THAN 2.45 M (8 FT) BETWEEN EITHER:

- (1) THE LOWEST BRACKET AND GROUND OR OTHER ACCESSIBLE SURFACE, OR
- (2) THE TWO LOWEST BRACKETS.

EXCEPTION: THIS RULE DOES NOT APPLY WHERE SUPPORTING STRUCTURES ARE ISOLATED.

REV | A | DATE | 01/27/2022 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG

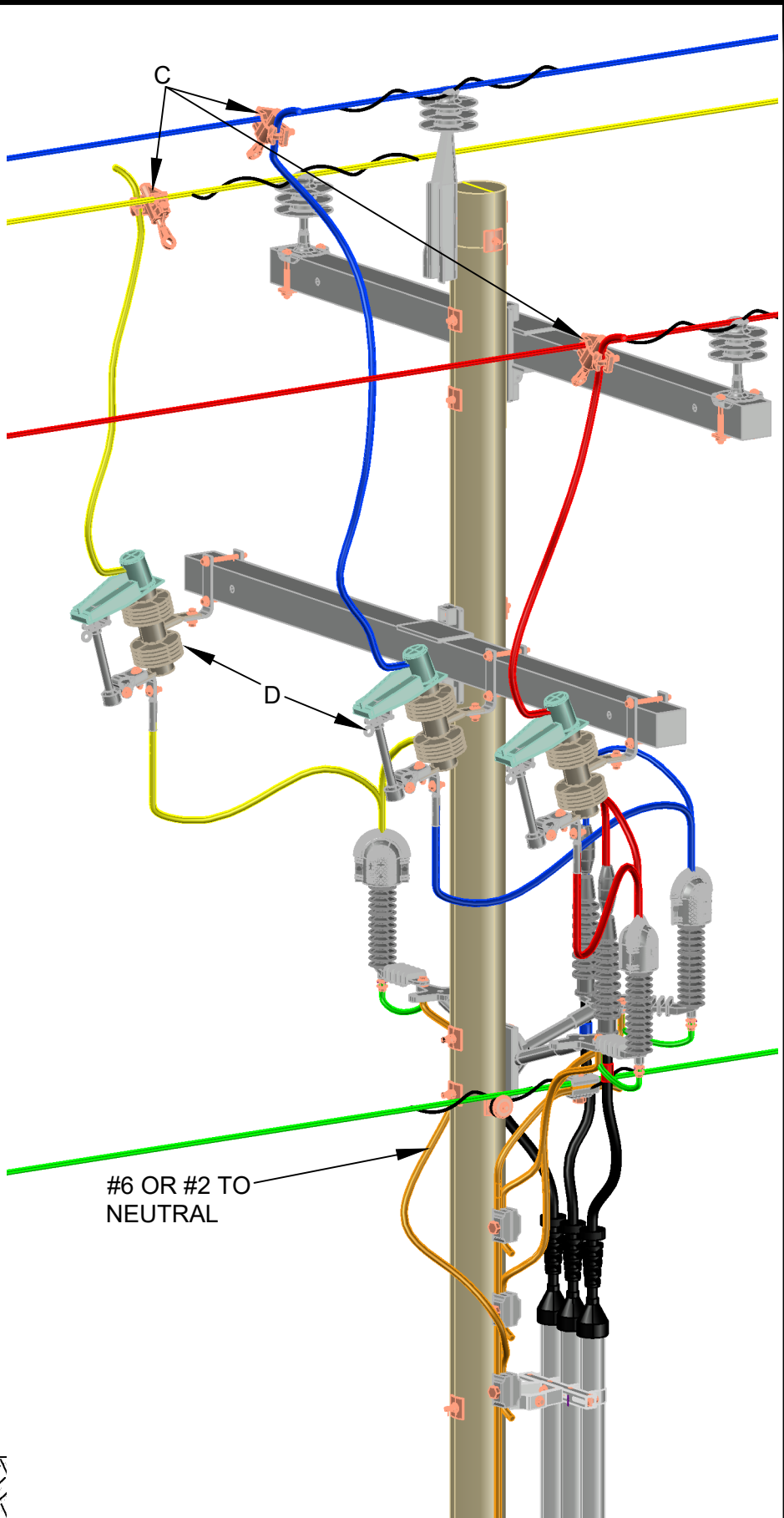
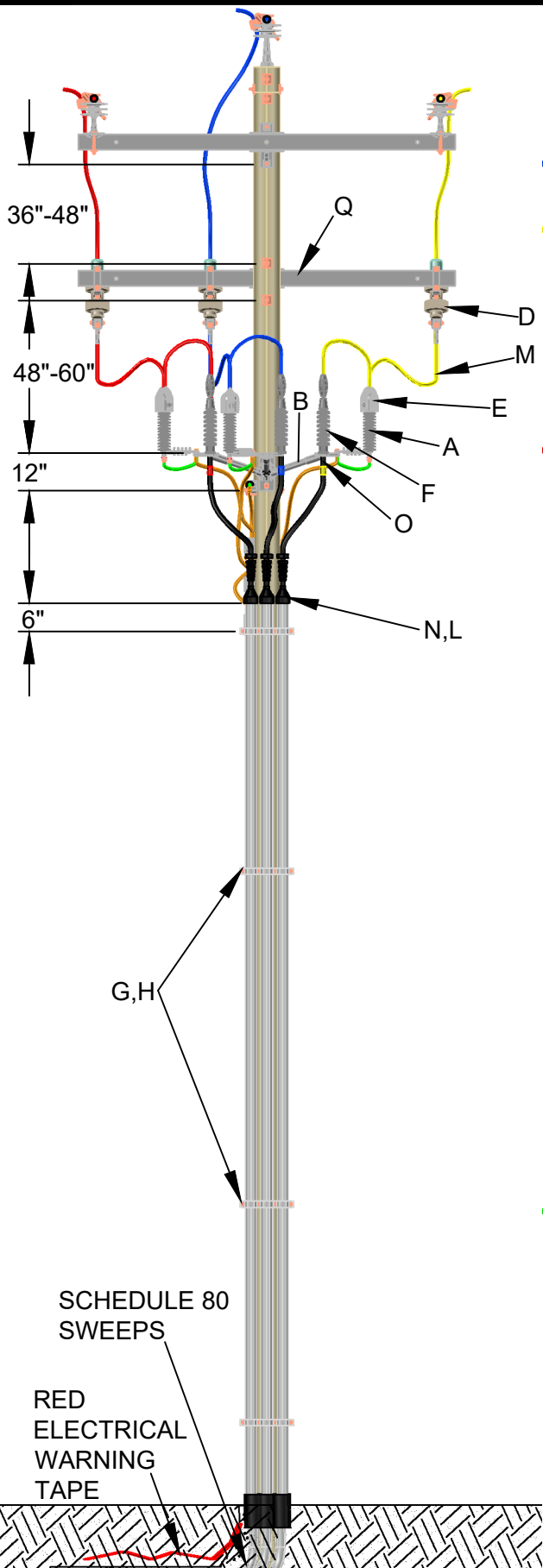


CONSTRUCTION
ASSEMBLY UNIT

3Ø 1/0 RISER
WITH STANDOFFS
PAGE 2 OF 2

drawn:	approved:	date:
RWC	MMG	01/27/2022

VUM2-6S



REV	A	DATE	10/17/2023	REVISION	ISSUE FOR CONSTRUCTION	BY	RWC	CHK	SSS	APR	MMG
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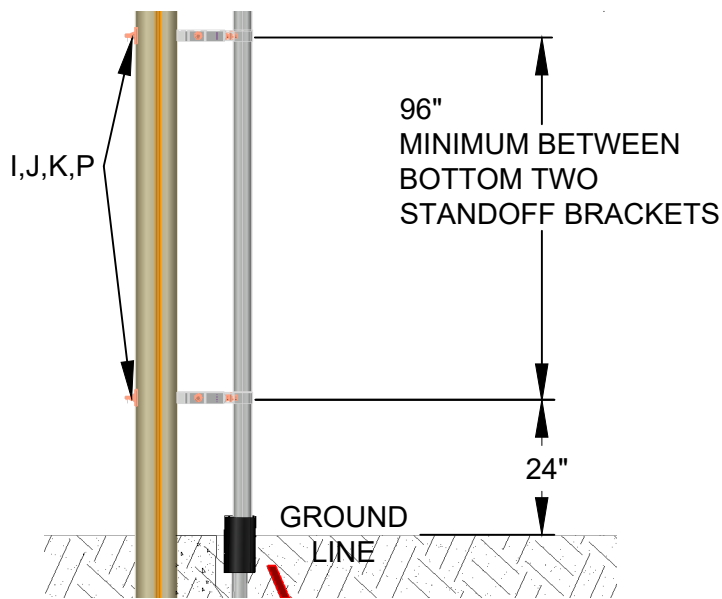
CONSTRUCTION ASSEMBLY UNIT

3Ø 1/0 RISER WITH STANDOFFS AND CROSSARM-MOUNTED CUTOUTS
PAGE 1 OF 2

drawn:	approved:	date:	VUM2-6SC
RWC	MMG	10/17/2023	

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	2000015	ARRESTER DIST 18 kV MOV RISER	3
B	2000151	BRACKET EQUIPMENT MOUNT FG 3PH	1
C	2000278	CONNECTOR HL GP 8 - 2/0 - 8 - 1/0	3
D	2000425	CUTOUT 24.9 kV 100A W/LB	3
E	2000495	GUARD BIRD, ARRESTER	3
F	2000766	POTHEAD URD 25 kV 1/0 AL	3
G	2000147	BRACKET CONDUIT 9" STANDOFF 24"	4
H	2000909	STRAP KIT 3"	12
I	*	BOLT MACHINE 5/8"	AS REQ'D
J	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
K	*3000240 or	WASHER SQUARE FLAT 2 1/4" WITH 11/16" HOLE	AS REQ'D
K	*3000237 or	WASHER SQUARE CURVED 4" WITH 15/16" HOLE	AS REQ'D
K	*3000235	WASHER SQUARE CURVED 3" WITH 13/16" HOLE	AS REQ'D
L	2002699	GRIP CABLE URD CONDUIT RISER RINGGRIP 3"	3
M	*	JUMPERS	AS REQ'D
N	2000458	FLOOD SEAL 3"	3
O	2000145	BRACKET CABLE POSITIONER	3
P	*3000227	WASHER COIL 5/8"	AS REQ'D
Q	2001328	XARM FBGLS 8' TANGENT	1

*DENOTES "GRAB BAG" ITEM. ALL BOLT LENGTHS DEPEND ON POLE CLASS.



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL AN M2-2 ON A NEW POLE OR AN M2-1 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
5. BOND ARRESTER TO CONCENTRIC NEUTRAL WITH #6 GROUND.
6. WHEN POSSIBLE, CUTOUT ARM SHOULD FACE OPPOSITE THE POTHEAD BRACKET.

NESC RULE 217A2c:

STANDOFF BRACKETS ON SUPPORTING STRUCTURES SHALL BE ARRANGED SO THAT THERE IS NOT LESS THAN 2.45 M (8 FT) BETWEEN EITHER:

- (1) THE LOWEST BRACKET AND GROUND OR OTHER ACCESSIBLE SURFACE, OR
- (2) THE TWO LOWEST BRACKETS.

EXCEPTION: THIS RULE DOES NOT APPLY WHERE SUPPORTING STRUCTURES ARE ISOLATED.

REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



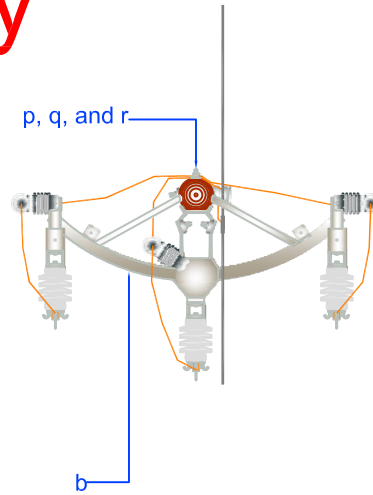
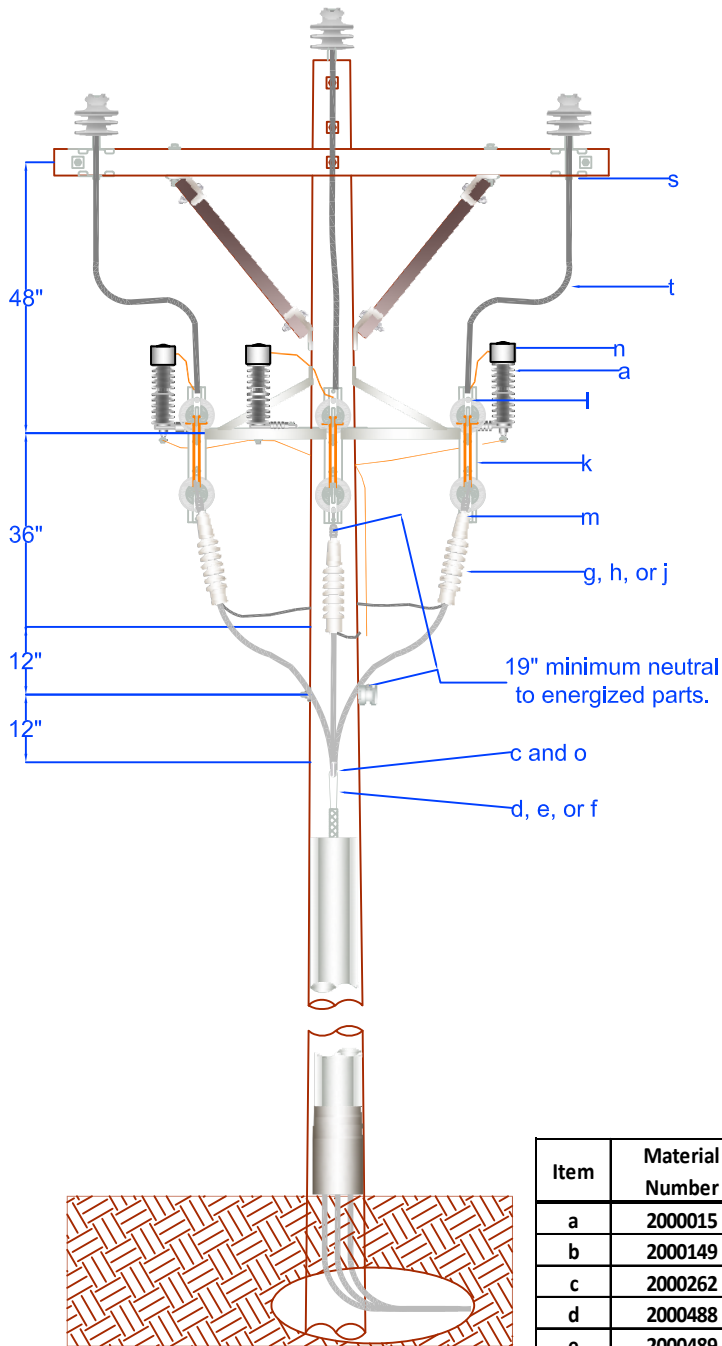
CONSTRUCTION
ASSEMBLY UNIT

3Ø 1/0 RISER WITH STANDOFFS
AND CROSSARM-MOUNTED CUTOUTS
PAGE 2 OF 2

drawn:	approved:	date:
RWC	MMG	10/17/2023

VUM2-6SC

Removal Only



Specify VUM2-7.1 for use with 4/0 copper.
 Specify VUM2-8.1 for use with 500 mcm copper.
 Specify VUM2-9.1 for use with 1000 mcm copper.

Item	Material Number	Item Description	VUM2-7.1	VUM2-8.1	VUM2-9.1
a	2000015	Arrester Dist 18KV MOV Riser	3	3	3
b	2000149	Bracket Equip Mount 3Ph Large	1	1	1
c	2000262	Clevis Anchor Shackle Sml	3	3	3
d	2000488	Grip Cable URD	3		
e	2000489	Grip Cable URD 1 3/4-2"		3	
f	2000490	Grip Cable URD 1 5/8-2 1/2"			3
g	2000767	Pothead URD 25KV 4/0 CU	3		
h	2000768	Pothead URD 25KV 500 CU		3	
j	2000769	Pothead URD 25KV 750-1000			3
k	2000930	Switch Disc 25KV 600A	3	3	3
l	2000376	Conn Ter 500-800 2 Hole		9	6
m	2000378	Conn Ter Comp 1000 Str 2 H			3
n	2000495	Guard Bird, Arrester	3	3	3
o	*	Bolt Eye 5/8"	3	3	3
p	*	Bolt Machine 5/8"	2	2	2
q	*3000236	Washer Sq Curved 3x3 1 1/2 H	5	5	5
r	*3000153	Locknuts 5/8" M F	As Req'd	As Req'd	As Req'd
s	*	Wedge Connectors	As Req'd	As Req'd	As Req'd
t	*	Jumpers	As Req'd	As Req'd	As Req'd

Notes:

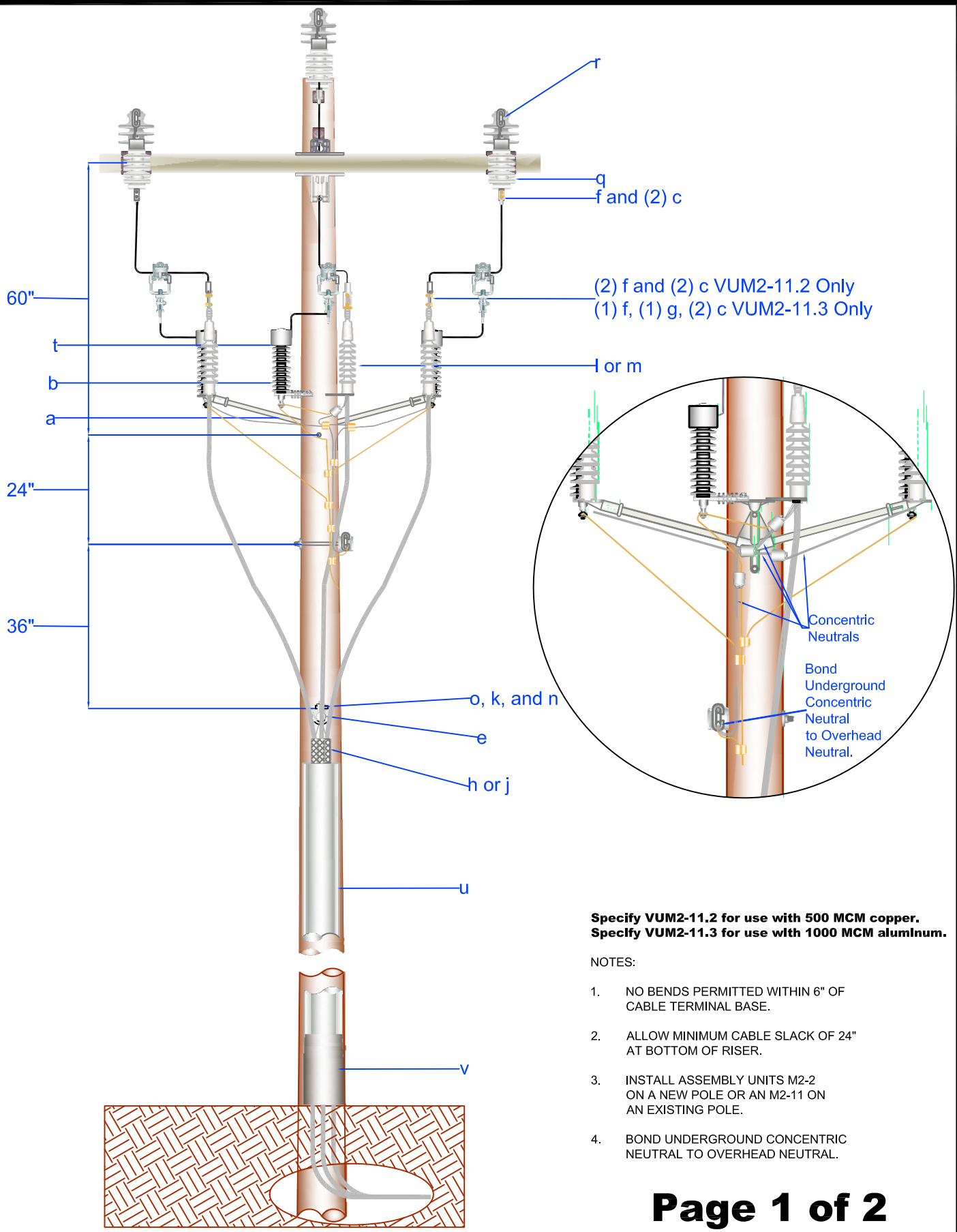
- TOTAL ARRESTER LEAD LENGTH MUST BE UNDER 3'.
- NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
- ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
- INSTALL M2-2 GROUND ON NEW POIE OR M2-11 GROUND ON EXISTING POLE.



PEDERNALES ELECTRIC
 COOPERATIVE, INC.
 CONSTRUCTION ASSEMBLY UNIT

3 Ph 600 amp Underground Risers with Solid Blade Disconnect

drawn:	approved	date:	VUM2-7.1, VUM2-8.1 and VUM2-9.1
JBS	MJB	February 23, 2016	



**Specify VUM2-11.2 for use with 500 MCM copper.
Specify VUM2-11.3 for use with 1000 MCM aluminum.**

NOTES:

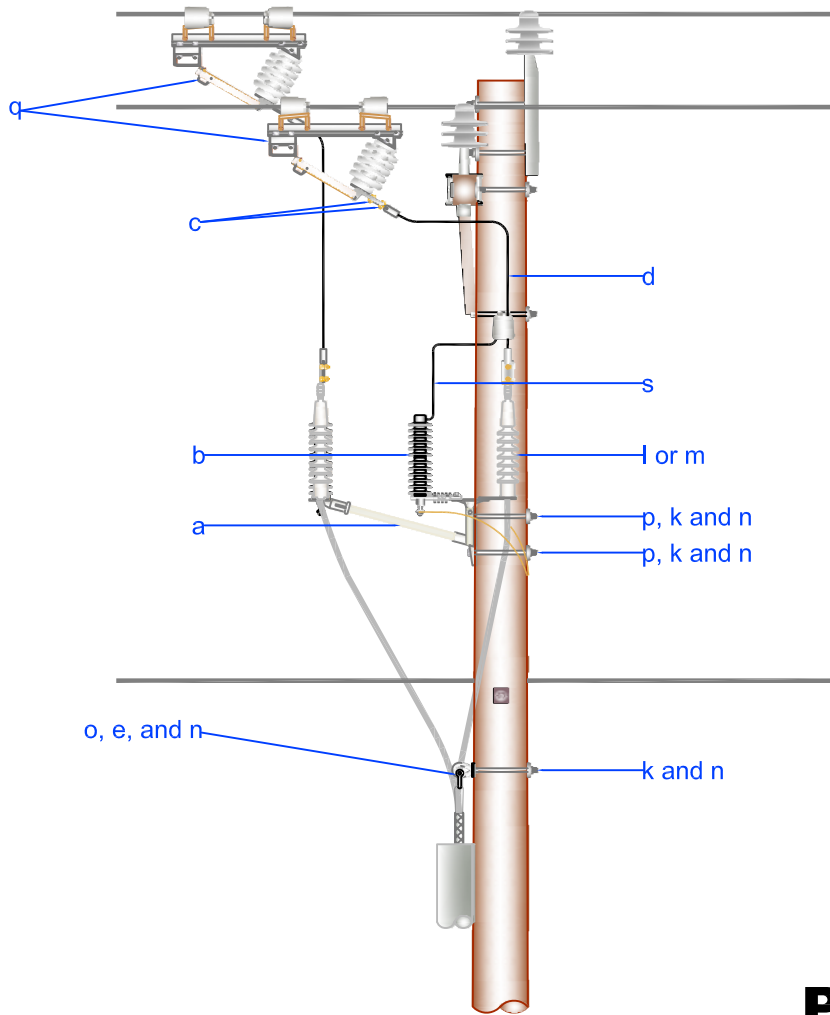
1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE OR AN M2-11 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.



**PEDERNALES ELECTRIC
COOPERATIVE, INC.**
CONSTRUCTION ASSEMBLY UNIT

3Ph 600 amp Underground Risers With Line Tap Disconnect Switches VUM2-11.2 for 500 MCM Copper VUM2-11.3 for 1000 MCM Aluminum			
drawn:	approved	date:	VUM2-11.2 VUM2-11.3
JBS	MJB	March 12, 2012	

Side View



Page 2 of 2

Item	Material Number	Item Description	VUM2-11.2	VUM2-11.3
a	2000151	Bracket Equipment Mount FG 3Ph	1	1
b	2000015	Arrester Dist 18KV MOV Riser	3	3
c	*2000039	Bolt Bronze 1/2" x 2"	12	12
d	2000278	Conn HL Gp 8-2/0-8-1/0	3	3
e	2000262	Clevis Anchor Shackel Sml	3	3
f	2000376	Conn Ter 500-800 2 Hole	9	6
g	2000378	Conn Ter Comp 1000 Str 2 Hole	0	3
h	2000490	Grip Cable Urd 1 5/8 - 2"	0	3
j	2000489	Grip Cable Urd 1 3/4 - 2"	3	0
k	*3000153	Locknuts 5/8"	5	5
l	2000768	Pothead Urd 25KV 500 Cu	3	0
m	2000769	Pothead Urd 25KV 750-1000	0	3
n	3000240	Washer Sq F 2 1/4	3	3
o	*	Bolt Eye 5/8"	3	3
p	*	Bolt Machine 5/8"	2	2
q	2000936	Switch Dis Solid Blade, Line Tap	3	3
r	*	Connectors	As Req'd	As Req'd
s	*	Jumpers	As Req'd	As Req'd
t	2000495	Guard Bird, Arrester	3	3
u	2000834	Riser Standard 5"	3	3
v	2000837	Riser Vent Boot 5" PVC	1	1

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.



PEDERNALES ELECTRIC
COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

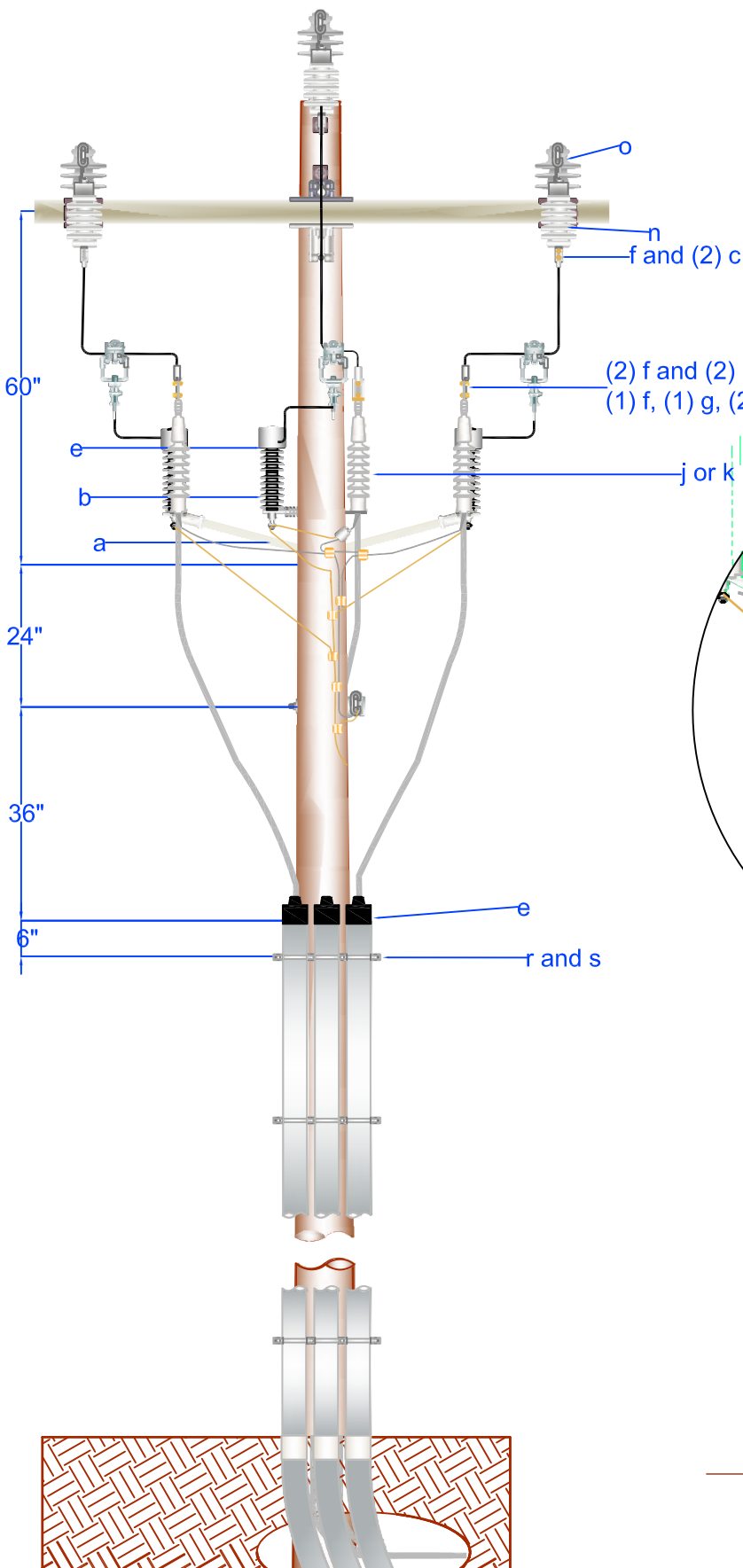
3Ph 600 amp Underground Risers
With Line Tap Disconnect Switches
VUM2-11.2 for 500 MCM Copper
VUM2-11.3 for 1000 MCM Aluminum

drawn:
JBS

approved
MJB

date:
February 23, 2016

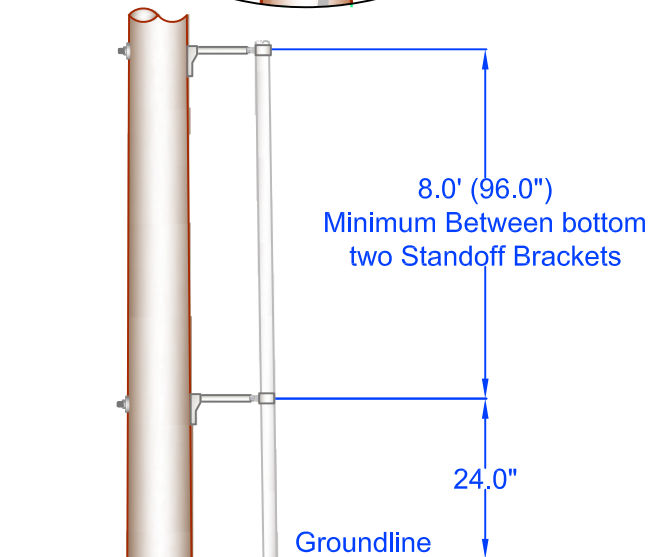
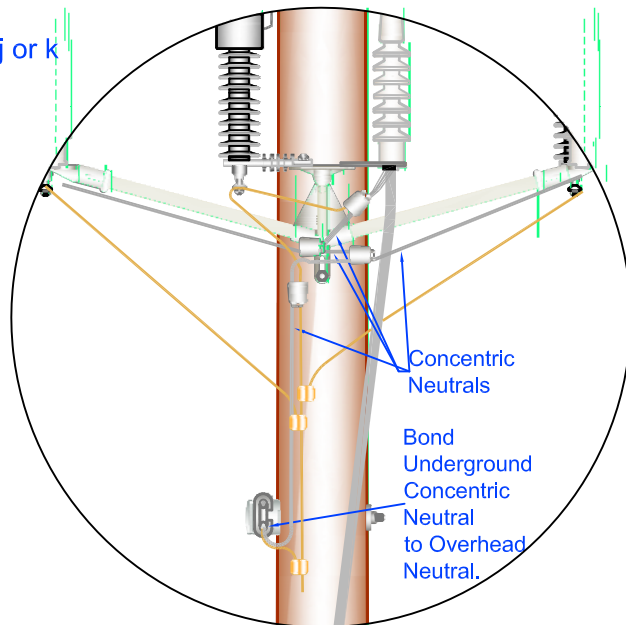
VUM2-11.2
VUM2-11.3



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE OR AN M2-11 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.

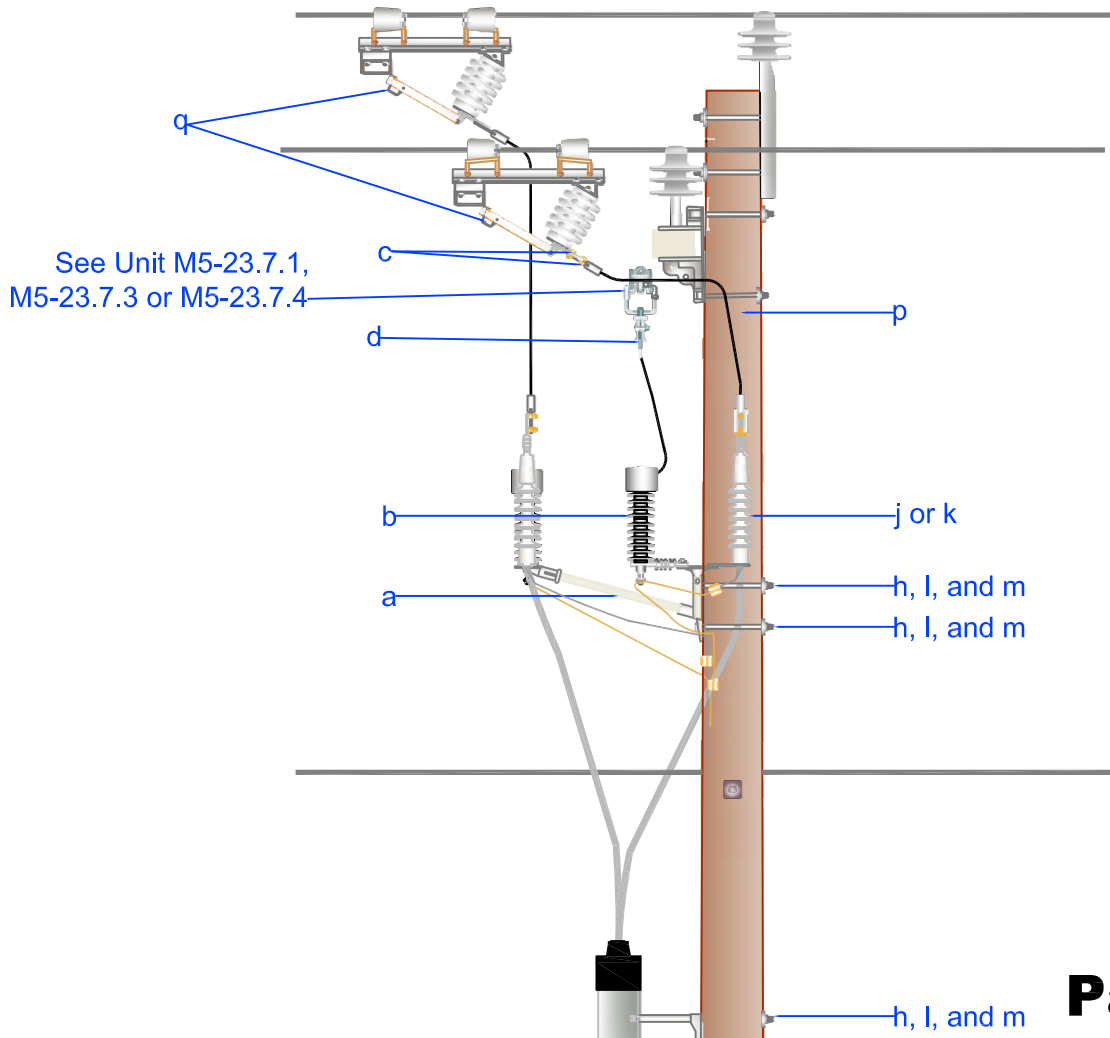
(2) f and (2) c VUM2-11.2 Only
 (1) f, (1) g, (2) c VUM2-11.3 Only



PEDERNALES ELECTRIC
 COOPERATIVE, INC.
 CONSTRUCTION ASSEMBLY UNIT

3Ph 600 amp Underground Risers With Line Tap Disconnect Switches With Standoffs VUM2-11.2S for 500 MCM Copper VUM2-11.3S for 1000 MCM Aluminum			
drawn:	approved	date:	VUM2-11.2S VUM2-11.3S
JBS	MJB	March 12, 2012	

Side View



Page 2 of 2

Item	Material Number	Item Description	VUM2-11.2S	VUM2-11.3S
a	2000151	Bracket Equipment Mount FG 3Ph	1	1
b	2000015	Arrester Dist 18KV MOV Riser	3	3
c	*2000039	Bolt Bronze 1/2" x 2"	12	12
d	2000278	Conn HL Gp 8-2/0-8-1/0	3	3
e	*	Conduit cap	3	3
f	2000376	Conn Ter 500-800 2 Hole	9	6
g	2000378	Conn Ter Comp 1000 Str 2 Hole	0	3
h	*3000153	Locknuts 5/8"	6	6
j	2000768	Pothead Urd 25KV 500 Cu	3	0
k	2000769	Pothead Urd 25KV 750-1000	0	3
l	*3000240	Washer Sq F 2 1/4	6	6
m	*	Bolt Machine 5/8"	6	6
n	2000936	Switch Dis Solid Blade, Line Tap	3	3
o	*	Connectors	As Req'd	As Req'd
p	*	Jumpers	As Req'd	As Req'd
q	2000495	Guard Bird, Arrester	3	3
r	2000147	Bracket conduit 9" standoff 24"	4	4
s	2000910	Strap Kit 4"	12	12

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.

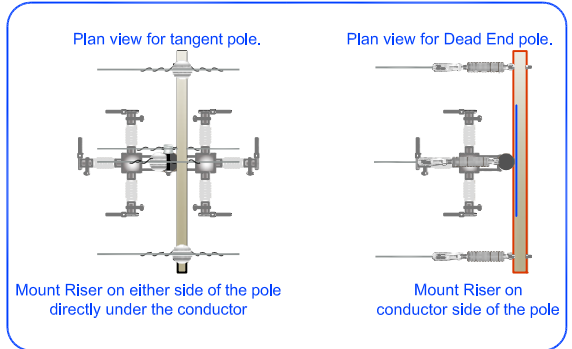
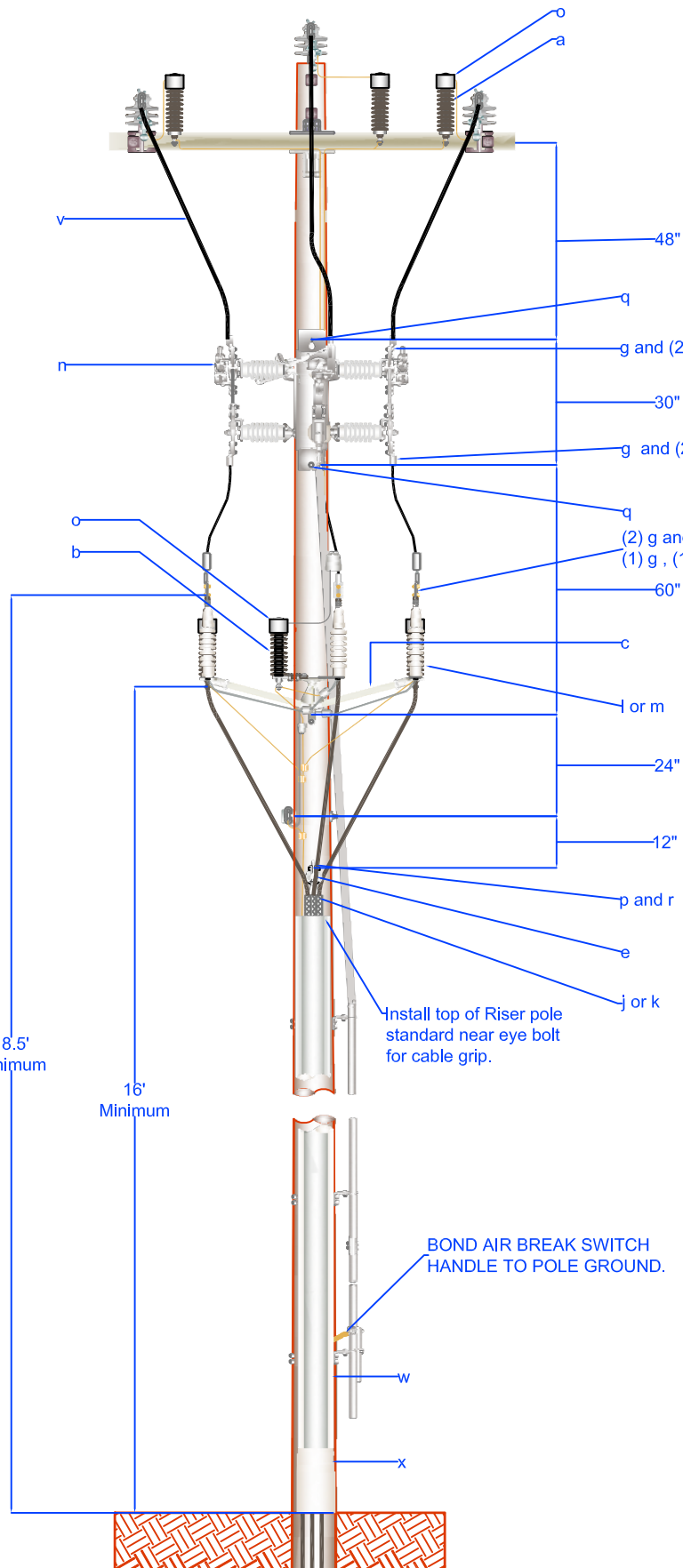


PEDERNALES ELECTRIC
COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

3Ph 600 amp Underground Risers
With Line Tap Disconnect Switches With Standoffs
VUM2-11.2S for 500 MCM Copper
VUM2-11.3S for 1000 MCM Aluminum

drawn:	approved	date:
JBS	MJB	March 12, 2012

VUM2-11.2S
VUM2-11.3S



Plan View of riser

**SPECIFY VUM2-12.2 FOR USE WITH 500 MCM COPPER.
SPECIFY VUM2-12.3 FOR USE WITH 1000 MCM ALUMINUM.**

NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNIT M2-15.2 FOR AIR BREAK SWITCH WITH A PERMANENTLY MOUNTED HANDLE. IF USING AN EXTENDO- STICK OPERATED SWITCH INSTALL AN M2-2 ON A NEW POLE OR AN M2-11 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL. SEE GROUNDING DETAIL ON PAGE 2.



PEDERNALES ELECTRIC
COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

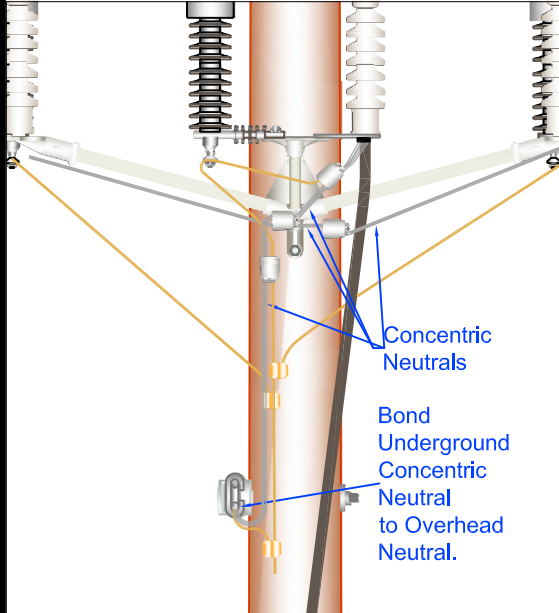
**3 Ph 600 amp Underground Risers
With Air Break Switch**

Page 1 of 2

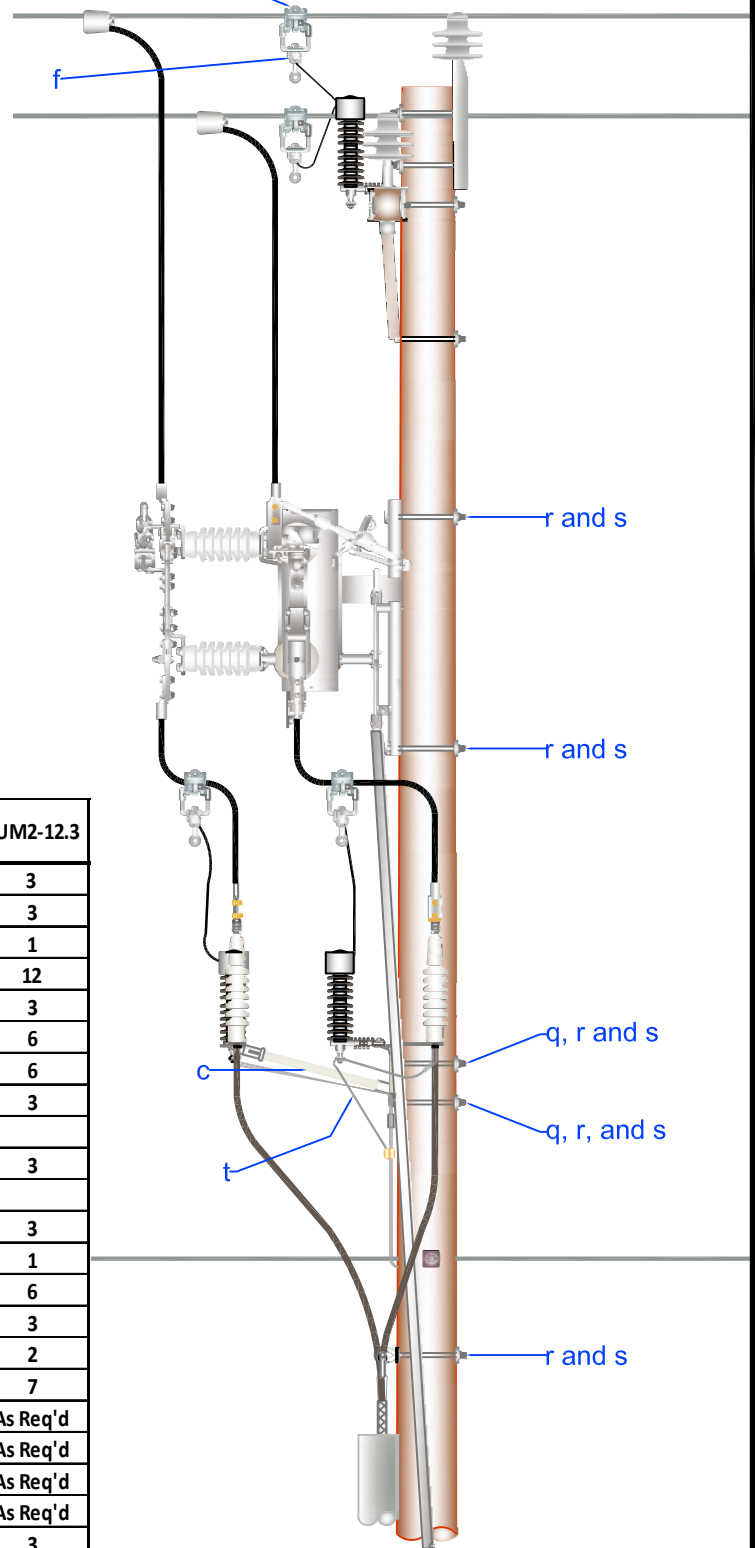
drawn:	approved	date:	VUM2-12.2 VUM2-12.3
JBS	MJB	March 12, 2012	

Specify (3) M5-23.1.1, (3) M5-23.1.2, (3) M5-23.3.1,(3) M5-23.3.2,
 (3) M5-23.3.4, (3) M5-23.4.2, (3) M5-23.7.1
 (3) M5-23.7.3, or (3) M5-23.7.4 as needed

Grounding Detail



Side View



Item	Material Number	Item Description	VUM2-12.2	VUM2-12.3
a	2000014	Arrester Dist 18KV MOV	3	3
b	2000015	Arrester Dist 18KV MOV Riser	3	3
c	2000151	Bracket Equipment Mount FG 3Ph	1	1
d	*2000039	Bolt Bronze 1/2" x 2"	12	12
e	2000262	Clevis Anchor Shackle Sml	3	3
f	2000278	Conn HL Gp 8-2/0-8-1/0	6	6
g	2000376	Conn Ter 500-800 2 Hole	6	6
h	2000378	Conn Ter Comp 1000 Str 2 H		3
j	2000489	Grip Cable URD 1 3/4-2"	3	
k	2000490	Grip Cable URD 1 5/8-2 1/2"		3
l	2000768	Pothead URD 25KV 500 CU	3	
m	2000769	Pothead URD 25KV 750-1000		3
n	2000948	Switch Vert Break 25KV 900A	1	1
o	2000495	Guard Bird, Arrester	6	6
p	*	Bolt Eye 5/8"	3	3
q	*	Bolt Machine 5/8"	2	2
r	*3000240	Washer Sq F 2 1/4	7	7
s	*3000153	Locknuts 5/8" M F	As Req'd	As Req'd
t	*2001295	Wire Copper Clad Steel #6 Solid	As Req'd	As Req'd
u	*	Connectors	As Req'd	As Req'd
v	*	Jumpers	As Req'd	As Req'd
w	2000834	Riser Standard 5"	3	3
x	2000837	Riser Vent Boot 5" PVC	1	1

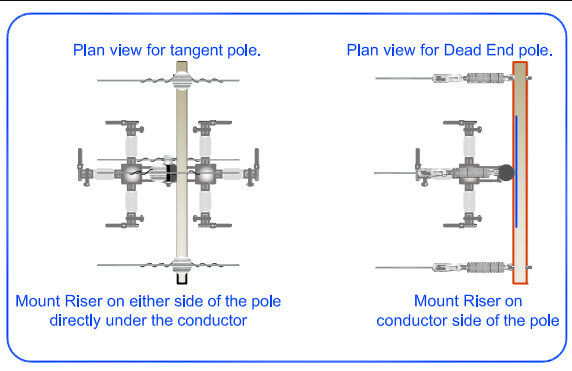
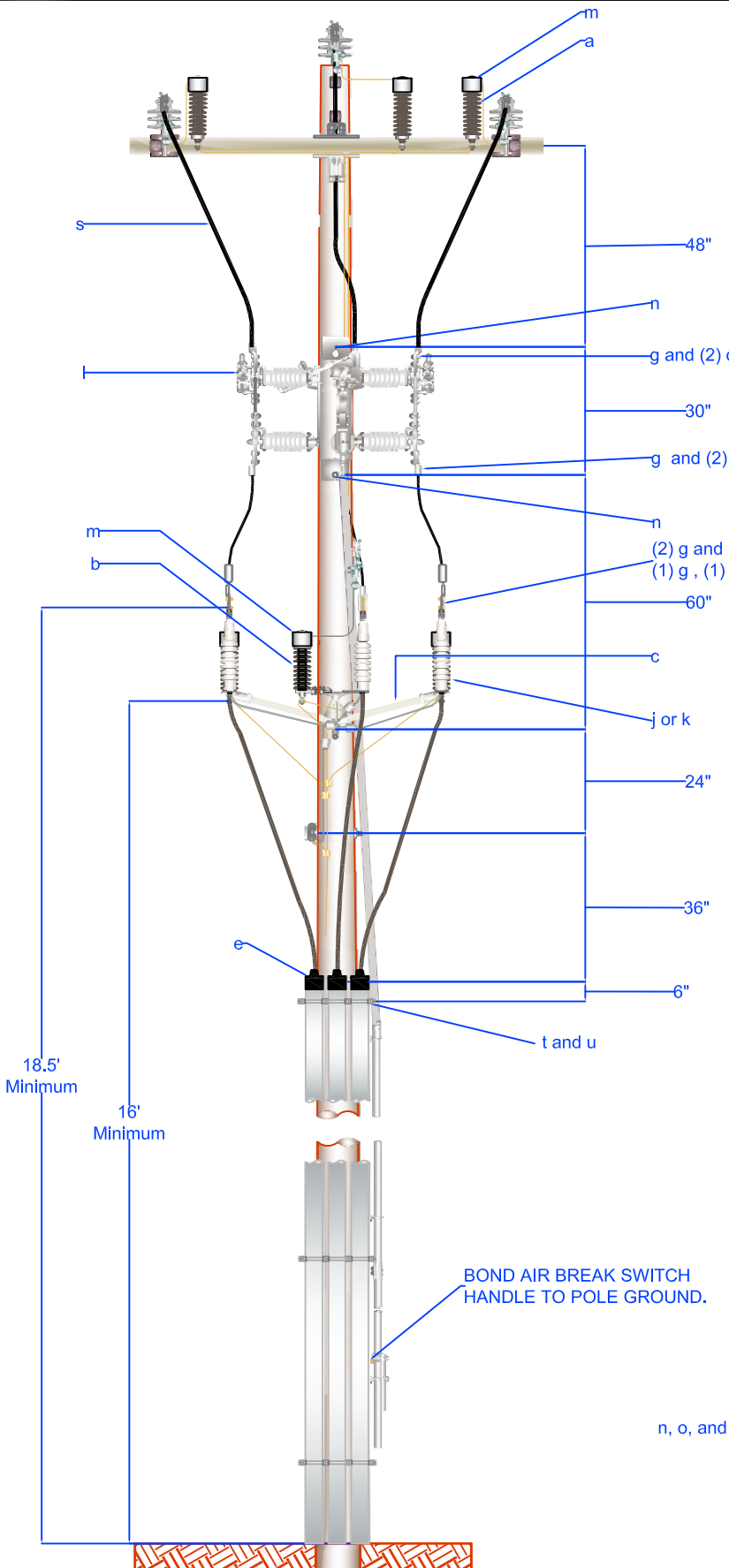
*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.

3 Ph 600 amp Underground Risers With Air Break Switch Page 2 of 2



PEDERNALES ELECTRIC
 COOPERATIVE, INC.
 CONSTRUCTION ASSEMBLY UNIT

drawn: JBS	approved MJB	date: February 23, 2016	VUM2-12.2 VUM2-12.3
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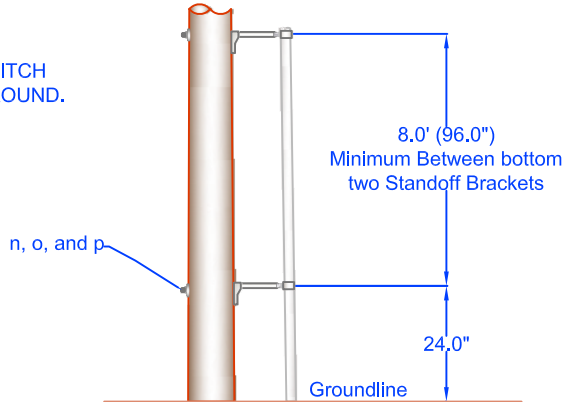


Plan View of riser

**SPECIFY VUM2-12.2S FOR USE WITH 500 MCM COPPER.
SPECIFY VUM2-12.3S FOR USE WITH 1000 MCM ALUMINUM**

NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNIT M2-15.2 FOR AIR BREAK SWITCH WITH A PERMANENTLY MOUNTED HANDLE. IF USING AN EXTENDO- STICK OPERATED SWITCH INSTALL AN M2-2 ON A NEW POLE OR AN M2-11 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL. SEE GROUNDING DETAIL ON PAGE 2.



PEDERNALES ELECTRIC
COOPERATIVE, INC.
CONSTRUCTION ASSEMBLY UNIT

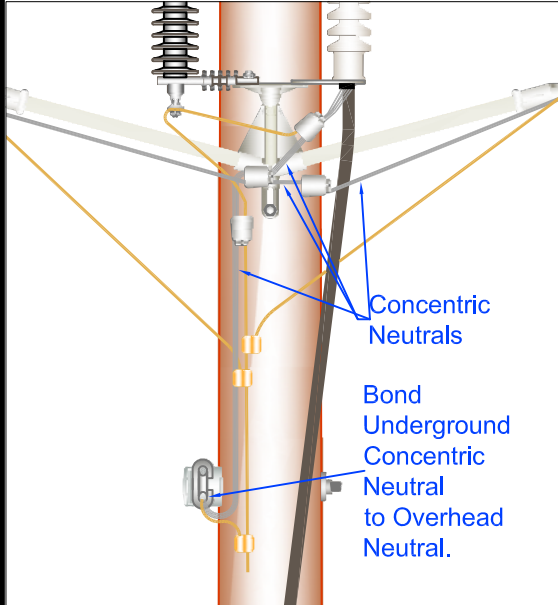
**3 Ph 600 amp Underground Risers
With Air Break Switch and standoffs**

Page 1 of 2

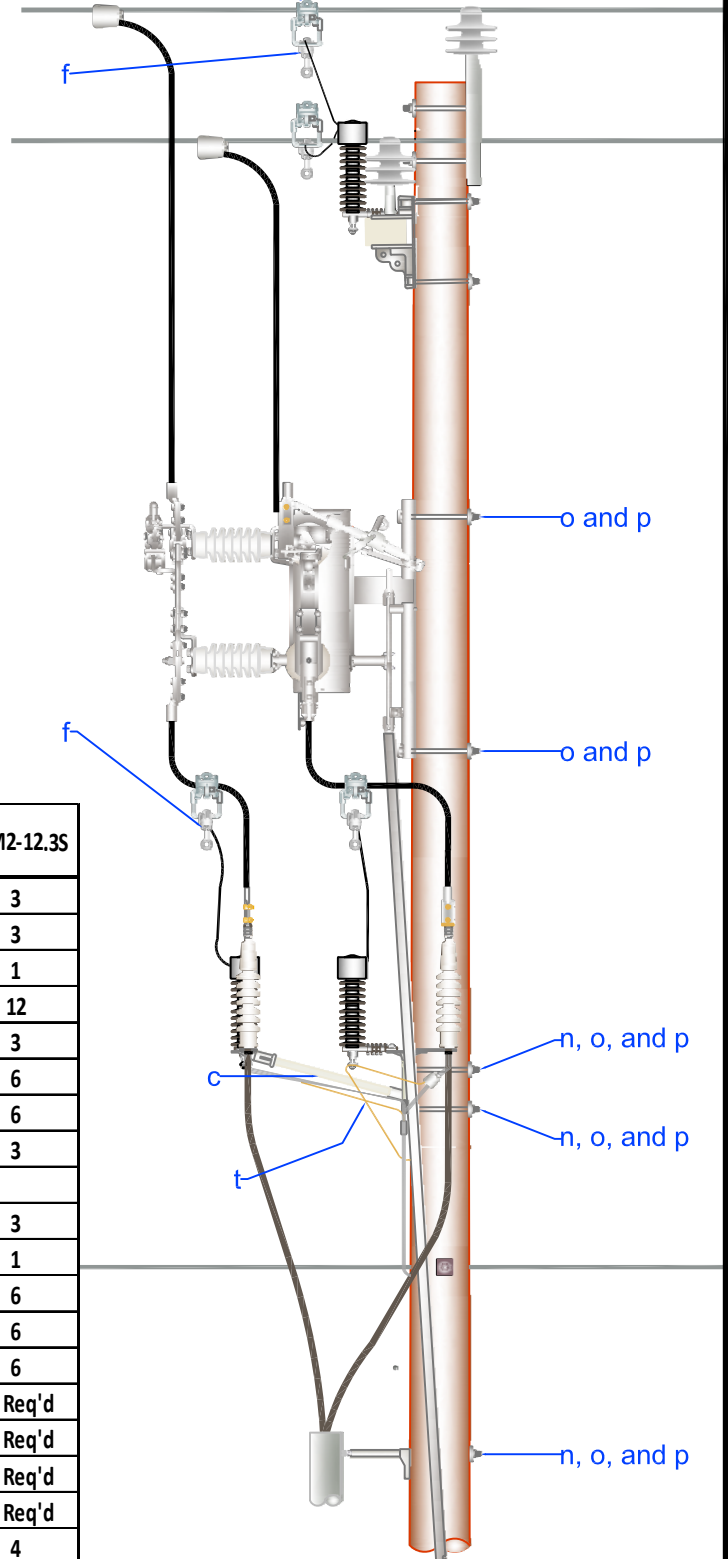
drawn:	approved	date:	VUM2-12.2S VUM2-12.3S
JBS	MJB	March 12, 2012	

Specify (3) M5-23.1.1, (3) M5-23.1.2, (3) M5-23.3.1, (3) M5-23.3.2,
 (3) M5-23.3.4, (3) M5-23.4.2, (3) M5-23.7.1
 (3) M5-23.7.3, or (3) M5-23.7.4 as needed

Grounding Detail



Side View



Item	Material Number	Item Description	VUM2-12.2S	VUM2-12.3S
a	2000014	Arrester Dist 18KV MOV	3	3
b	2000015	Arrester Dist 18KV MOV Riser	3	3
c	2000151	Bracket Equipment Mount FG 3Ph	1	1
d	*2000039	Bolt Bronze 1/2" x 2"	12	12
e	*	Conduit Cap	3	3
f	2000278	Conn HL Gp 8-2/0-8-1/0	6	6
g	2000376	Conn Ter 500-800 2 Hole	6	6
h	2000378	Conn Ter Comp 1000 Str 2 H		3
j	2000768	Pothead URD 25KV 500 CU	3	
k	2000769	Pothead URD 25KV 750-1000		3
l	2000948	Switch Vert Break 25KV 900A	1	1
m	2000495	Guard Bird, Arrester	6	6
n	*	Bolt Machine 5/8"	6	6
o	*3000240	Washer Sq F 2 1/4	6	6
p	*3000153	Locknuts 5/8" M F	As Req'd	As Req'd
q	*2001550	Wire Copper Clad Steel #6 Solid	As Req'd	As Req'd
r	*	Connectors	As Req'd	As Req'd
s	*	Jumpers	As Req'd	As Req'd
t	2000147	Bracket conduit 9" standoff 24"	4	4
u	2000910	Strap Kit 4"	12	12

*Denotes "Grab Bag" Item. All bolt lengths are dependent on pole class.



PEDERNALES ELECTRIC
 COOPERATIVE, INC.
 CONSTRUCTION ASSEMBLY UNIT

3 Ph 600 amp Underground Risers
 With Air Break Switch and standoffs

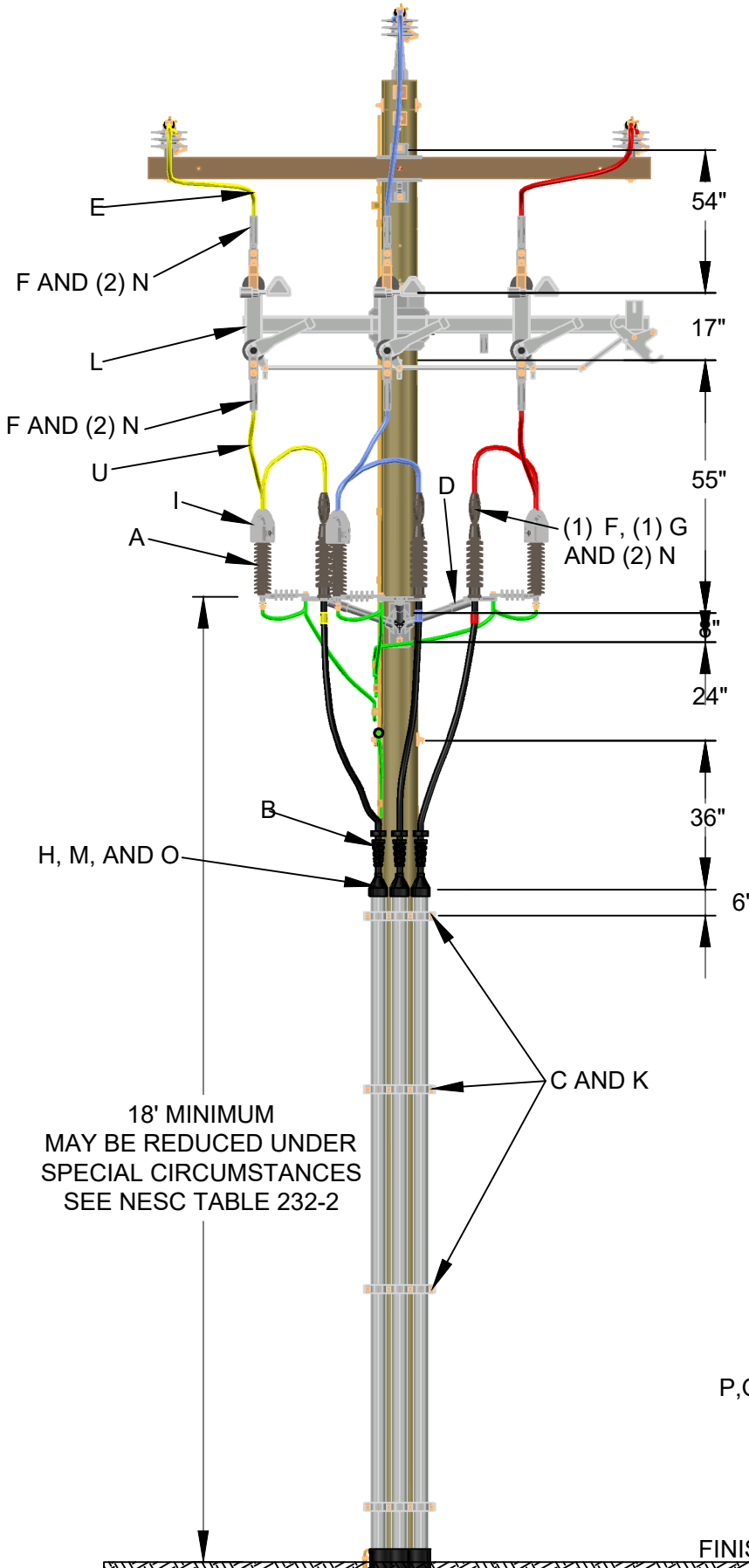
Page 2 of 2

drawn:
JBS

approved
MJB

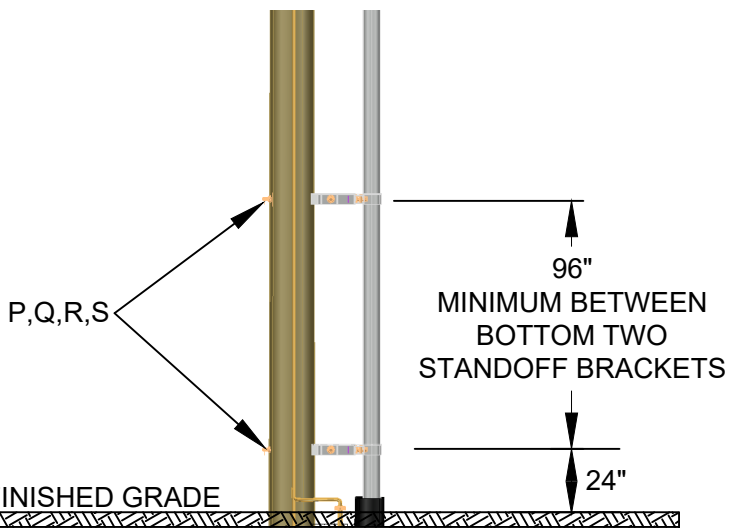
date:
 March 12, 2012

VUM2-12.2S
VUM2-12.3S

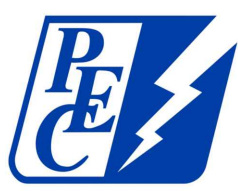


- NOTES:
1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
 2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
 3. INSTALL ASSEMBLY UNIT M2-2 ON A NEW POLE. IF AN EXISTING POLE DOES NOT ALREADY HAVE AN M2-2, THEN INSTALL AN M2-1.
 4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL. SEE GROUNDING DETAIL PAGE 3.
 5. CONDUIT FOR RISER IS ASSUMED TO BE 4".
 6. USE OFF-POLE ARRESTERS WHEN APPROPRIATE.
 7. BOND ARRESTER TO CONCENTRIC NEUTRAL WITH #6 GROUND.

18' MINIMUM
MAY BE REDUCED UNDER
SPECIAL CIRCUMSTANCES
SEE NESC TABLE 232-2



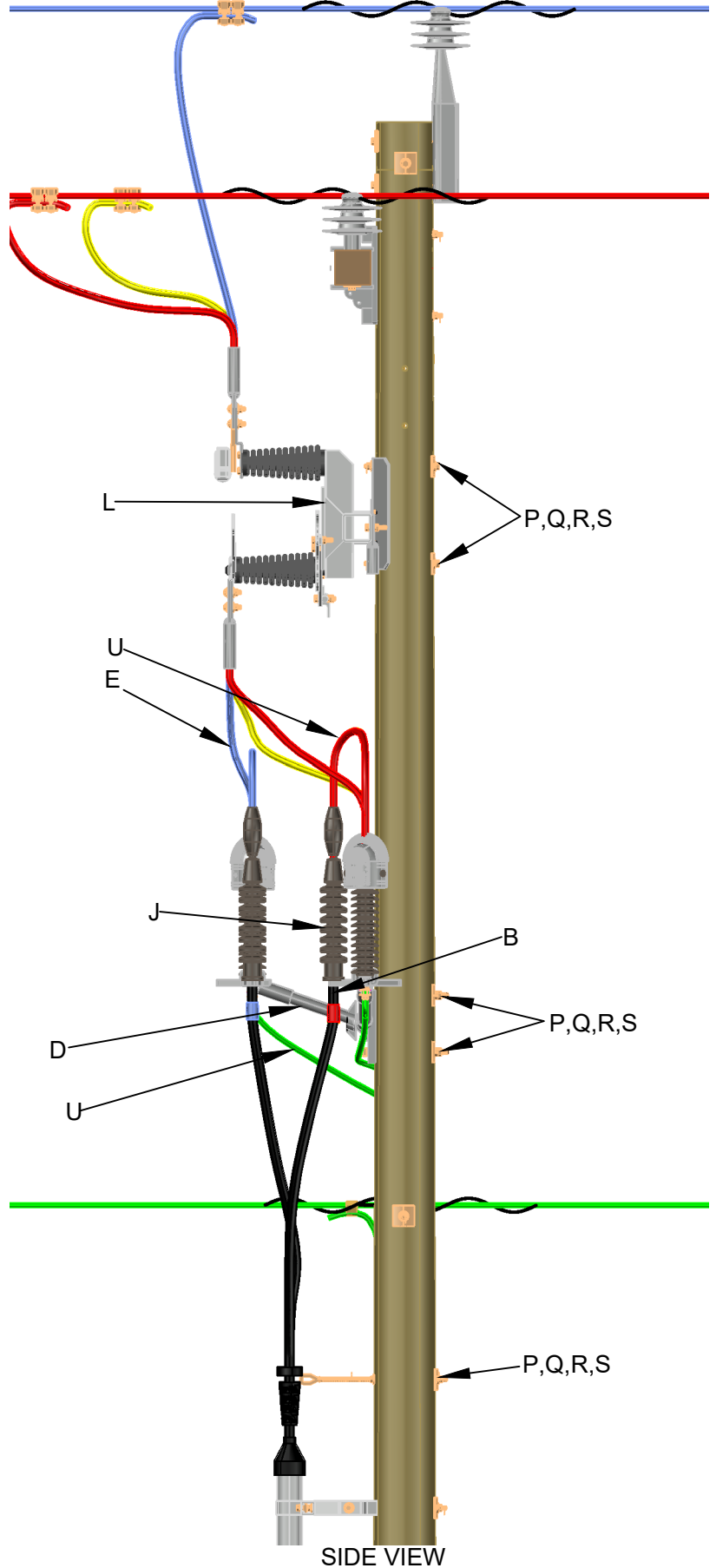
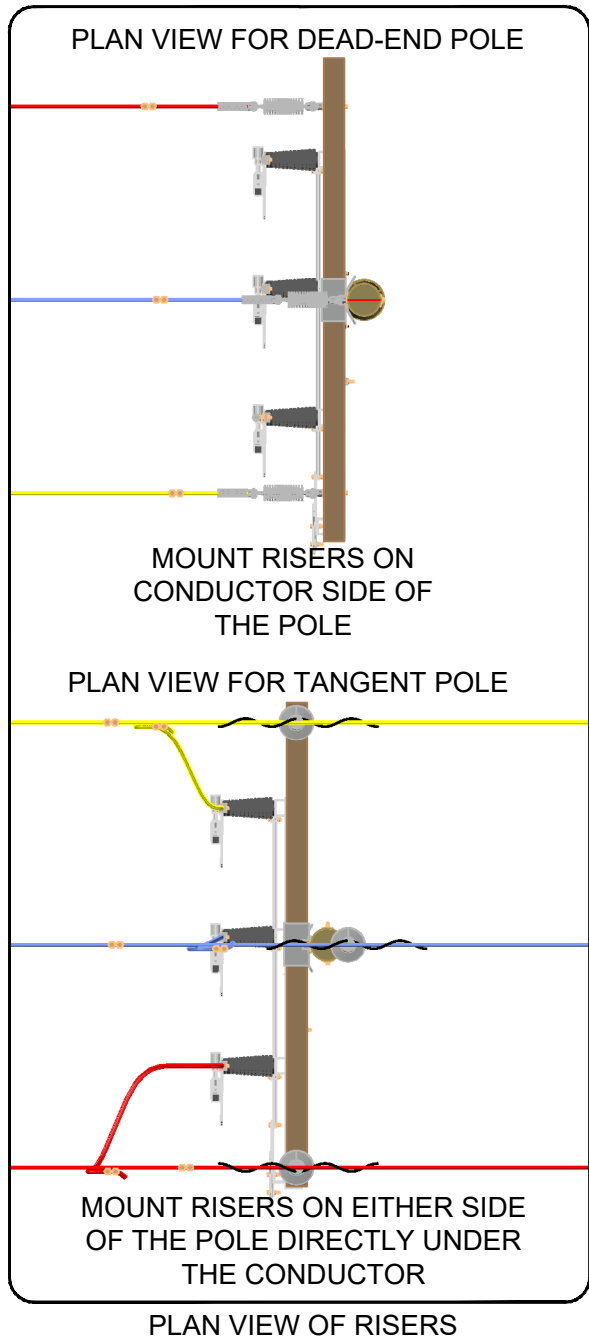
REV	A	DATE	10/17/2023	REVISION	ISSUE FOR CONSTRUCTION	BY	RWC	CHK	SSS	APR	MMG
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CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 AL UNDERGROUND RISER
WITH VERTICAL EXTENDO AIR BREAK
SWITCH AND STANDOFFS
PAGE 1 OF 4

drawn:	approved:	date:	VUM2-12.3ES
RWC	MMG	10/17/2023	



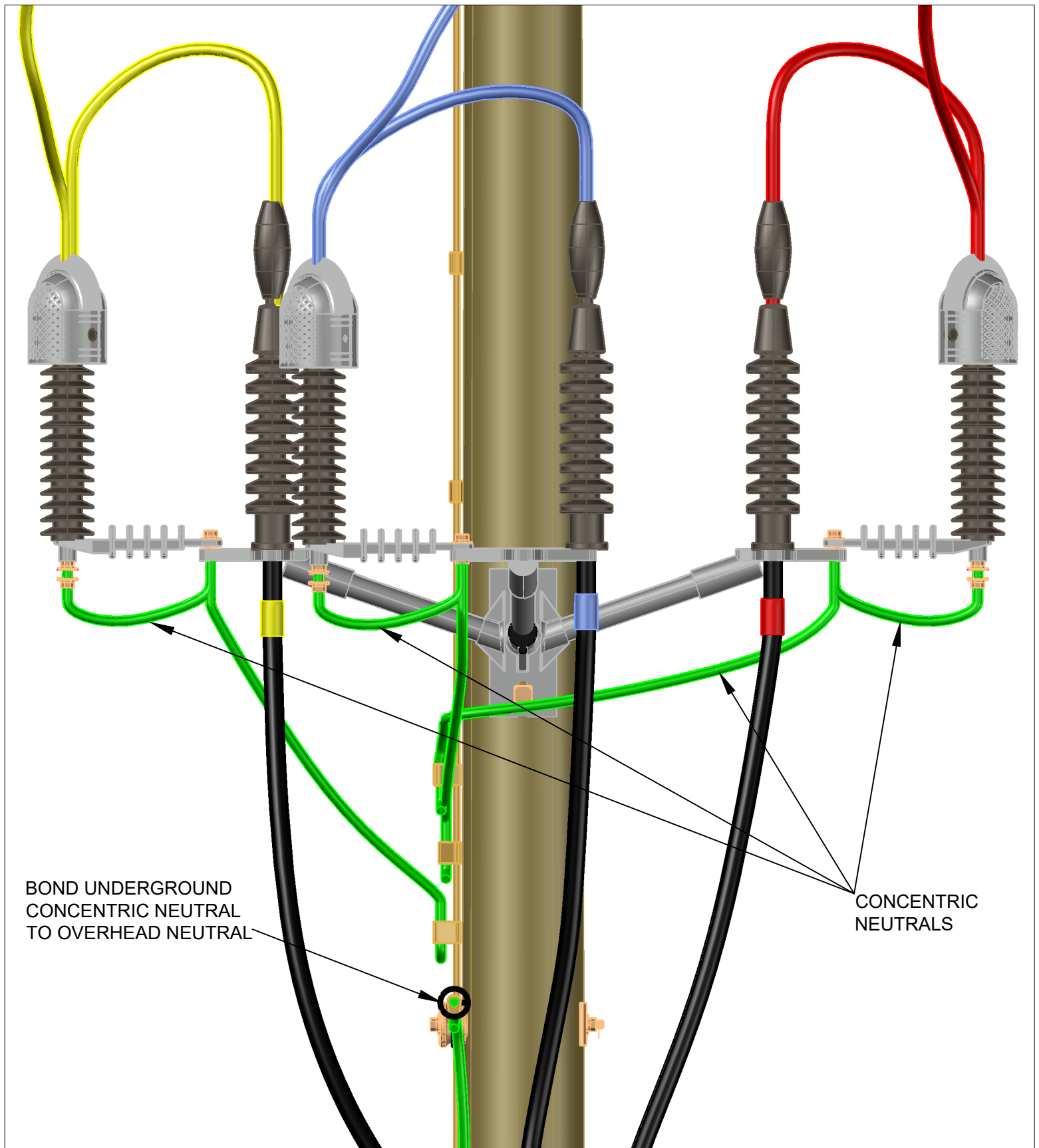
REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION ASSEMBLY UNIT

3Ø 1000 AL UNDERGROUND RISER WITH VERTICAL EXTENDO AIR BREAK SWITCH AND STANDOFFS
PAGE 2 OF 4

drawn:	approved:	date:	VUM2-12.3ES
RWC	MMG	10/17/2023	



GROUNDING DETAIL

REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 AL UNDERGROUND RISER
WITH VERTICAL EXTENDO AIR BREAK
SWITCH AND STANDOFFS
PAGE 3 OF 4

drawn:	approved:	date:	VUM2-12.3ES
RWC	MMG	10/17/2023	

ITEM	MATERIAL NUMBER	DESCRIPTION	QTY
A	2000015	ARRESTER DIST 18 kV MOV RISER	3
B	2000145	BRACKET CABLE POSITIONER	3
C	2000147	BRACKET CONDUIT 9" STANDOFF 24"	4
D	2000151	BRACKET EQUIPMENT MOUNT FG 3Ø	1
E	2000214	CABLE SERVICE WP 500 MCM COPPER	AS REQ'D
F	2000376	CONNECTOR TERMINAL 500-800 2 HOLE	9
G	2000378	CONNECTOR TERMINAL COMP 1000 STR 2 HOLE	3
H	2000459	FLOOD SEAL 4"	3
I	2000495	GUARD BIRD, ARRESTER	3
J	2000769	POTHEAD URD 25 kV 500-1250	3
K	2000910	STRAP KIT 4"	12
L	2002750	SWITCH ABS VERTICAL EXTENDO FIBERGLASS 25 kV 900A	1
M	2002700	GRIP CABLE URD CONDUIT RISER RING GRIP 4"	3
N	*2000039	BOLT BRONZE 1/2" X 2"	AS REQ'D
O	*	CONDUIT CAP	AS REQ'D
P	*	BOLT MACHINE 5/8"	AS REQ'D
Q	*3000240 or	WASHER SQUARE FLAT 2 1/4" WITH 11/16" HOLE	AS REQ'D
Q	*3000237 or	WASHER SQUARE CURVED 4" WITH 15/16" HOLE	AS REQ'D
Q	*3000235	WASHER SQUARE CURVED 3" WITH 13/16" HOLE	AS REQ'D
R	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
S	*3000227	WASHER COIL 5/8"	AS REQ'D
T	*2001550	WIRE COPPER CLAD STEEL #6 SOLID	AS REQ'D
U	*	JUMPERS	AS REQ'D

*DENOTES "GRAB BAG" ITEM - ALL BOLT LENGTHS DEPEND ON POLE CLASS.

NESC RULE 217A2c:

STANDOFF BRACKETS ON SUPPORTING STRUCTURES SHALL BE ARRANGED SO THAT THERE IS NOT LESS THAN 2.45 M (8 FT) BETWEEN EITHER:

- (1) THE LOWEST BRACKET AND GROUND OR OTHER ACCESSIBLE SURFACE, OR
- (2) THE TWO LOWEST BRACKETS.

EXCEPTION: THIS RULE DOES NOT APPLY WHERE SUPPORTING STRUCTURES ARE ISOLATED.

REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG

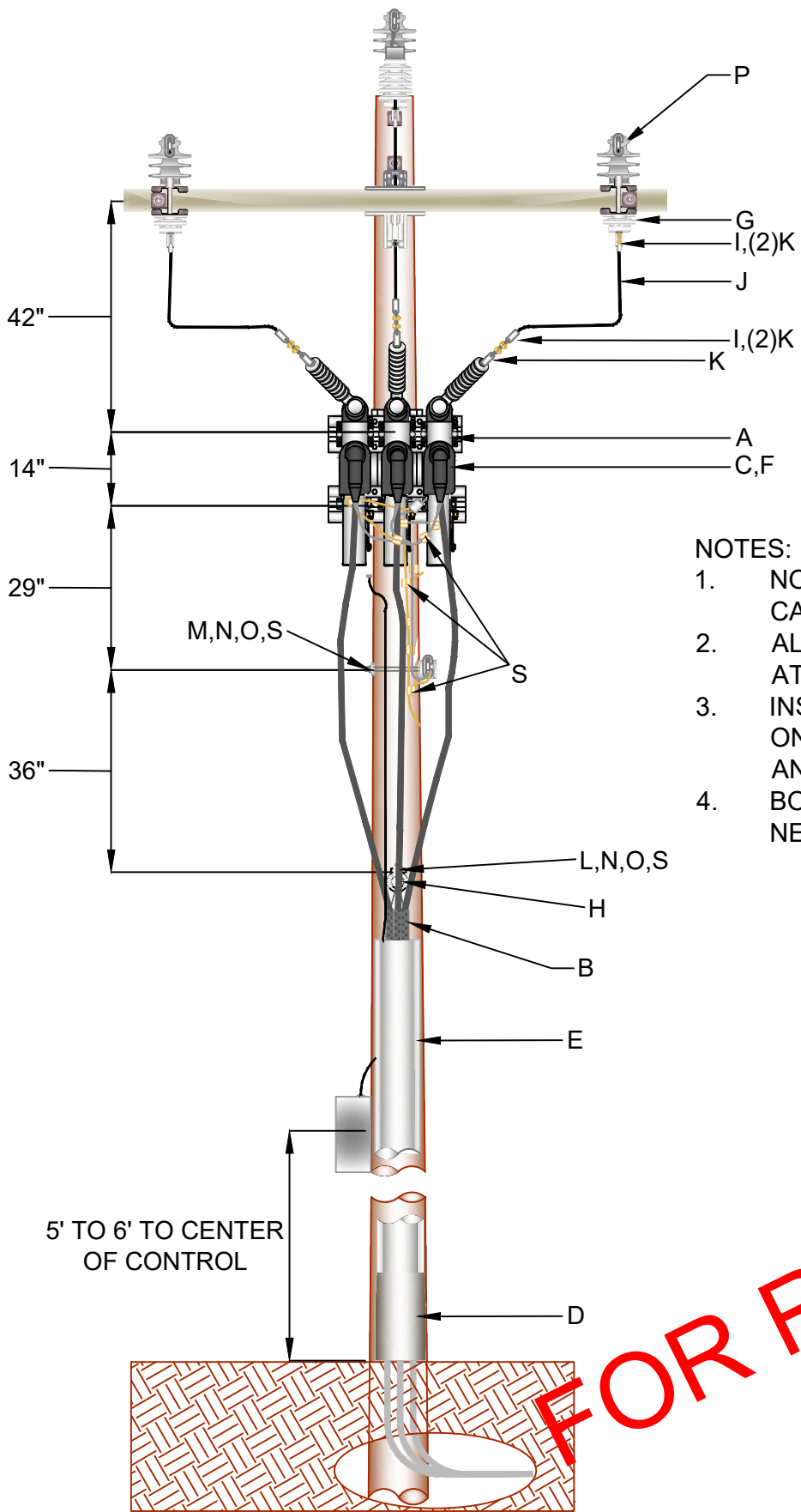


CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 AL UNDERGROUND RISER
WITH VERTICAL EXTENDO AIR BREAK
SWITCH AND STANDOFFS
PAGE 4 OF 4

drawn:	approved:	date:
RWC	MMG	10/17/2023

VUM2-12.3ES



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE OR AN M2-1 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.

REV A DATE 09/28/2018 REVISION ISSUE FOR CONSTRUCTION

BY RWC CHK MMG APR MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø 1/0 RISER
WITH (3) 1Ø MVI
WITH CONTROL
PAGE 1 OF 2

drawn:	approved:	date:
RWC	MMG	09/28/2018

VUM2-13.1

FOR REMOVAL

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	2000829	RISER INTERRUPTER 3-1PH 200A	1
B	2000488	GRIP CABLE URD	3
C	2000387	CONN URD LB ELBOW 25kV	3
D	2000837	RISER VENT BOOT 5" PVC	1
E	2000834	RISER POLE STANDARD 5"	3
F	2000029	ARRESTER URD ELBOW 18kV MOV	3
G	2000936	SWITCH DISC LINE TAP	3
H	2000262	CLEVIS ANCHOR SHACKLE SMALL	3
I	2000376	CONN TERM 500-800 2 HOLE	6
J	2000214	CABLE SERVICE WP #500 MCM CU	15
K	*2000039	BOLT BRONZE 1/2"x2" W/NUT & WASHER	AS REQ'D
L	*	BOLT EYE 5/8"	AS REQ'D
M	*	BOLT MACHINE 5/8"	AS REQ'D
N	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
O	*3000237 or	WASHER SQUARE CURVED FOR 3/4" BOLT	AS REQ'D
P	*3000235	WASHER SQUARE CURVED FOR 5/8" BOLT	AS REQ'D
P	*	CONNECTORS	AS REQ'D
Q	*	JUMPERS	AS REQ'D
R	*2000347	CONN SPLIT BOLT GP 6	AS REQ'D
S	*3000227	WASHER COIL 5/8"	AS REQ'D

*DENOTES "GRAB BAG" ITEM - ALL BOLT LENGTHS DEPEND ON POLE CLASS.

REV | A | DATE | 09/28/2018 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | MMG | APR | MMG

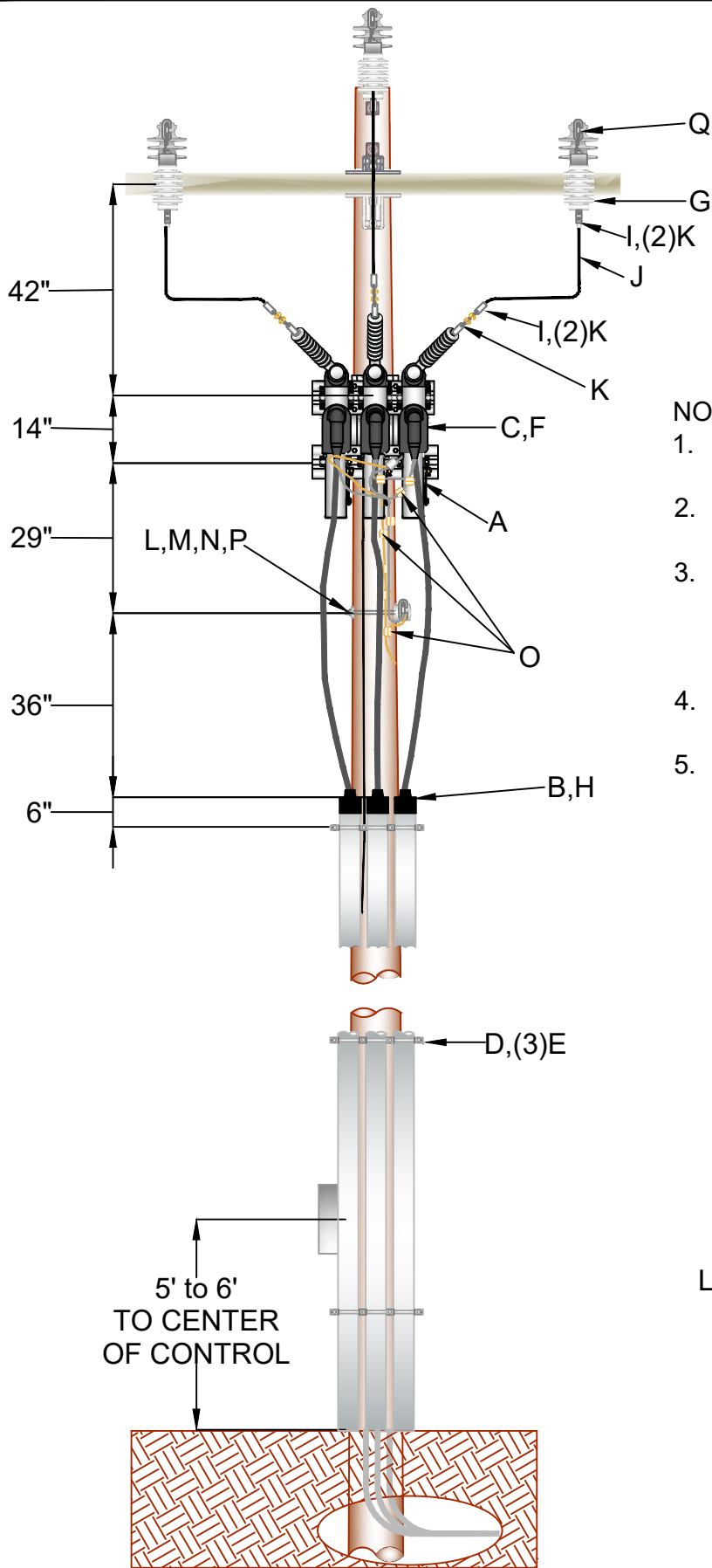


CONSTRUCTION
ASSEMBLY UNIT

3Ø 1/0 RISER
WITH (3) 1Ø MVI
WITH CONTROL
PAGE 2 OF 2

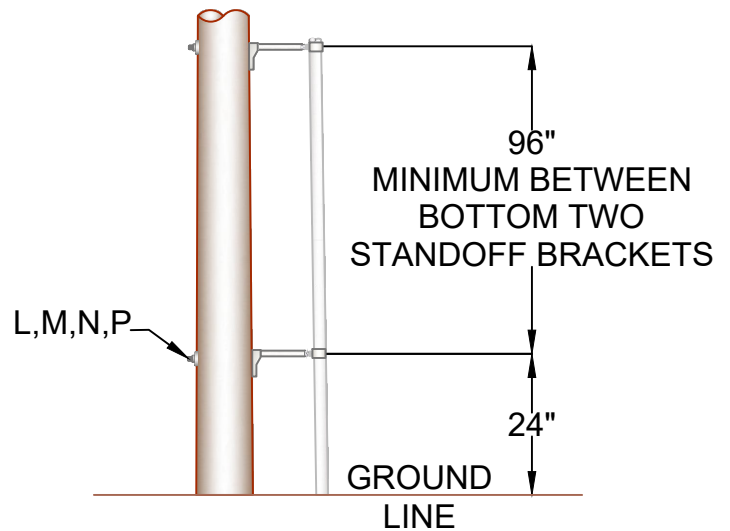
drawn:	approved:	date:
RWC	MMG	09/28/2018

VUM2-13.1



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE. IF AN EXISTING POLE DOES NOT ALREADY HAVE AN M2-2, THEN INSTALL AN M2-1.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
5. CONDUIT FOR RISER IS ASSUMED TO BE 4".



REV A DATE 08/09/2018 REVISION ISSUE FOR CONSTRUCTION

BY RWC CHK MMG APR MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 MCM RISER
WITH (3) 1Ø MVI
WITH CONTROL AND STANDOFFS
PAGE 1 OF 2

drawn:

approved:

date:

RWC

MMG

08/09/2018

VUM2-13.4S

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	2000830	RISER INTERRUPTER 3-1PH 600A	1
B	2000459	FLOOD SEAL 4"	3
C	2000562	KIT "T" CONN 25kV 600/900A 1000AL	3
D	2000147	BRACKET CONDUIT 9" STANDOFF 24"	4
E	2000910	STRAP KIT 4" EA. CONDUIT	12
F	2000030	ARRESTER URD ELBOW 18kV MOV	3
G	2000936	SWITCH DISC LINE TAP	3
H	2002700	GRIP CABLE URD CONDUIT RISER RING GRIP 4"	3
I	2000376	CONN TERM 500-800 2 HOLE	6
J	2000214	CABLE SERVICE WP #500 MCM CU	15
K	*2000039	BOLT BRONZE 1/2"x2" W/NUT & WASHER	AS REQ'D
L	*	BOLT MACHINE 5/8"	AS REQ'D
M	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
N	*3000237 or	WASHER SQUARE CURVED FOR 3/4" BOLT	AS REQ'D
N	*3000235	WASHER SQUARE CURVED FOR 5/8" BOLT	AS REQ'D
O	*2000347	CONN SPLIT BOLT GP 6	AS REQ'D
P	*3000227	WASHER COIL 5/8"	AS REQ'D
Q	*	CONNECTORS	AS REQ'D

*DENOTES "GRAB BAG" ITEM - ALL BOLT LENGTHS DEPEND ON POLE CLASS.

REV | A | DATE | 08/09/2018 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | MMG | APR | MMG

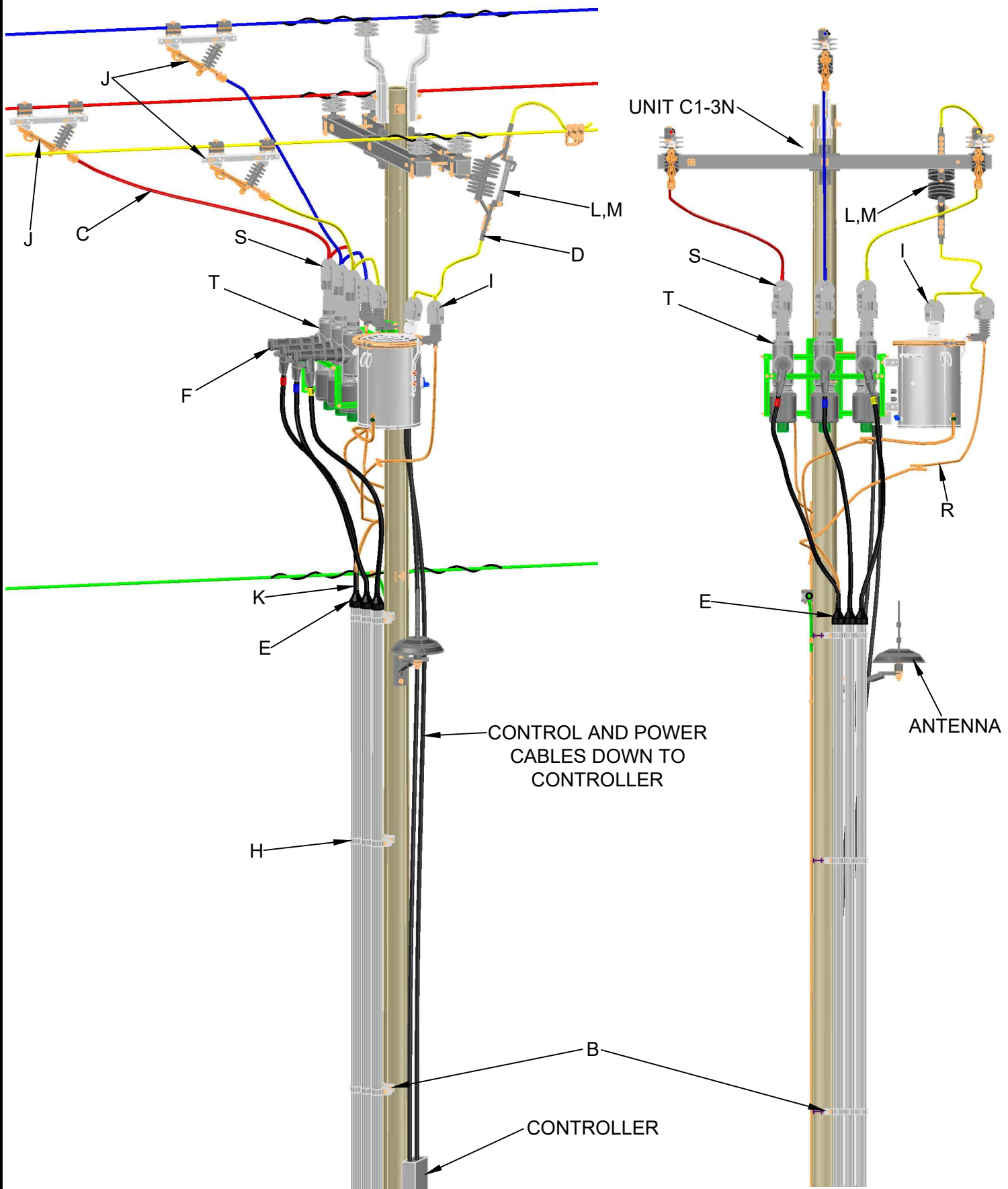


CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 MCM RISER
WITH (3) 1Ø MVI
WITH CONTROL AND STANDOFFS
PAGE 2 OF 2

drawn:	approved:	date:
RWC	MMG	08/09/2018

VUM2-13.4S



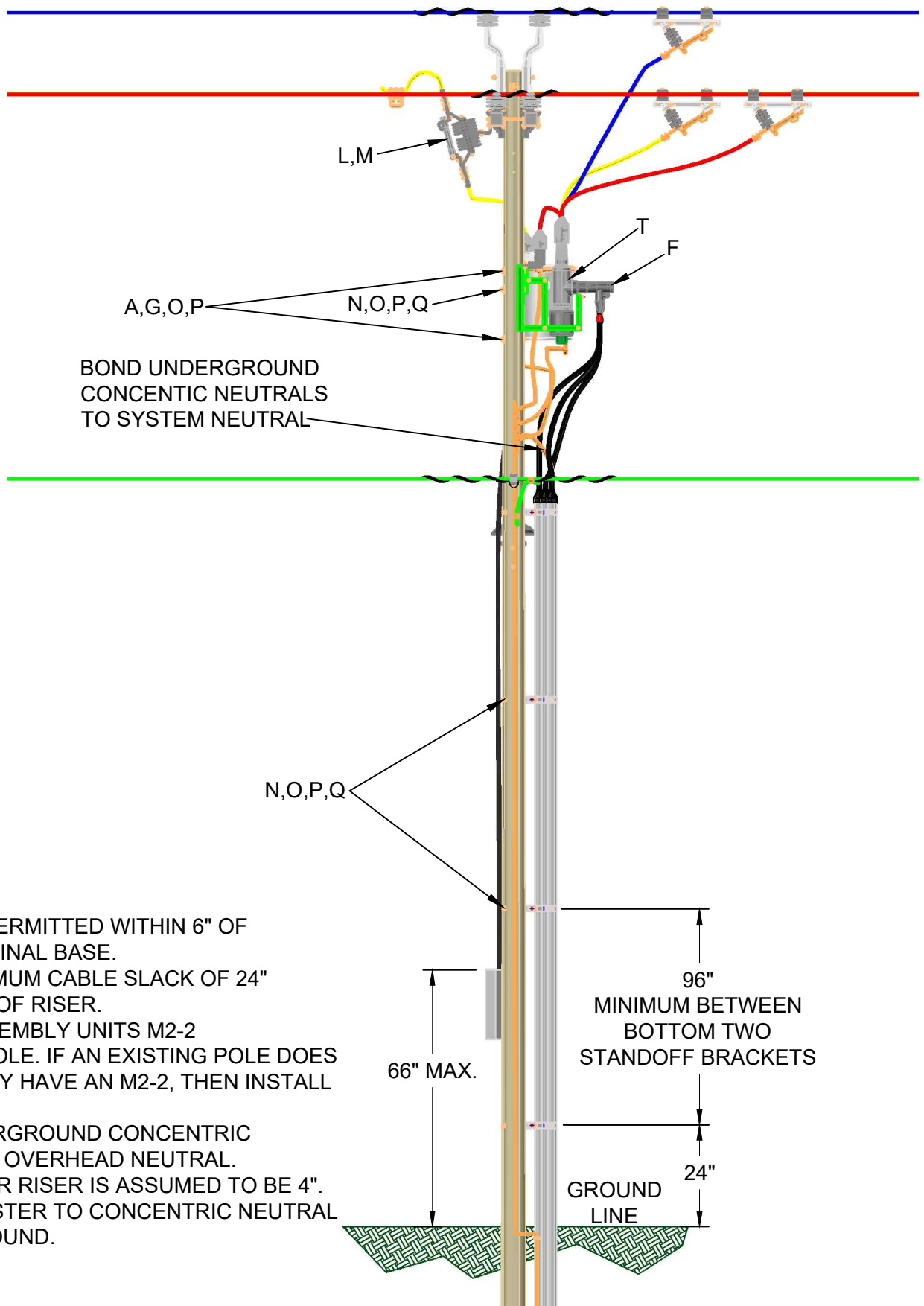
REV | A | DATE | 04/01/2021 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 MCM RISER
WITH (3) 1Ø VIPER TYPE ST RECLOSERS
WITH CONTROL AND STANDOFFS
PAGE 1 OF 3

drawn:	approved:	date:	VUM2-13.4SV
RWC	MMG	04/01/2021	



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE. IF AN EXISTING POLE DOES NOT ALREADY HAVE AN M2-2, THEN INSTALL AN M2-1.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
5. CONDUIT FOR RISER IS ASSUMED TO BE 4".
6. BOND ARRESTER TO CONCENTRIC NEUTRAL WITH #6 GROUND.

REV | A | DATE | 04/01/2021 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



**CONSTRUCTION
ASSEMBLY UNIT**

**3Ø 1000 MCM RISER
WITH (3) 1Ø VIPER TYPE ST RECLOSERS
WITH CONTROL AND STANDOFFS
PAGE 2 OF 3**

drawn:	approved:	date:	VUM2-13.4SV
RWC	MMG	04/01/2021	

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	*3000151	LOCKNUT 3/4" MF	AS REQ'D
B	2000147	BRACKET CONDUIT 9" STANDOFF 24"	4
C	*2000214	CABLE SERVICE WP 500 MCM CU	AS REQ'D
D	2000376	CONNECTOR TERMINAL 500-800 2 HOLE	6
E	2000459	FLOOD SEAL 4"	3
F	2002888	'T' CONNECTOR 35 kV, 600A, 1000 AL	3
G	*	BOLT MACHINE 3/4" MF	AS REQ'D
H	2000910	STRAP KIT 4" 1 EACH PER CONDUIT PER BRACKET	12
I	2000495	GUARD BIRD, ARRESTER	5
J	2000936	LINE TAP SWITCH	3
K	2002700	GRIP CABLE URD CONDUIT RISER RING GRIP 4"	3
L	2000423	CUTOUT 14.4-24.9 kV 100A	1
M	3000021	BRACKET CUTOUT MOUNTING	1
N	*	BOLT MACHINE 5/8"	AS REQ'D
O	*3000227	WASHER COIL 5/8"	AS REQ'D
P	*3000240	WASHER SQUARE FLAT 2 1/4" WITH 11/16" HOLE	AS REQ'D
P	*3000237	WASHER SQUARE CURVED 4" WITH 15/16" HOLE	AS REQ'D
P	*3000235	WASHER SQUARE CURVED 3" WITH 13/16" HOLE	AS REQ'D
Q	*3000153	LOCKNUT 5/8" MF	AS REQ'D
R	*	JUMPERS	AS REQ'D
S	2002835	#4 MEDIUM SOLID BUSHING GUARD WITH LOOP LATCH	3
T	2000823	RECLOSER VACUUM 3Ø 800A SCADA CONTROL	1

*DENOTES "GRAB BAG" ITEM. ALL BOLT LENGTHS DEPEND ON POLE CLASS.

CONTROL CABINET MOUNTING HARDWARE AND MISCELLANEOUS HARDWARE AS REQ'D.

NESC RULE 217A2c:

STANDOFF BRACKETS ON SUPPORTING STRUCTURES SHALL BE ARRANGED SO THAT THERE IS NOT LESS THAN 2.45 M (8 FT) BETWEEN EITHER:

- (1) THE LOWEST BRACKET AND GROUND OR OTHER ACCESSIBLE SURFACE, OR
- (2) THE TWO LOWEST BRACKETS.

EXCEPTION: THIS RULE DOES NOT APPLY WHERE SUPPORTING STRUCTURES ARE ISOLATED.

REV | A | DATE | 04/01/2021 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG

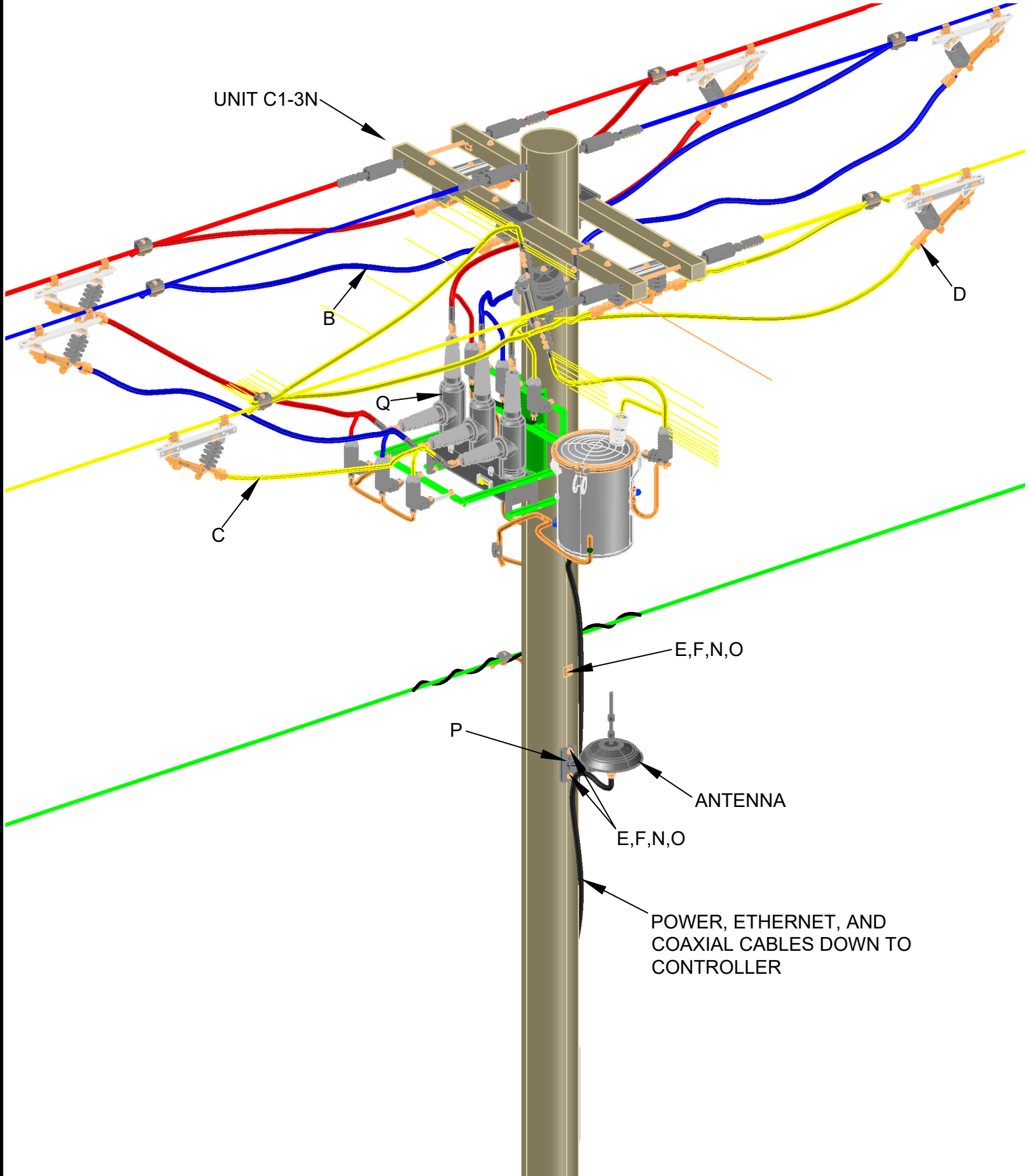


CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 MCM RISER
WITH (3) 1Ø VIPER TYPE ST RECLOSERS
WITH CONTROL AND STANDOFFS
PAGE 3 OF 3

drawn:	approved:	date:
RWC	MMG	04/01/2021

VUM2-13.4SV



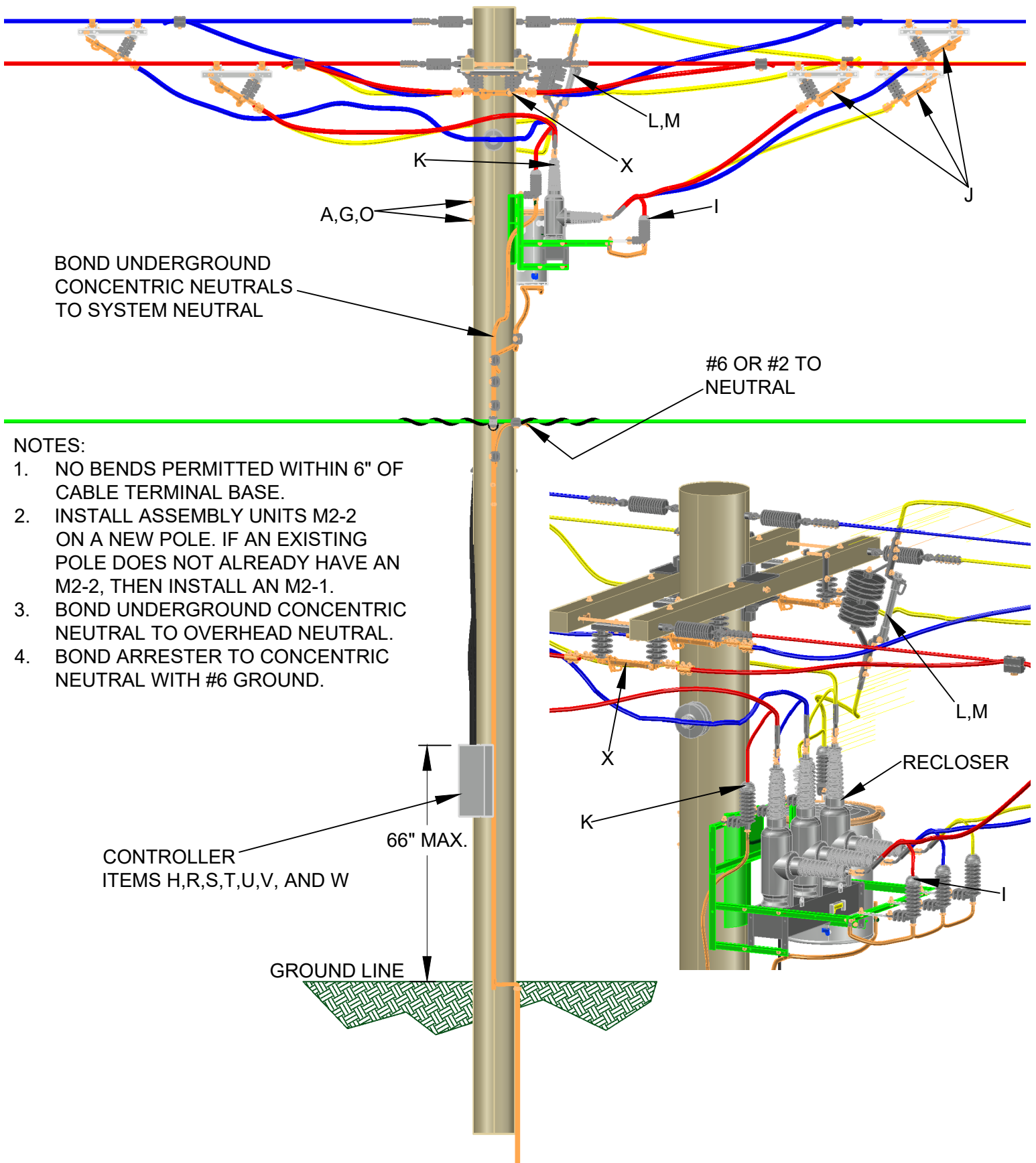
REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø ATS ELECTRONIC RECLOSER WITH CONTROL
PAGE 1 OF 3

drawn:	approved:	date:	VUM2-13.4SV-O
RWC	MMG	10/17/2023	



BOND UNDERGROUND
CONCENTRIC NEUTRALS
TO SYSTEM NEUTRAL

#6 OR #2 TO
NEUTRAL

NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE. IF AN EXISTING POLE DOES NOT ALREADY HAVE AN M2-2, THEN INSTALL AN M2-1.
3. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
4. BOND ARRESTER TO CONCENTRIC NEUTRAL WITH #6 GROUND.

CONTROLLER
ITEMS H,R,S,T,U,V, AND W

66" MAX.

GROUND LINE

REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø ATS ELECTRONIC RECLOSER WITH CONTROL
PAGE 2 OF 3

drawn:	approved:	date:	VUM2-13.4SV-O
RWC	MMG	10/17/2023	

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	*3000151	LOCKNUT 3/4" MF	AS REQ'D
B	*	JUMPERS	AS REQ'D
C	*2000214	CABLE SERVICE WP 500 MCM CU	AS REQ'D
D	2000376	CONNECTOR TERMINAL 500-800 2 HOLE	6
E	*	BOLT MACHINE 5/8"	AS REQ'D
F	*3000227	WASHER COIL 5/8"	AS REQ'D
G	*	BOLT MACHINE 3/4" MF	AS REQ'D
H	3000536	900 MHZ ANTENNA MAXRAD	1
I	2000495	GUARD BIRD, ARRESTER	8
J	2000936	LINE TAP SWITCH	6
K	2002835	#4 MEDIUM SOLID BUSHING GUARD WITH LOOP LATCH	6
L	2000423	CUTOUT 14.4-24.9 kV 100A	1
M	3000021	BRACKET CUTOUT MOUNTING	1
N	*3000153	LOCKNUT 5/8" MF	AS REQ'D
O	*3000240	WASHER SQUARE FLAT 2 1/4" WITH 11/16" HOLE	AS REQ'D
O	*3000237	WASHER SQUARE CURVED 4" WITH 15/16" HOLE	AS REQ'D
O	*3000235	WASHER SQUARE CURVED 3" WITH 13/16" HOLE	AS REQ'D
P	2000166	BRACKET STANDOFF 18" 3 POS. FBRGLS.	1
Q	2000823	RECLOSER VACUUM 3Ø 800A SCADA CONTROL	1
R	2002831	GPS CLOCK	1
S	2002833	RADIO, SERIAL TRANSCEIVER, MIRRORED BITS	1
T	2002584	MODEM SUBST. CELLULAR AIRLINK RAVEN RV50X	1
U	3000537	CELL ANTENNA FEMALE CONNECTION	1
V	3000533	10 FT. ETHERNET CABLE CAT6	1
W	3000535	NMALE TO NMALE COAXIAL CABLE 40'	1
X	2000930	SWITCH DISCONNECT 25 kV 600A	3

*DENOTES "GRAB BAG" ITEM. ALL BOLT LENGTHS DEPEND ON POLE CLASS.

CONTROL CABINET MOUNTING HARDWARE AND MISCELLANEOUS HARDWARE AS REQUIRED.

NESC RULE 217A2c:

STANDOFF BRACKETS ON SUPPORTING STRUCTURES SHALL BE ARRANGED SO THAT THERE IS NOT LESS THAN 2.45 M (8 FT) BETWEEN EITHER:

- (1) THE LOWEST BRACKET AND GROUND OR OTHER ACCESSIBLE SURFACE, OR
- (2) THE TWO LOWEST BRACKETS.

EXCEPTION: THIS RULE DOES NOT APPLY WHERE SUPPORTING STRUCTURES ARE ISOLATED.

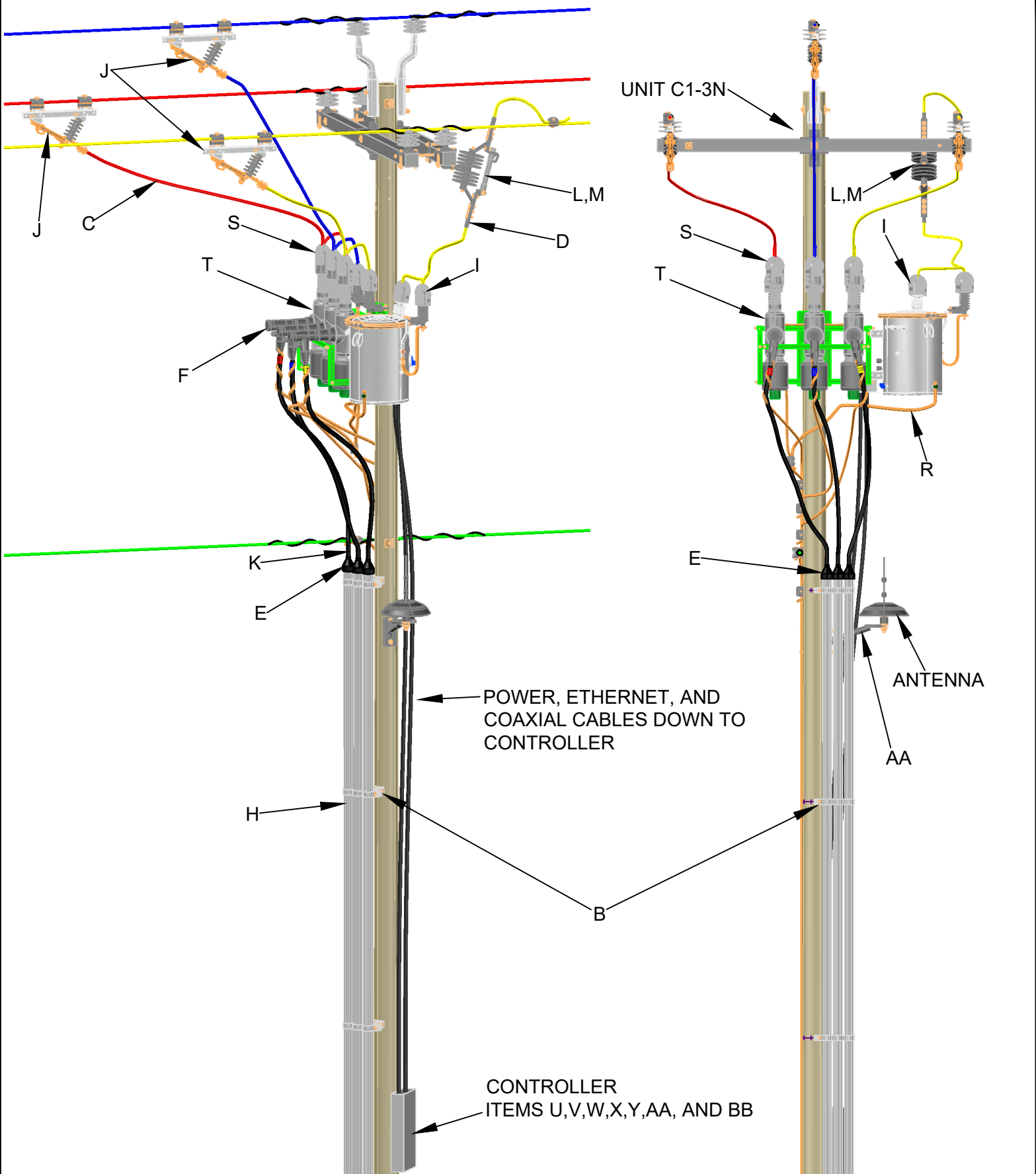
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CONSTRUCTION
ASSEMBLY UNIT

3Ø ATS ELECTRONIC RECLOSER WITH CONTROL
PAGE 3 OF 3

drawn:	approved:	date:	VUM2-13.4SV-O
RWC	MMG	10/17/2023	



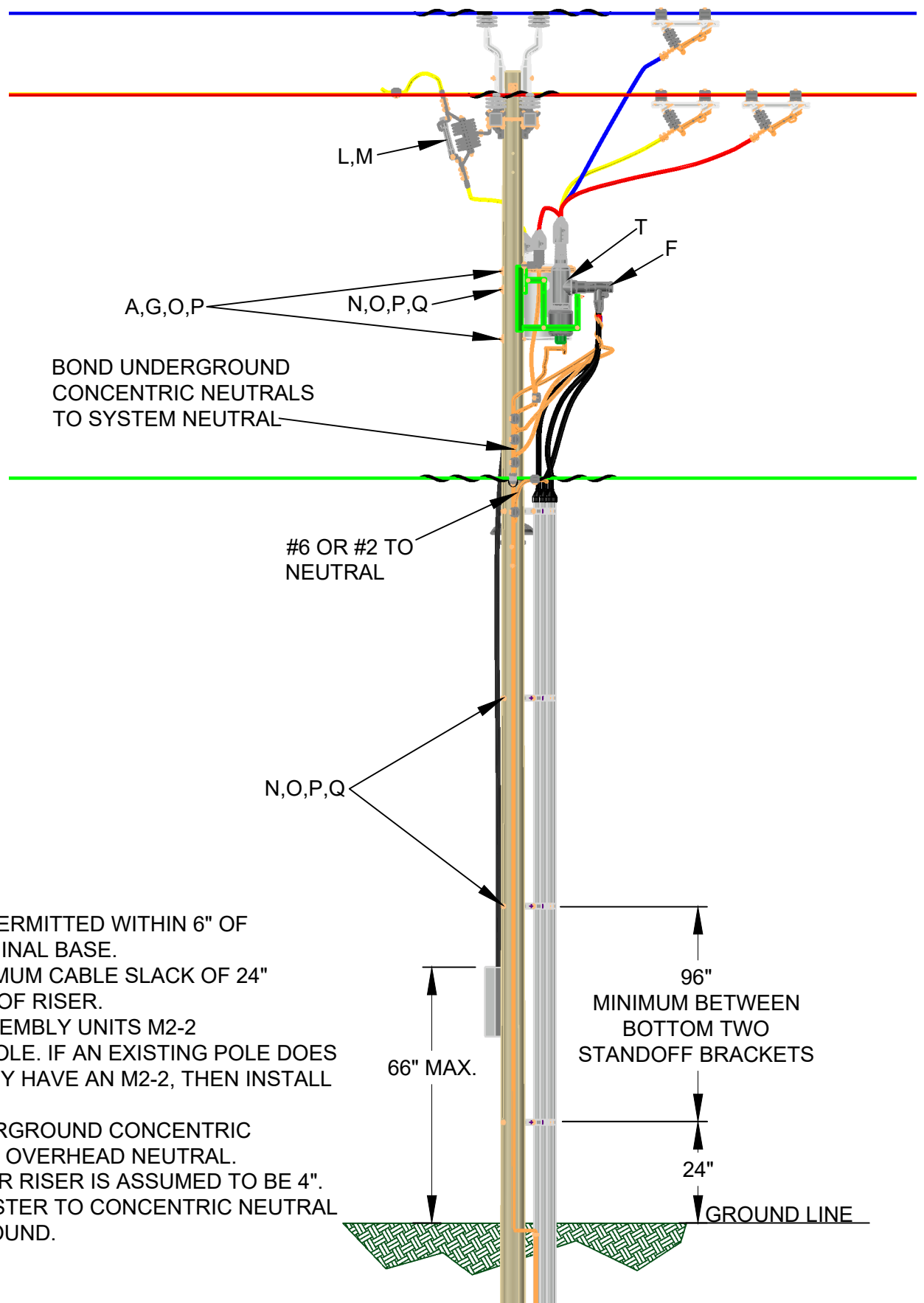
REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø UNDERGROUND RISER
WITH ATS ELECTRONIC RECLOSER
WITH CONTROL
PAGE 1 OF 3

drawn:	approved:	date:	VUM2-13.4SV-U
RWC	MMG	10/17/2023	



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE. IF AN EXISTING POLE DOES NOT ALREADY HAVE AN M2-2, THEN INSTALL AN M2-1.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
5. CONDUIT FOR RISER IS ASSUMED TO BE 4".
6. BOND ARRESTER TO CONCENTRIC NEUTRAL WITH #6 GROUND.

REV | A | DATE | 10/17/2023 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | SSS | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

30 UNDERGROUND RISER
WITH ATS ELECTRONIC RECLOSER
WITH CONTROL
PAGE 2 OF 3

drawn:	approved:	date:	VUM2-13.4SV-U
RWC	MMG	10/17/2023	

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	*3000151	LOCKNUT 3/4" MF	AS REQ'D
B	2000147	BRACKET CONDUIT 9" STANDOFF 24"	4
C	*2000214	CABLE SERVICE WP 500 MCM CU	AS REQ'D
D	2000376	CONNECTOR TERMINAL 500-800 2 HOLE	3
E	2000459	FLOOD SEAL 4"	3
F	2002962	'T' CONNECTOR 35 kV, 600A, 1/0 AL	3
G	*	BOLT MACHINE 3/4" MF	AS REQ'D
H	2000910	STRAP KIT 4" 1 EACH PER CONDUIT PER BRACKET	12
I	2000495	GUARD BIRD, ARRESTER	5
J	2000936	LINE TAP SWITCH	3
K	2002700	GRIP CABLE URD CONDUIT RISER RING GRIP 4"	3
L	2000423	CUTOUT 14.4-24.9 kV 100A	1
M	3000021	BRACKET CUTOUT MOUNTING	1
N	*	BOLT MACHINE 5/8"	AS REQ'D
O	*3000227	WASHER COIL 5/8"	AS REQ'D
P	*3000240	WASHER SQUARE FLAT 2 1/4" WITH 11/16" HOLE	AS REQ'D
P	*3000237	WASHER SQUARE CURVED 4" WITH 15/16" HOLE	AS REQ'D
P	*3000235	WASHER SQUARE CURVED 3" WITH 13/16" HOLE	AS REQ'D
Q	*3000153	LOCKNUT 5/8" MF	AS REQ'D
R	*	JUMPERS	AS REQ'D
S	2002835	#4 MEDIUM SOLID BUSHING GUARD WITH LOOP LATCH	3
T	2000823	RECLOSER VACUUM 3Ø 800A SCADA CONTROL	1
U	2002831	GPS CLOCK	1
V	2002833	RADIO, SERIAL TRANSCEIVER, MIRRORED BITS	1
W	2002584	MODEM SUBST. CELLULAR AIRLINK RAVEN RV50X	1
X	3000537	CELL ANTENNA FEMALE CONNECTION	1
Y	3000533	10 FT. ETHERNET CABLE CAT6	1
Z	2000166	BRACKET STANDOFF 18" 3 POS. FBRGLS.	1
AA	3000535	NMALE TO NMALE COAXIAL CABLE 40'	1
BB	3000536	900 MHZ ANTENNA MAXRAD	1

*DENOTES "GRAB BAG" ITEM. ALL BOLT LENGTHS DEPEND ON POLE CLASS.

CONTROL CABINET MOUNTING HARDWARE AND MISCELLANEOUS HARDWARE AS REQUIRED.

NESC RULE 217A2c:

STANDOFF BRACKETS ON SUPPORTING STRUCTURES SHALL BE ARRANGED SO THAT THERE IS NOT LESS THAN 2.45 M (8 FT) BETWEEN EITHER:

- (1) THE LOWEST BRACKET AND GROUND OR OTHER ACCESSIBLE SURFACE, OR
- (2) THE TWO LOWEST BRACKETS.

EXCEPTION: THIS RULE DOES NOT APPLY WHERE SUPPORTING STRUCTURES ARE ISOLATED.

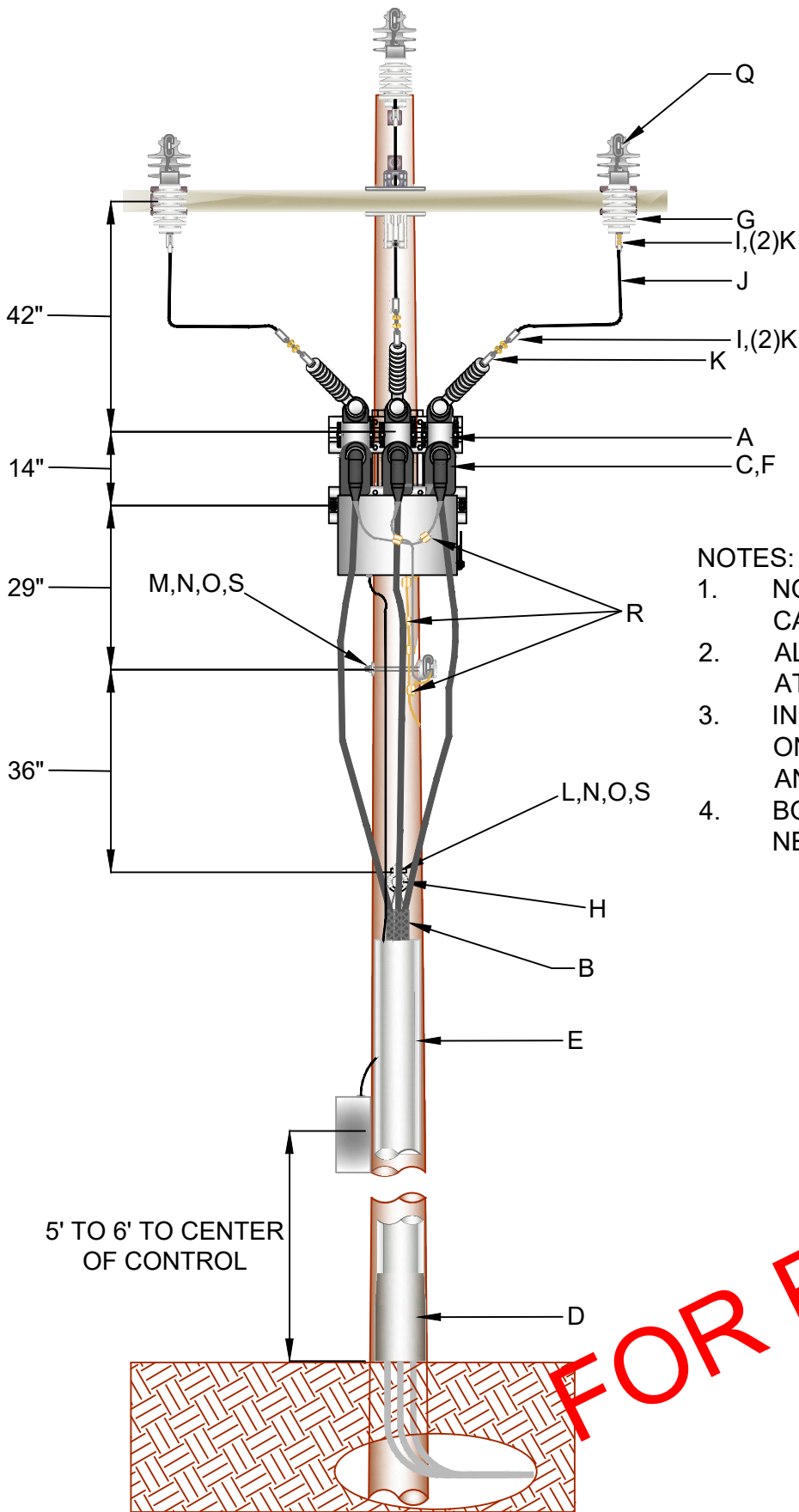
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CONSTRUCTION
ASSEMBLY UNIT

3Ø UNDERGROUND RISER
WITH ATS ELECTRONIC RECLOSER
WITH CONTROL
PAGE 3 OF 3

drawn:	approved:	date:	VUM2-13.4SV-U
RWC	MMG	10/17/2023	



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE OR AN M2-1 ON AN EXISTING POLE.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.

REV A | DATE 09/28/2018 | REVISION | ISSUE FOR CONSTRUCTION | BY RWC | CHK MMG | APR MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 MCM RISER
WITH (1) 3Ø MVI
WITH CONTROL
PAGE 1 OF 2

drawn: RWC	approved: MMG	date: 09/28/2018	VUM2-14.4

FOR REMOVAL

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	2000831	RISER INTERRUPTER 3-PH W/CONTR	1
B	2000490	GRIP CABLE URD 1 5/8"-2 1/2"	3
C	2000562	KIT "T" CONN 25kV 600/900A 1000AL	3
D	2000838	RISER VENT BOOT 6" PVC	1
E	2000835	RISER POLE STANDARD 6"	3
F	2000030	ARRESTER URD ELBOW 18kV MOV	3
G	2000936	SWITCH DISC LINE TAP	3
H	2000262	CLEVIS ANCHOR SHACKLE SMALL	3
I	2000376	CONN TERM 500-800 2 HOLE	6
J	2000214	CABLE SERVICE WP #500 MCM CU	15
K	*2000039	BOLT BRONZE 1/2"x2" W/NUT & WASHER	AS REQ'D
L	*	BOLT EYE 5/8"	AS REQ'D
M	*	BOLT MACHINE 5/8"	AS REQ'D
N	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
O	*3000237 or	WASHER SQUARE CURVED FOR 3/4" BOLT	AS REQ'D
P	*3000235	WASHER SQUARE CURVED FOR 5/8" BOLT	AS REQ'D
P	*	CONNECTORS	AS REQ'D
Q	*	JUMPERS	AS REQ'D
R	*2000347	CONN SPLIT BOLT GP 6	AS REQ'D
S	*3000227	WASHER COIL 5/8"	AS REQ'D

*DENOTES "GRAB BAG" ITEM - ALL BOLT LENGTHS DEPEND ON POLE CLASS.

REV | A | DATE | 09/28/2018 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | MMG | APR | MMG

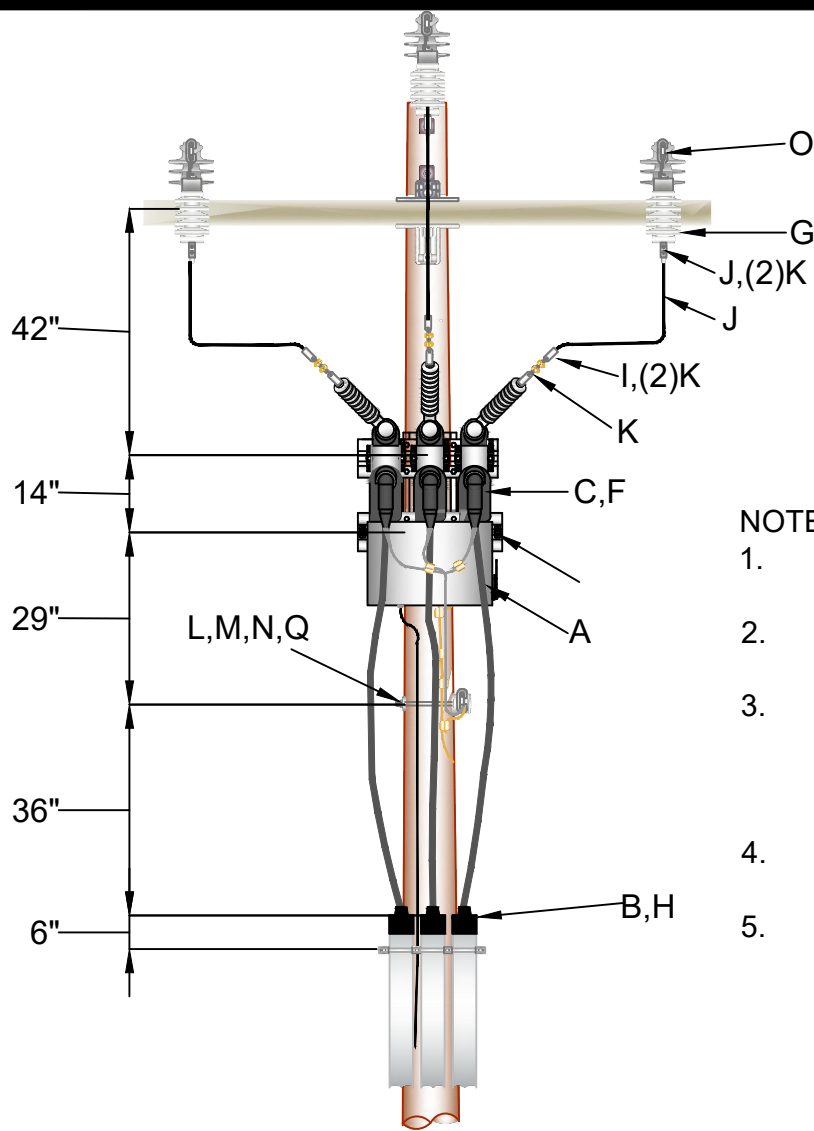


CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 MCM RISER
WITH (1) 3Ø MVI
WITH CONTROL
PAGE 2 OF 2

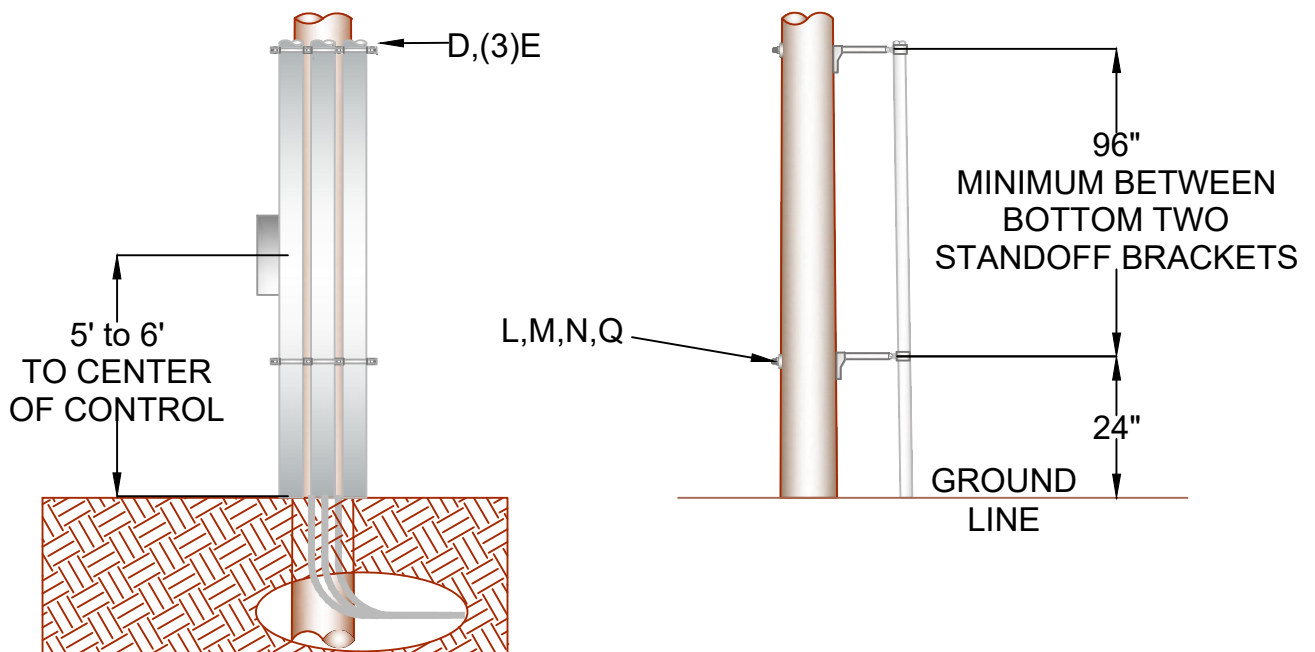
drawn:	approved:	date:
RWC	MMG	09/28/2018

VUM2-14.4



NOTES:

1. NO BENDS PERMITTED WITHIN 6" OF CABLE TERMINAL BASE.
2. ALLOW MINIMUM CABLE SLACK OF 24" AT BOTTOM OF RISER.
3. INSTALL ASSEMBLY UNITS M2-2 ON A NEW POLE. IF AN EXISTING POLE DOES NOT ALREADY HAVE AN M2-2, THEN INSTALL AN M2-1.
4. BOND UNDERGROUND CONCENTRIC NEUTRAL TO OVERHEAD NEUTRAL.
5. CONDUIT FOR RISER IS ASSUMED TO BE 4".



REV A DATE 08/09/2018 REVISION ISSUE FOR CONSTRUCTION BY RWC CHK MMG APR MMG



**CONSTRUCTION
ASSEMBLY UNIT**

**3Ø 1000 MCM RISER
WITH (1) 3Ø MVI
WITH CONTROL AND STANDOFFS
PAGE 1 OF 2**

drawn: RWC	approved: MMG	date: 08/09/2018	VUM2-14.4S

ITEM	MATERIAL NUMBER	DESCRIPTION	QUANTITY
A	2000831	RISER INTERRUPTER 3-1PH W/CONTR	1
B	2000459	FLOOD SEAL 4"	3
C	2000562	KIT "T" CONN 25kV 600/900A 1000AL	3
D	2000147	BRACKET CONDUIT 9" STANDOFF 24"	4
E	2000910	STRAP KIT 4" EA. CONDUIT	12
F	2000030	ARRESTER URD ELBOW 18kV MOV	3
G	2000936	SWITCH DISC LINE TAP	3
H	2002700	GRIP CABLE URD CONDUIT RISER RING GRIP 4"	3
I	2000376	CONN TERM 500-8 2 HOLE	6
J	2000214	CABLE SERVICE WP #500 MCM CU	15
K	*2000039	BOLT BRONZE 1/2"x2" W/NUT & WASHER	AS REQ'D
L	*	BOLT MACHINE 5/8"	AS REQ'D
M	*3000153	LOCKNUTS 5/8" MF	AS REQ'D
N	*3000237 or	WASHER SQUARE CURVED FOR 3/4" BOLT	AS REQ'D
N	*3000235	WASHER SQUARE CURVED FOR 5/8" BOLT	AS REQ'D
O	*	CONNECTORS	AS REQ'D
P	*2000347	CONN SPLIT BOLT GP 6	AS REQ'D
Q	*3000227	WASHER COIL 5/8"	AS REQ'D

*DENOTES "GRAB BAG" ITEM - ALL BOLT LENGTHS DEPEND ON POLE CLASS.

REV | A | DATE | 08/09/2018 | REVISION | ISSUE FOR CONSTRUCTION | BY | RWC | CHK | MMG | APR | MMG



CONSTRUCTION
ASSEMBLY UNIT

3Ø 1000 MCM RISER
WITH (1) 3Ø MVI
WITH CONTROL AND STANDOFFS
PAGE 2 OF 2

drawn:	approved:	date:
RWC	MMG	08/09/2018

VUM2-14.4S