

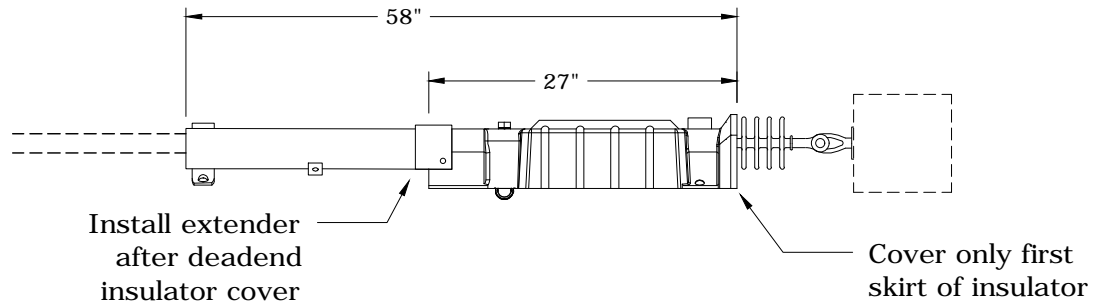
400 OVERHEAD CONDUCTOR

1/17/2019

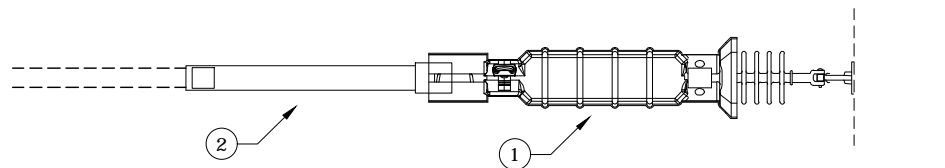
~	AC	Avian Covers
~	BFD	Bird Flight Diverters
~	L4	Splicing Guide, Compression Type Sleeves
~	L5	Splicing Guide, Automatic Type
~	L6, L7	Midspan Tap, Flying Tap
C	LA1, LA2	Lightning Arrester
~	SE10	Mobile Home Trailer Connection
~	SS1	1Ø Slack Span - 2/0 ACSR Max Wire
~	SS2	2Ø Slack Span - 2/0 ACSR Max Wire
~	SS3	3Ø Slack Span - 2/0 ACSR Max Wire
~	TI2	Single Insulators Two-Piece Tie, Copper Type Conductors
~	TI3	Hot Line Tying Guide, Copper Type Conductors
~	TI4	Conductor Tying Guide, Single Insulator, ACSR or Aluminum
~	TI5	Conductor Tying Guide, Double Insulator, ACSR or Aluminum

N	New Standard
R	Redrawn Standard
C	Changed Standard
~	No Change

SIDE VIEW



TOP VIEW



Note: Covers required on center phase only if at least 60" horizontal separation between outside phases. For high neutral, cover middle phase and neutral.

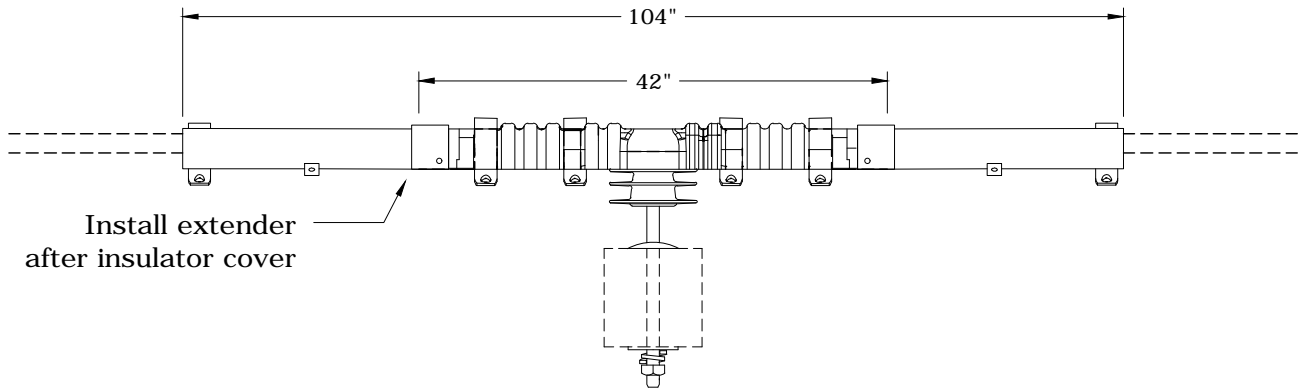
ITEM NO.	DESCRIPTION	ACDE	
		QTY.	S/N
1	Avian, Cover, Deadend Insulator, #6-795	1	2897
2	Avian, Cover, Extender, #6-795	1	2914



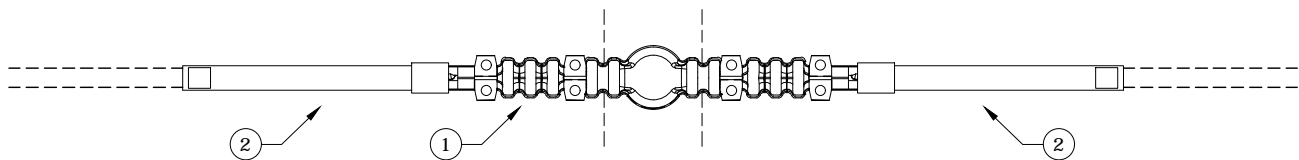
CONSTRUCTION STANDARDS
AVIAN COVERS
DEADEND

REVISIONS			
DATE	ENGR	OPS	

SIDE VIEW



TOP VIEW



Notes:

1. Covers required on center phase only if at least 60" horizontal separation between outside phases. For high neutral, cover middle phase and neutral.
2. Use Std ACS for pin insulators and use Std ACSL for line post and vise-top insulators.

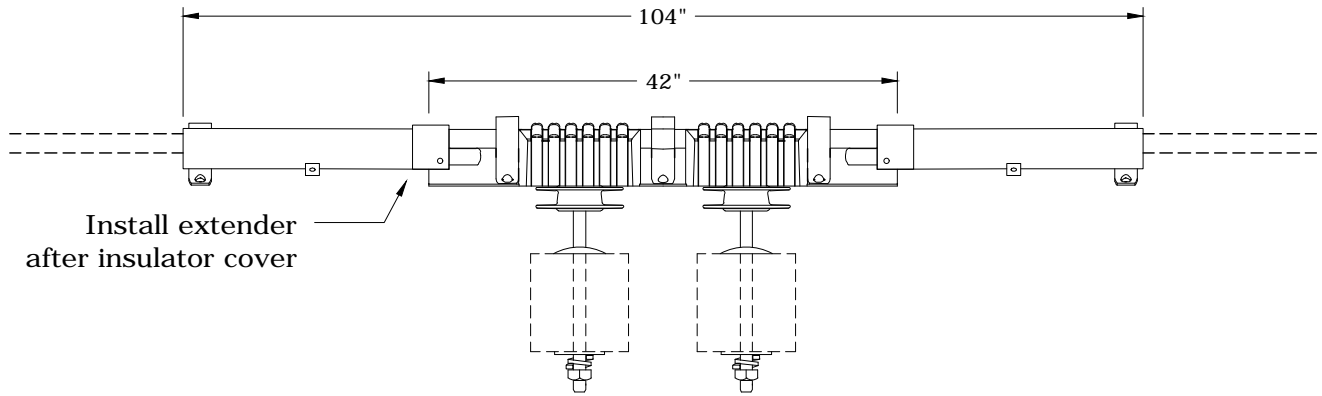
ITEM NO.	DESCRIPTION	ACS	
		QTY.	S/N
1	Avian, Cover, Single Pin Insulator, #6-795	1	2873
2	Avian, Cover, Extender, #6-795	2	2914
ITEM NO.	DESCRIPTION	ACSL	
		QTY.	S/N
1	Avian, Cover, Single Post Insulator, #6-795	1	2874
2	Avian, Cover, Extender, #6-795	2	2914



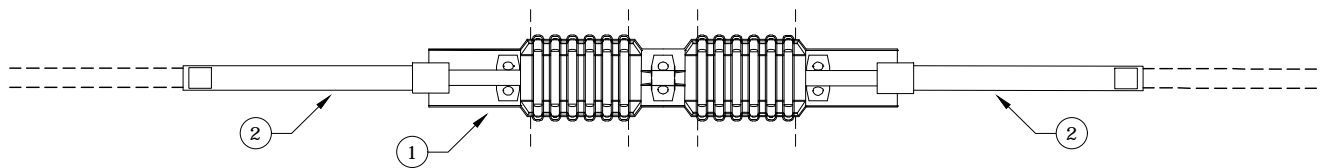
CONSTRUCTION STANDARDS
 AVIAN COVERS
 SINGLE INSULATOR

REVISIONS			
△	DATE	ENGR	OPS
△			

SIDE VIEW



TOP VIEW



Notes:

1. Covers required on center phase only if at least 60" horizontal separation between outside phases. For high neutral, cover middle phase and neutral.
2. Use Std ACD for pin insulators and use Std ACDL for line post and vise-top insulators.

ITEM NO.	DESCRIPTION	ACD	
		QTY.	S/N
1	Avian, Cover, Double Pin Insulator, #6-795	1	2875
2	Avian, Cover, Extender, #6-795	2	2914
ITEM NO.	DESCRIPTION	ACDL	
		QTY.	S/N
1	Avian, Cover, Double Post Insulator, #6-795	1	2876
2	Avian, Cover, Extender, #6-795	2	2914



CONSTRUCTION STANDARDS
 AVIAN COVERS
 DOUBLE INSULATOR

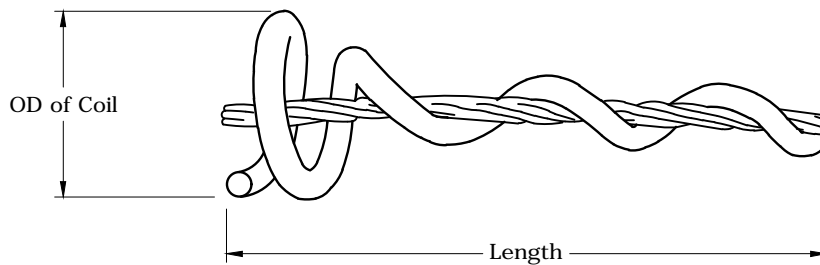
REVISIONS			
△	DATE	ENGR	OPS
△			
APP:	CM/DK	SECTION	
DATE:	10-18-17	400	

SCOPE

Bird Flight Diverters (BFDs) provide a visual image that helps birds avoid collisions with overhead power lines. When installed, the BFD increases the visible profile of the conductor.

MATERIAL

BFDs are made from rigid, high impact, UV stabilized PVC material. CPU has standardized on a gray-colored diverter. Studies have determined that color is not a determining factor of BFD effectiveness. They are designed to be used in ambient temperatures ranging from -40°F to 140°F with a maximum operating temperature of 257°F (125°C).



Wire Size	Stock Number	Wire Range (inches)*		Length (inches)	Coil (inches)
		MIN	MAX		
#6 Cu	N/A**				
#4 Cu	2883	0.175	0.249	7.00	2.25
#2 ACSR	2884	0.250	0.349	8.5	2.5
2/0 ACSR	2885	0.450	0.599	14.625	4.25
397 AAC***	2886	0.600	0.770	17.0	4.25
795 AAC***	2887	0.971	1.121	15.5	4.25

* Range printed on BFDs

** Not manufactured

*** Not kept in stock--let Purchasing know in advance so they can be ordered.

	CONSTRUCTION STANDARDS		REVISIONS			
	BIRD FLIGHT DIVERTERS		DATE	ENGR	OPS	
	PAGE: 1 of 7	BFD	CAD FILE: BFD	APP: CM/DK	DATE: 10-18-17	SECTION 400

INSTALLATION

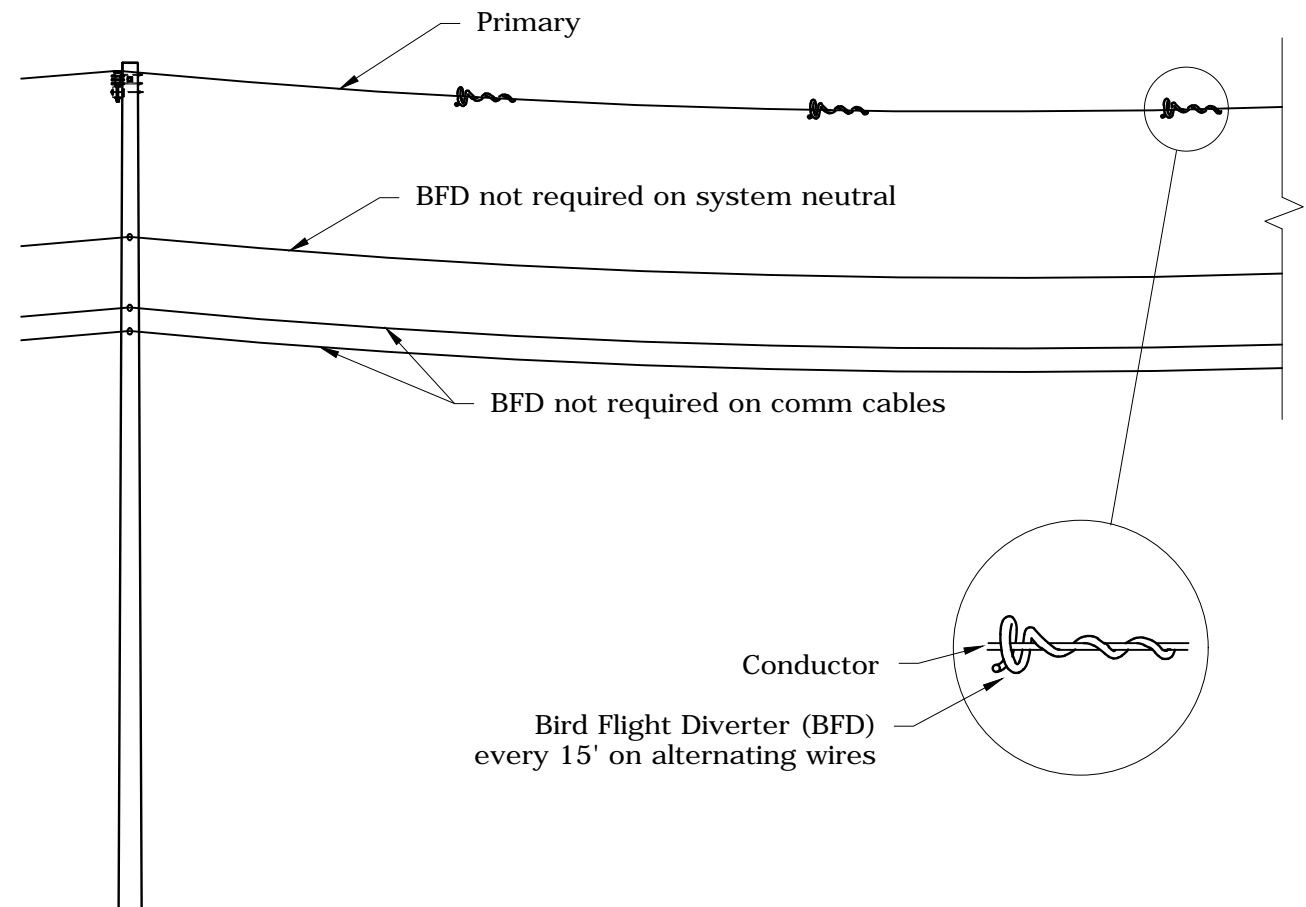
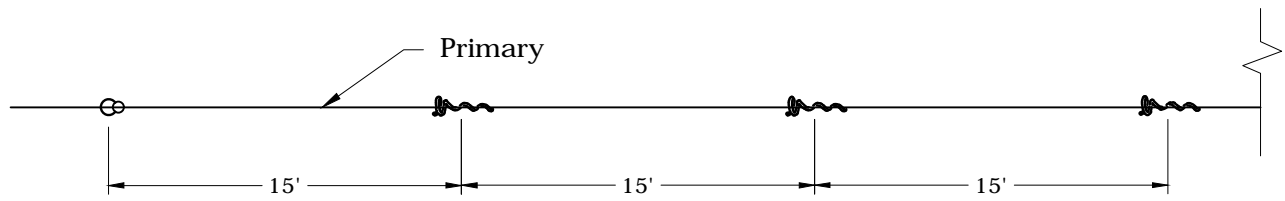
BFDs are installed on the topmost and outside primary conductors and can be installed on span guys, down guys and static wire. Most migratory birds will flare up and away to avoid collision with a visible conductor. BFDs are not required on lower conductors (neutral, secondary or communication cables).

The heliformed rod gripping section (the small end) of the BFD is sized to the diameter of the conductor and can be installed with a hotstick. The positive grip on the conductor ensures that the BFD remains in the applied position and cannot move along the span under aeolian vibration or other conditions. The larger helical end is designed to provide the birds a more visual reference of the line.

BFDs should be installed on alternating conductors at 15-foot intervals. See the following drawings for spacing on various framings.

All spans that have BFDs installed shall be documented on as-builts and sent to Mapping & Drafting.

	CONSTRUCTION STANDARDS BIRD FLIGHT DIVERTERS		REVISIONS			
				DATE	ENGR	OPS
			1			
						
PAGE: 2 of 7	BFD		CAD FILE: BFD	APP: CM/DK	SECTION	
			DATE: 10-18-17		400	



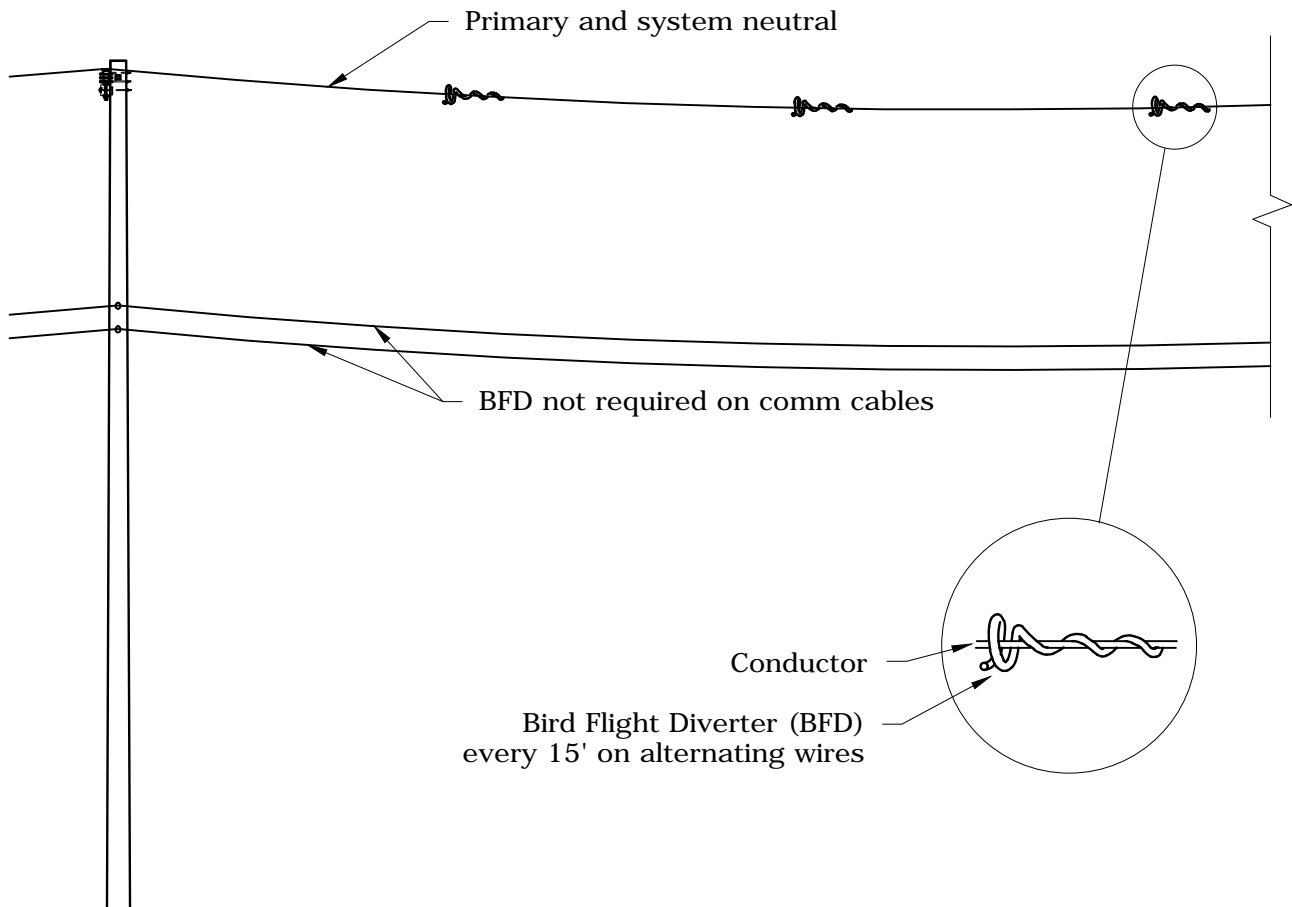
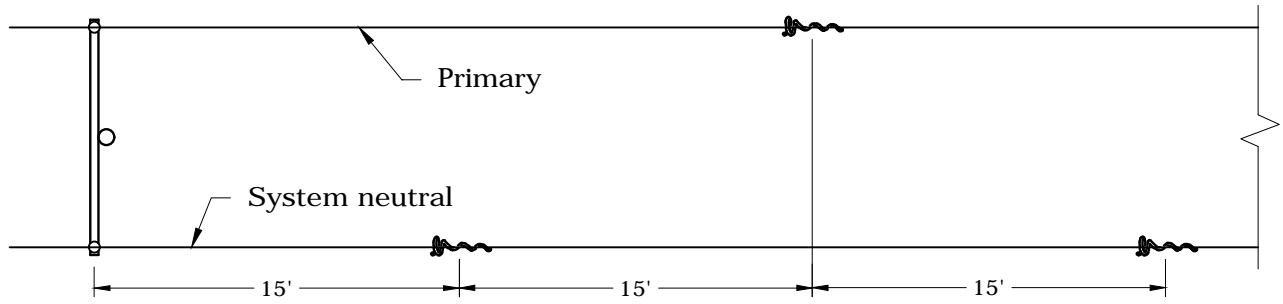
Note: All spans constructed with BFDs shall be documented by sending construction as-builts to Mapping.



CONSTRUCTION STANDARDS
 BIRD FLIGHT DIVERTERS
 1Ø

REVISIONS			
Δ	DATE	ENGR	OPS
1			

APP:	CM/DK	SECTION
DATE:	10-18-17	400



Note: All spans constructed with BFDs shall be documented by sending construction as-builts to Mapping.



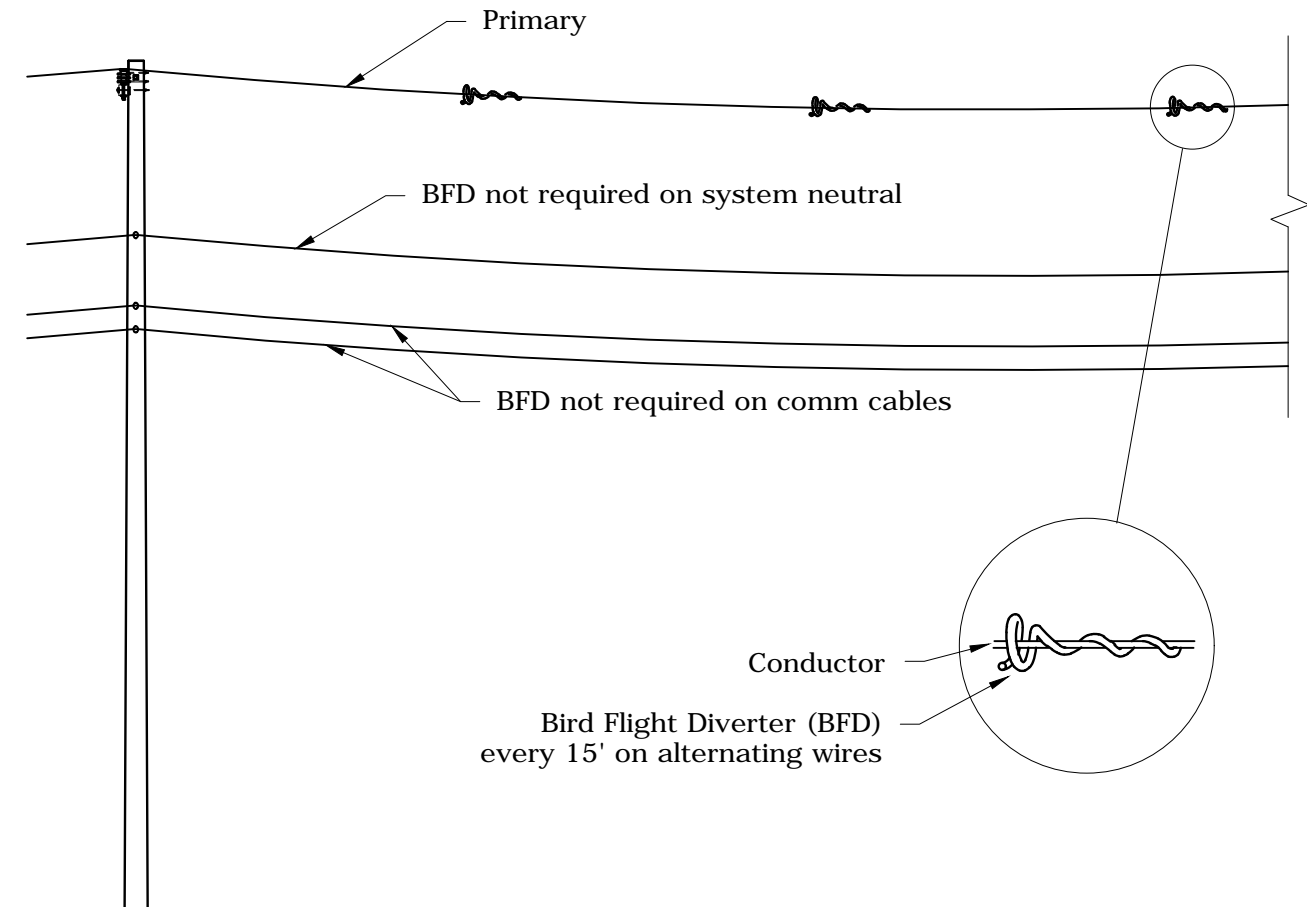
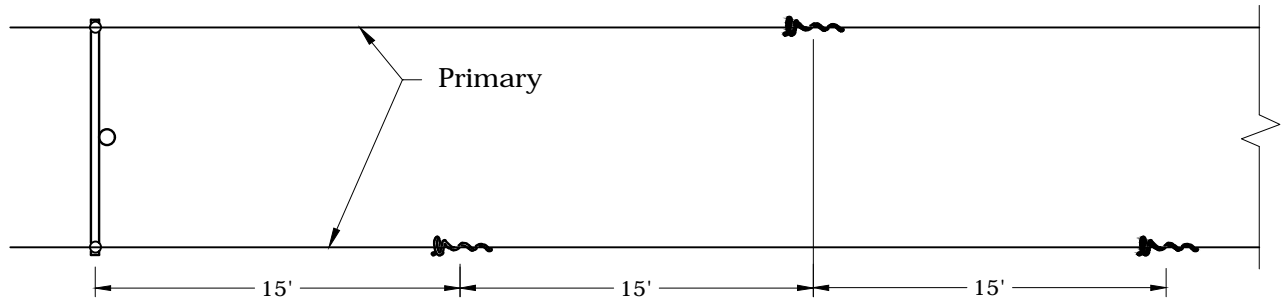
CONSTRUCTION STANDARDS
BIRD FLIGHT DIVERTERS
1Ø WITH HIGH NEUTRAL

PAGE:
4 of 7

BFD

CAD FILE:
BFD

REVISIONS			
Δ	DATE	ENGR	OPS
1			
Δ			
APP:	CM/DK	SECTION	
DATE:	10-18-17	400	

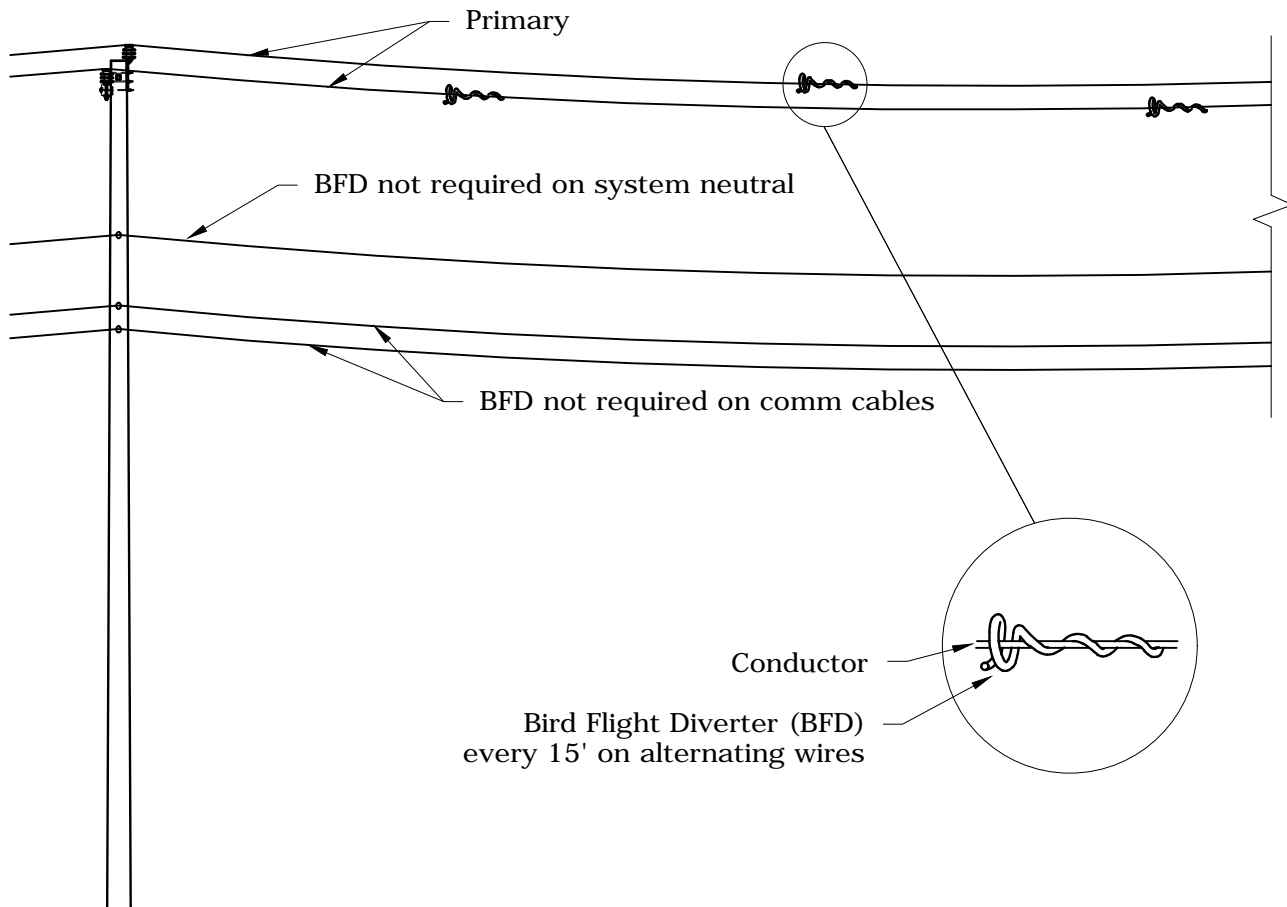
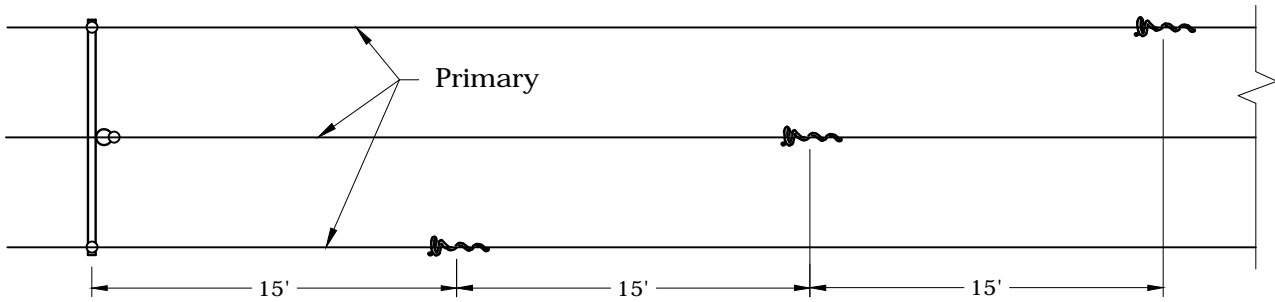


Note: All spans constructed with BFDs shall be documented by sending construction as-builts to Mapping.



CONSTRUCTION STANDARDS
BIRD FLIGHT DIVERTERS
2Ø CROSSARM OR TWIGGY

REVISIONS			
Δ	DATE	ENGR	OPS
1			
APP: CM/DK		SECTION	
DATE: 10-18-17		400	



Note: All spans constructed with BFDs shall be documented by sending construction as-builts to Mapping.



CONSTRUCTION STANDARDS

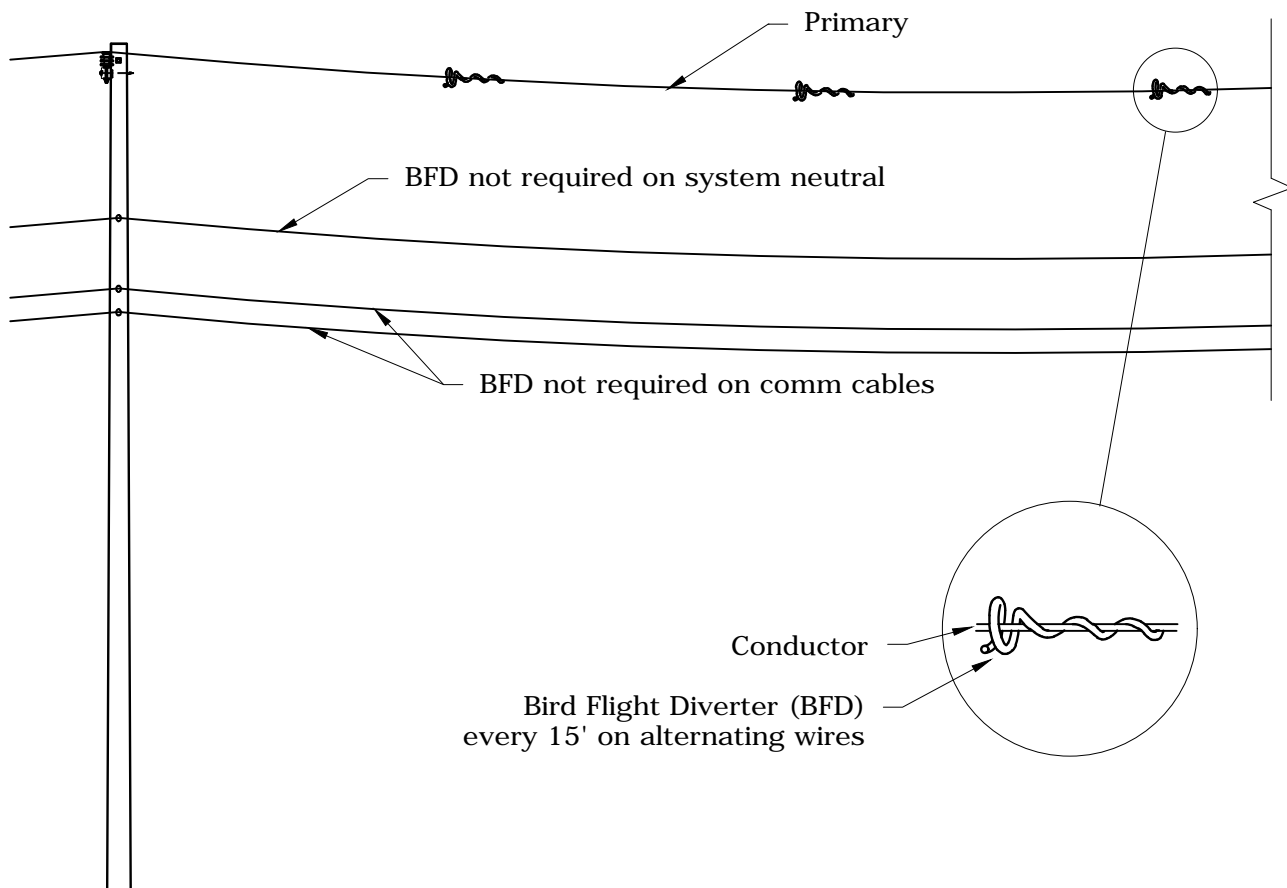
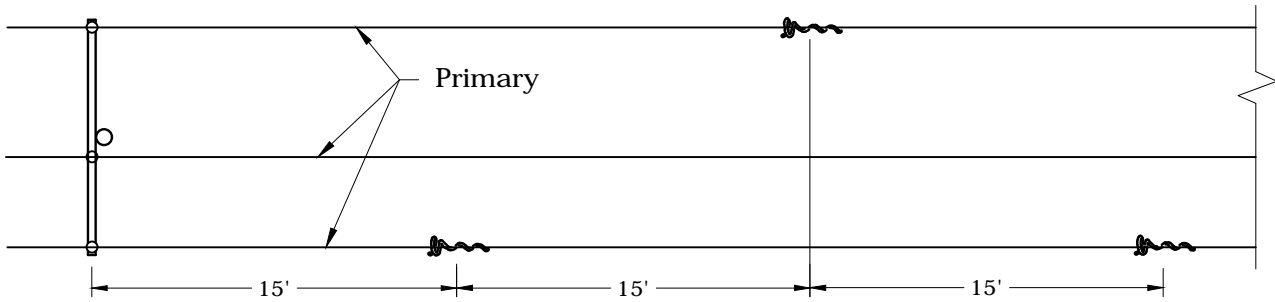
BIRD FLIGHT DIVERTERS
 3Ø CROSSARM W/ TWIGGY
 OR SKY PIN

PAGE:
6 of 7

BFD

CAD FILE:
BFD

REVISIONS			
△	DATE	ENGR	OPS
1			
△			
APP:	CM/DK	SECTION	
DATE:	10-18-17	400	



Note: All spans constructed with BFDs shall be documented by sending construction as-builts to Mapping.



CONSTRUCTION STANDARDS
 BIRD FLIGHT DIVERTERS
 3Ø CROSSARM W/O SKY PIN

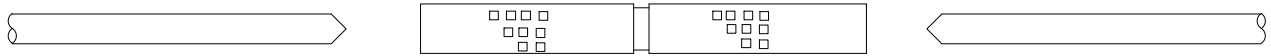
PAGE:
7 of 7

BFD

CAD FILE:
BFD

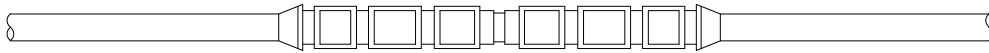
REVISIONS			
△	DATE	ENGR	OPS
1			
△			
APP:	CM/DK	SECTION	
DATE:	10-18-17	400	

Marking will vary according to sleeve.



COMPRESSION SLEEVE
BEFORE SPLICING

Number of presses will vary with sleeve length.



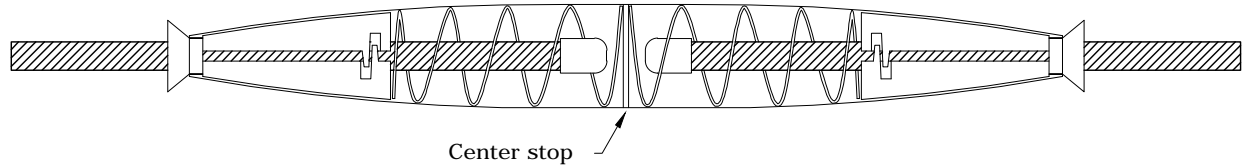
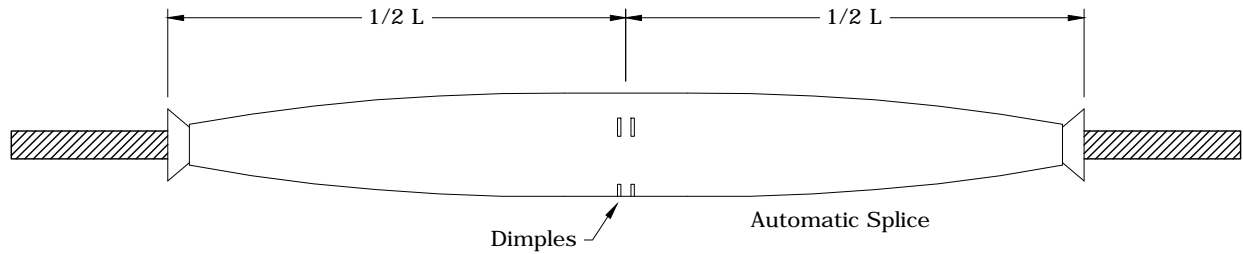
COMPRESSION SPLICE COMPLETE

- Notes:**
1. Clean the wire before making the splice.
 2. Begin presses at center of sleeve and work toward ends, press entire length of sleeve.
 3. Groove letters printed on sleeves correspond to groove letters printed on tool.



CONSTRUCTION STANDARDS
SPLICING GUIDE
COMPRESSION TYPE SLEEVES

REVISIONS			
△	DATE	ENGR	OPS
△			



Notes:

1. Clean the wire before making the splice.
2. Measure overall length of automatic splice.
3. Check that machined dimples are holding the center stop in the center of the splice. Reject any splice that is not centered.
4. Measure and mark the conductor at a length equal to $1/2$ the splice length to ensure complete insertion.
5. Wire brush the conductor to ensure electrical and mechanical contact.
6. Insert the conductor to center stop. The clamping jaws should grab with $1/2$ " to 1 " travel.
7. Reject and replace any automatic splice that does not adequately grip the conductor.
8. Automatic splices are rated for 90% of the conductor strength.



CONSTRUCTION STANDARDS

SPLICING GUIDE, AUTOMATIC TYPE

REVISIONS

Δ	DATE	ENGR	OPS

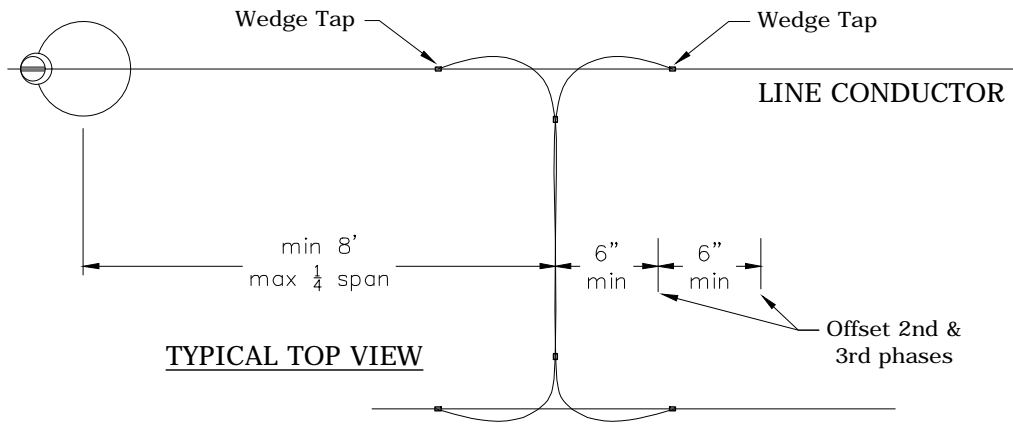
PAGE:
1 of 1

L5

CAD FILE:
L5

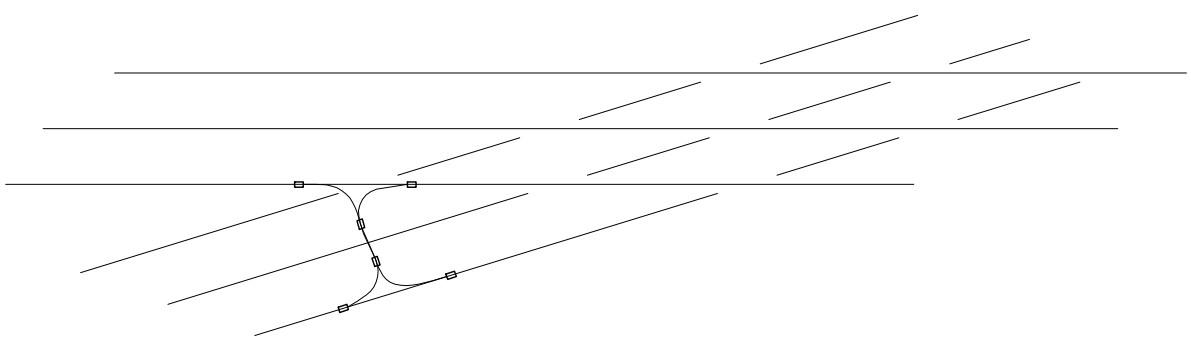
APP: ELM
DATE: 1/31/80

SECTION
400



- Notes:**
1. Limit tap conductor "Maximum Working Tension" (MWT) to 15% of ultimate breaking strength of smallest conductor involved.
 2. Minimum of three (3) feet of vertical spacing between phase conductors for two & three phase installations.

SLACK SPAN TAP (L6)



- Notes:**
1. Minimum of four (4) feet of between circuits with five (5) foot normal spacing.
 2. Jumpers to be slack & same conductor as line conductor.

FLYING TAP (L7)

REV 1 - Redrawn in CAD



CONSTRUCTION STANDARDS

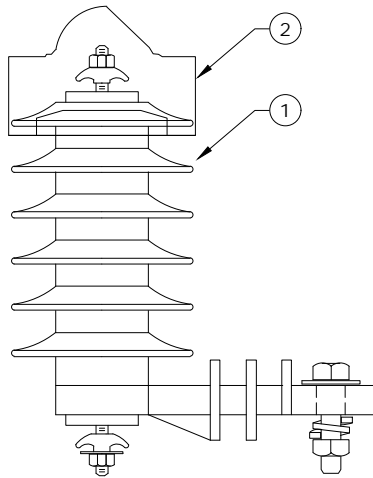
MIDSPAN TAPS
DISTRIBUTION

PAGE:
1 of 1

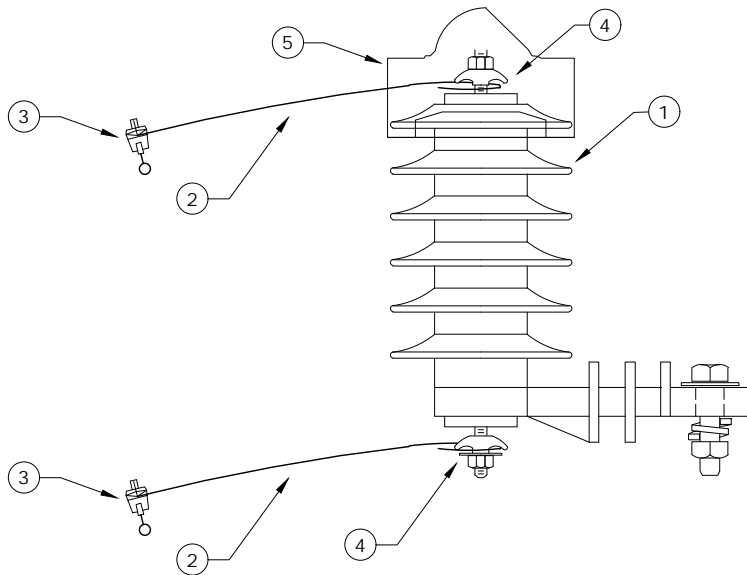
L6, L7

CAD FILE:
L6

REVISIONS			
NO.	DATE	ENGR	OPS
1			
△ REDRAWN IN CAD			
APP:	ELM	SECTION	
DATE:	1/31/80	400	



ITEM NO.	DESCRIPTION	LA1	
		QTY.	S/N
1	Arrester, Surge, 9kV, MOV, Riser Pole	1	58
2	Guard, Wildlife, Polymer Arrester	1	2583 ✱



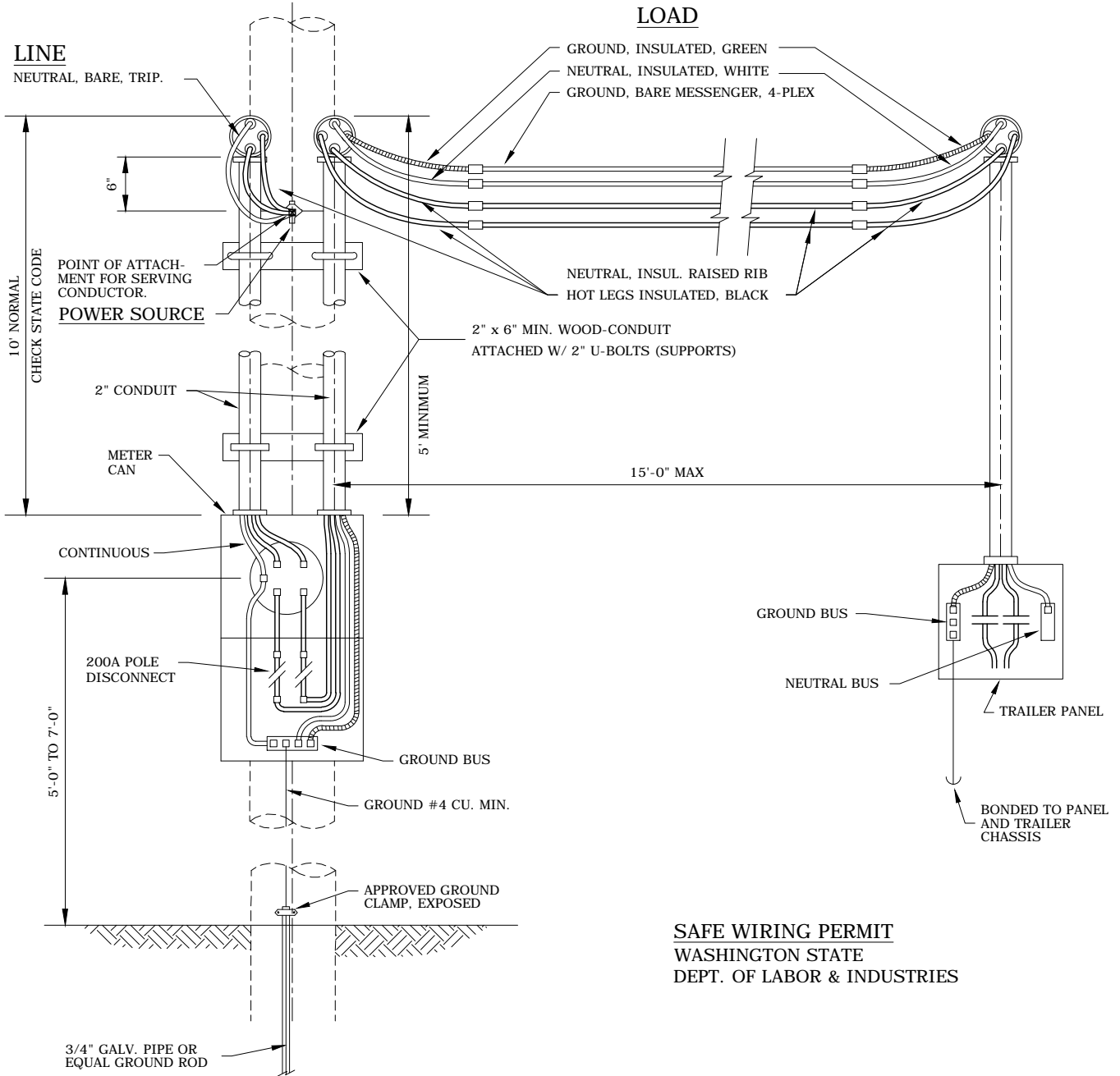
Rev 3: Added Hotline Clamps, Wildlife Guard, One-Hole Compression Lugs, and increased amount of #4 red wire.

ITEM NO.	DESCRIPTION	LA2	
		QTY.	S/N
1	Arrester, Surge, 9kV, MOV, Riser Pole	1	58
2	Conductor, Cu, 1/C, #4, 7-Str, 600V, Red, THW	7 ✱	2512
3	Clamp, Hotline GP 1520, #8 to 2/0 Str, Cu Only	2	283 ✱
4	Connector, Compression Lug, #4, Cu/Al, One-Hole, Tin-Plated, For Arrester	2	2548 ✱
5	Guard, Wildlife, Polymer Arrester	1	2583 ✱



CONSTRUCTION STANDARDS
LIGHTNING (SURGE) ARRESTER

REVISIONS			
DATE	ENGR	OPS	
2/23/00	HWH/JEH	MA	
12/14/09	KJP		
1/16/19	CM	DK	



SAFE WIRING PERMIT
WASHINGTON STATE
DEPT. OF LABOR & INDUSTRIES

- Notes:**
1. TRAILER SERVICES WILL NOT BE ENERGIZED UNTIL CUSTOMER HAS MADE CONNECTIONS BETWEEN DISCONNECT & TRAILER OR UNLESS PUD INSTALLS SAME.
 2. GROUND BUS & NEUTRAL BUS ARE NOT INTERCONNECTED IN TRAILER PANEL.
 3. DO NOT DEAD END LINE AND LOAD CONDUCTORS ON SAME BOLT AT SERVICE POLE.
 4. CUSTOMER MUST HAVE: (A) GROUND ROD DRIVEN; (B) GROUND WIRE CONNECTED TO GROUND BUS; (C) SUPPORTS ATTACHED TO CONDUITS W/ U-BOLTS BEFORE PUD WILL ATTACH LOOP TO POLE USING 20 PENNY NAILS AND SCREWS SUPPLIED BY CUSTOMER.



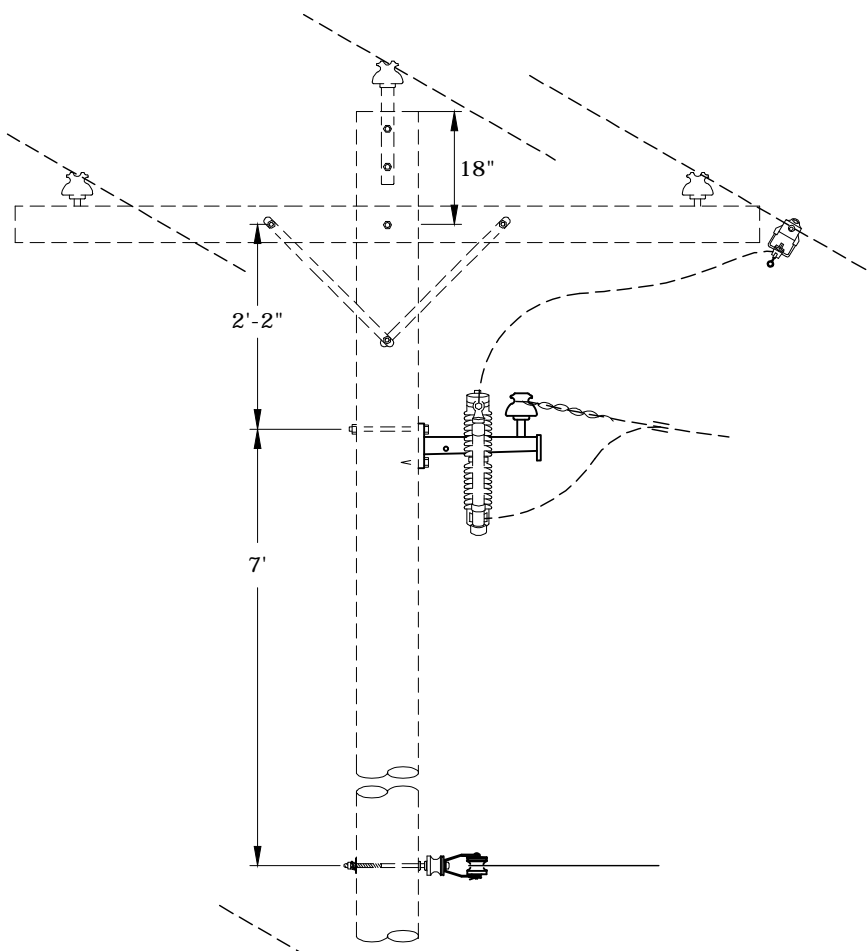
CONSTRUCTION STANDARDS
MOBILE HOME TRAILER CONNECTION

PAGE:
1 of 1

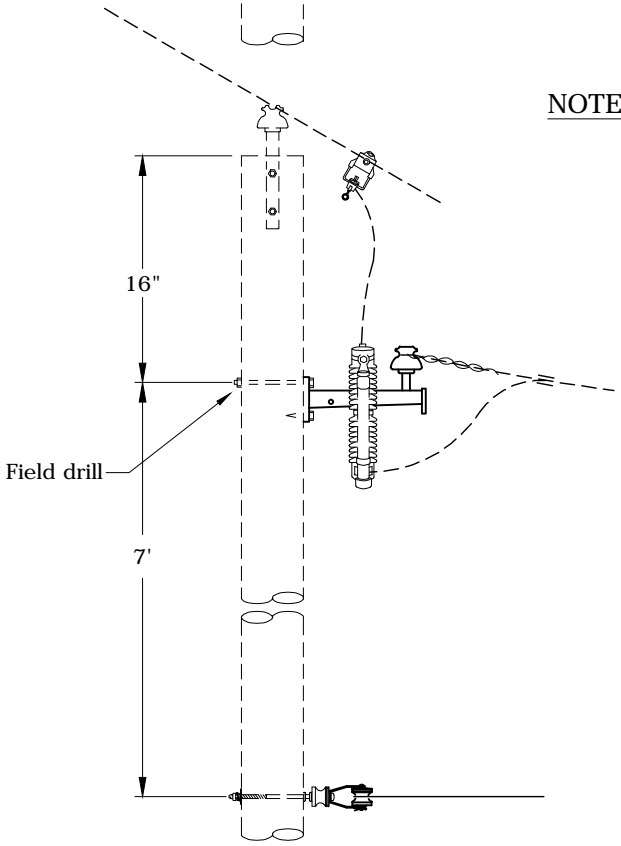
SE10

CAD FILE:
SE10

REVISIONS											
NO.	DATE	ENGR	OPS								
1	7/10/81	GGW									
2	2/15/10	REDRAWN	IN CAD								
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APP:	ELM	SECTION									
DATE:	1/31/80	400									



- NOTES:**
1. A slack span should be kept as short as possible. It should not exceed 100 feet.
 2. Call for cutout separately if needed.
 3. Call for preformed slack span deadend separately.
 #2 ACSR - S/N 2241
 2/0 ACSR - S/N 2242



Rev 2: Updated material & drawing, and changed title



CONSTRUCTION STANDARDS

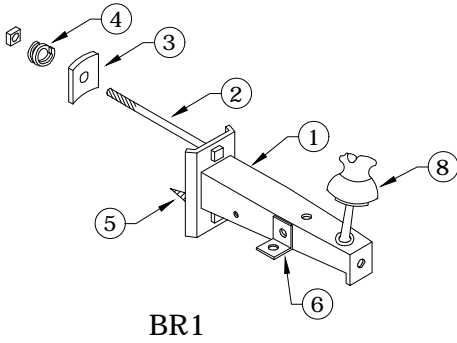
1Ø SLACK SPAN
 2/0 ACSR MAX WIRE

REVISIONS			
△	DATE	ENGR	OPS
1	3/02	REDRAWN	IN CAD
2	8/25/09	CM	AH
△			
APP:	GGW/RWG	SECTION	
DATE:	6/90	400	

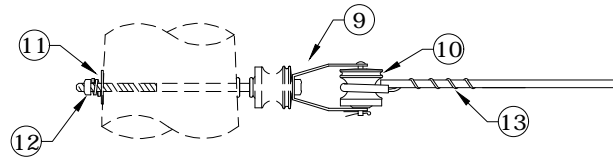
PAGE:
1 of 2

SS1

CAD FILE:
SSD1



BR1



S4A

Rev 2: Updated material & drawing, and changed title

ITEM NO.	DESCRIPTION	BR1	
		QTY.	S/N
1	Bracket, Steel, Galv., Multi-purpose, 22"	1	2262
2	Bolt, Machine, 5/8"x 16"	1	157
3	Washer, Sq., Curved, Cast, 3"x 3" x 3/8" Thick x 13/16" Hole	1	1392
4	Washer, Spring, 5/8"	1	2217
5	Screw, Lag, 1/2" x 4 1/2"	1	1132
6	Adapter, Angle Clip	1	2248
7	Short Shank Insulator Pin (6")	1	2249
8	Porcelain Pin Insulator C-neck	1	771
ITEM NO.	DESCRIPTION	S4A	
		QTY.	S/N
9	Clevis, D.E., Insulator 1340	1	335
10	Insulator, Spool Clevis, Small	1	773
11	Washer, Lock, 5/8" Galv.	1	1403
12	Nut, Square, 5/8" Galv.	1	923
13	Preformed Slack Span Deadend #2 ACSR	1	2241

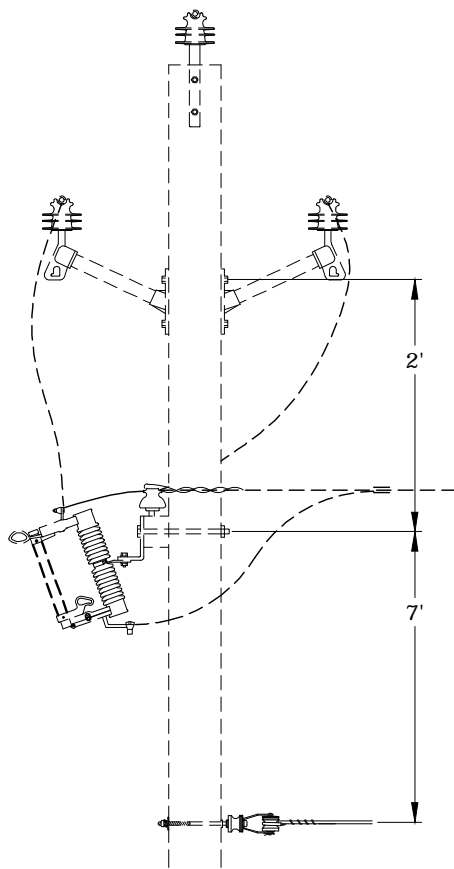


CONSTRUCTION STANDARDS

1Ø SLACK SPAN
2/0 ACSR MAX WIRE

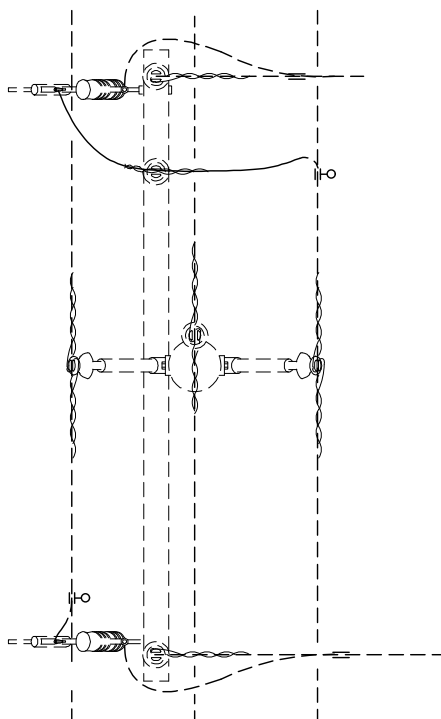
REVISIONS

REV	DATE	ENGR	OPS
1	3/02	REDRAWN	IN CAD
2	8/25/09	CM	AH



NOTES:

1. Pull conductors hand tight. Excessive slack may cause phase-to-phase contact due to wind.
2. A slack span should be kept as short as possible. It should not exceed 100 feet.
3. The deflection angles of the conductors at the crossarms must not exceed 25 degrees due to the reduced separation. Further reduction may cause phase-to-phase contact under windy conditions.
4. This construction can be used for crossarm framing also.
5. Call for cutouts separately if needed.
6. Call for preformed slack span deadend separately.
 #2 ACSR -S/N 2241
 2/0 ACSR -S/N 2242



Rev 2: Updated material & drawings, and changed title



CONSTRUCTION STANDARDS

2Ø SLACK SPAN
 2/0 ACSR MAX WIRE

PAGE:
 1 of 2

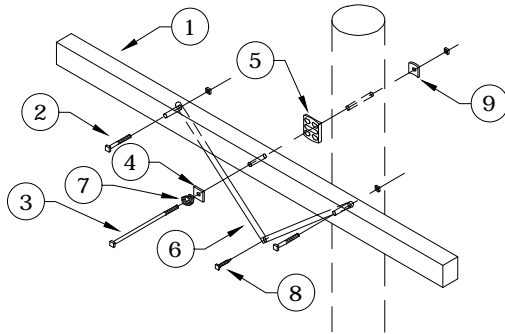
SS2

CAD FILE:
 SS2

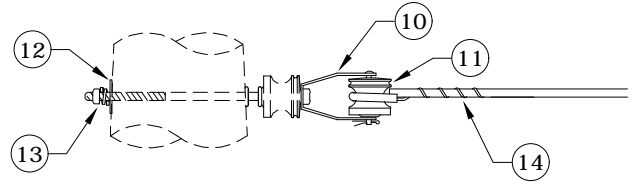
REVISIONS

△	DATE	ENGR	OPS
1	3/02	REDRAWN	IN CAD
2	8/25/09	CM	AH

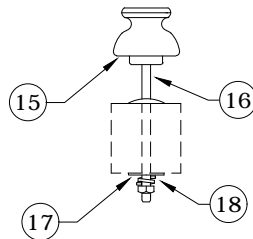
△	APP: GGW/RWG	SECTION
	DATE: 4/92	400



CR20A



S4A



Rev 2: Updated material & drawings, and changed title

ITEM NO.	DESCRIPTION	CR20A	
		QTY.	S/N
1	Arm, Cross (Distr.), 3 3/4" x 4 3/4"	1	25
2	Bolt, Carriage 3/8" x 5"	2	78
3	Bolt, Machine 5/8" x 16"	1	157
4	Washer, Sq. Flat 5/8", 2 1/4" x 2 1/4"	1	1412
5	Gain, Pole Plastic	1	709
6	Brace, Crossarm 28"	2	205
7	Washer, Spring, 5/8"	1	2217
8	Screw, Lag 1/2" x 4 1/2"	1	1132
9	Washer, Curved, Square, Cast, 3" x 3" x 3/8" Thick x 13/16" Hole	1	1392
ITEM NO.	DESCRIPTION	S4A	
		QTY.	S/N
10	Clevis, D.E., Insulator 1340	1	335
11	Insulator, Spool Clevis, Small	1	773
12	Washer, Lock, 5/8" Galv.	1	1403
13	Nut, Square, 5/8" Galv.	1	923
14	Preformed Slack Span Deadend #2 ACSR	1	2241
ITEM NO.	DESCRIPTION	ADDITIONAL MATERIAL	
		QTY.	S/N
15	Insulator, Pin C Neck	2	771
16	Crossarm Pin	2	961
17	Washer, Square, Flat 5/8", 2 1/4" x 2 1/4"	2	1412
18	Washer, Spring, 5/8"	2	2217



CONSTRUCTION STANDARDS

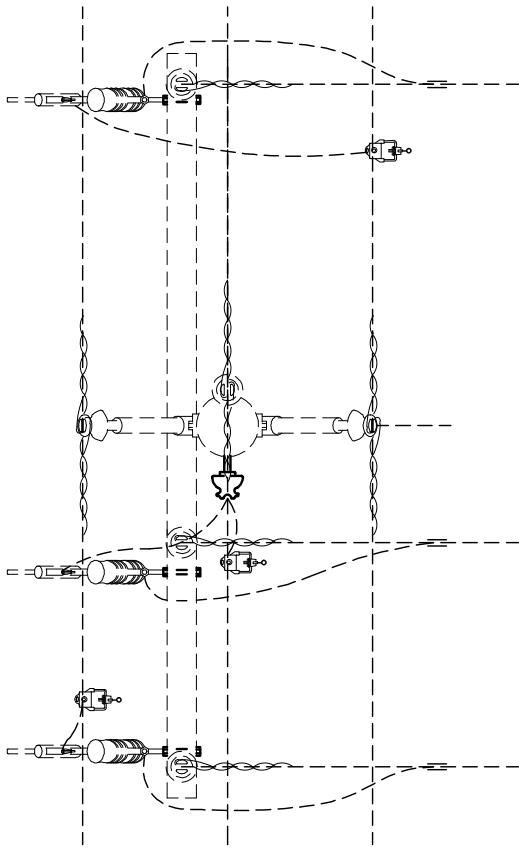
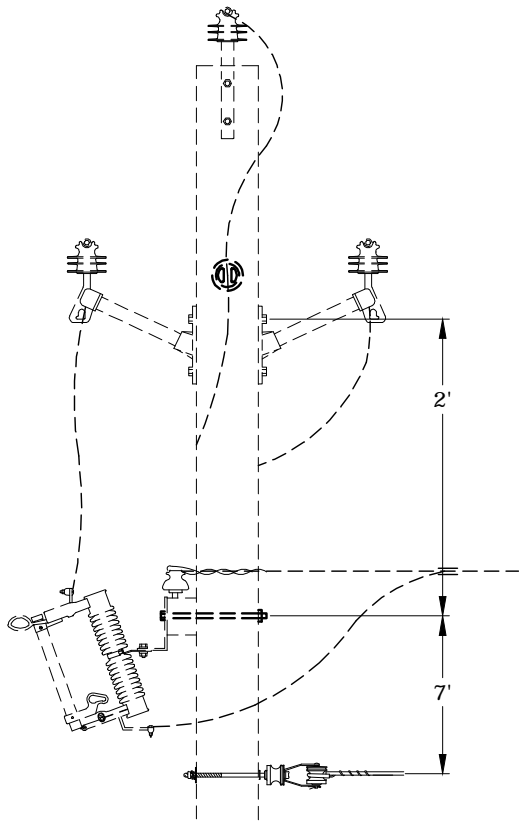
2Ø SLACK SPAN
2/0 ACSR MAX WIRE

PAGE:
2 of 2

SS2

CAD FILE:
SS2

REVISIONS			
Δ	DATE	ENGR	OPS
1	3/02	REDRAWN	IN CAD
2	8/25/09	CM	AH
Δ			
APP:	GGW/RWG	SECTION	
DATE:	4/92	400	



NOTES:

1. Pull conductors hand tight. Excessive slack may cause phase-to-phase contact due to wind.
2. A slack span should be kept as short as possible. It should not exceed 100 feet.
3. The deflection angles of the conductors at the crossarms must not exceed 25 degrees due to the reduced separation. Further reduction may cause phase-to-phase contact under windy conditions.
4. This construction can be used for crossarm framing also.
5. Call for cutouts separately if needed.
6. Call for preformed slack span deadend separately.
 #2 ACSR -S/N 2241
 2/0 ACSR -S/N 2242

Rev 3: Changed CR21A to CR20A on material issue.



CONSTRUCTION STANDARDS

3Ø SLACK SPAN
2/0 ACSR MAX WIRE

PAGE:
1 of 2

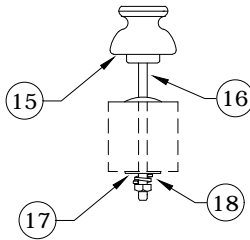
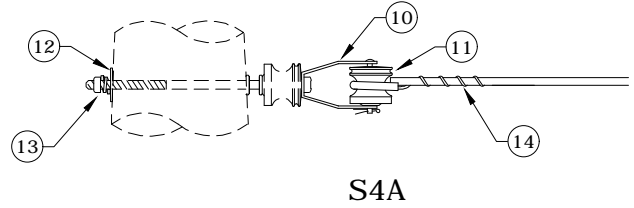
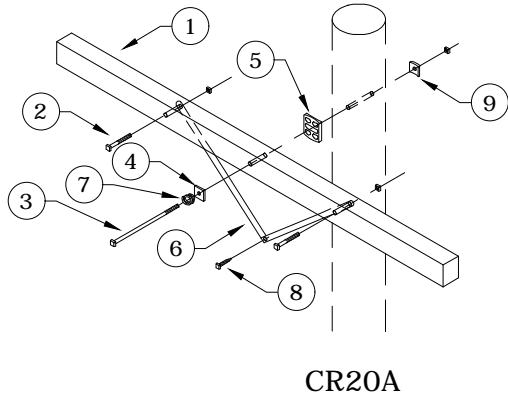
SS3

CAD FILE:
SS3

REVISIONS

△	DATE	ENGR	OPS
1	3/02	REDRAWN	IN CAD
2	8/25/09	CM	AH
3	7/29/10	KJP	

△	APP:	GGW/JCS	SECTION
	DATE:	5/90	400



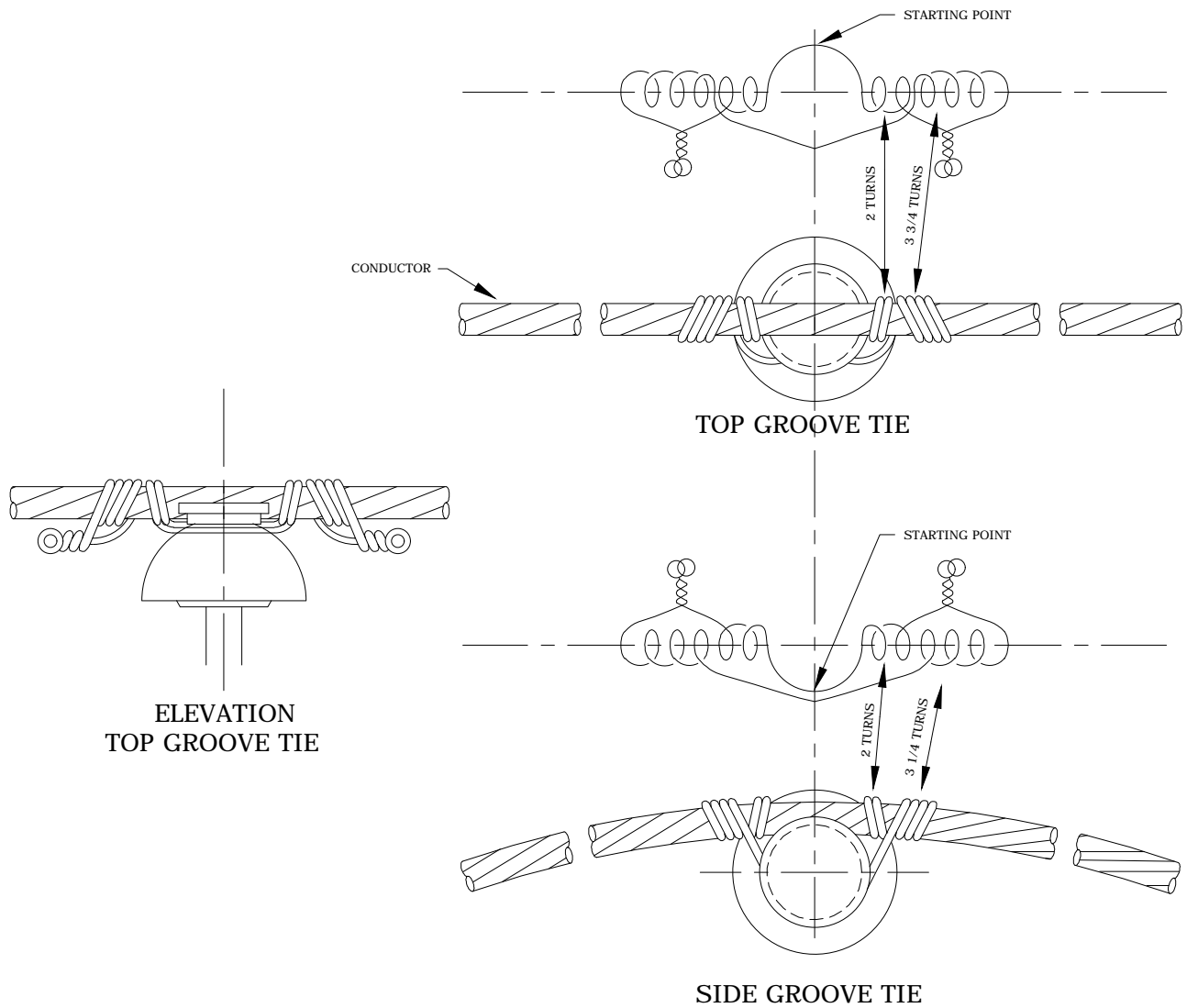
Rev 3: Changed CR21A to CR20A on material issue.

ITEM NO.	DESCRIPTION	SS3	
		QTY.	S/N
1	Arm, Cross (Distr.), 3 3/4" x 4 3/4"	1	25
2	Bolt, Carriage 3/8" x 5"	2	78
3	Bolt, Machine 5/8" x 16"	1	157
4	Washer, Sq. Flat 5/8", 2 1/4" x 2 1/4"	1	1412
5	Gain, Pole Plastic	1	709
6	Brace, Crossarm 28"	2	205
7	Washer, Lock, Spring, Double Coil, Galv., 5/8"	1	2217
8	Screw, Lag 1/2" x 4 1/2"	1	1132
9	Washer, Curved, Square, Cast, 3" x 3" x 3/8" Thick x 13/16" Hole	1	1392
ITEM NO.	DESCRIPTION	S4A	
		QTY.	S/N
10	Clevis, D.E., Insulator 1340	1	335
11	Insulator, Spool Clevis, Small	1	773
12	Washer, Lock, Spring, Single Coil, Galv., 5/8"	1	1403
13	Nut, Square, 5/8" Galv.	1	923
14	Preformed Slack Span Deadend #2 ACSR	1	2241
ITEM NO.	DESCRIPTION	ADDITIONAL MATERIAL	
		QTY.	S/N
15	Insulator, Pin C Neck	3	771
16	Crossarm Pin	3	961
17	Washer, Square Flat 5/8", 2 1/4" x 2 1/4"	3	1412
18	Washer, Lock, Spring, Double Coil, Galv., 5/8"	3	2217



CONSTRUCTION STANDARDS
 3Ø SLACK SPAN
 2/0 ACSR MAX WIRE

REVISIONS			
REV	DATE	ENGR	OPS
1	3/02	REDRAWN	IN CAD
2	8/25/09	CM	AH
3	7/29/10	KJP	
△			
APP:	GGW/JCS	SECTION	
DATE:	5/90	400	



NOTES:

1. TIE WIRE ASSEMBLY SHOULD BE AS TIGHT AS CAN BE WRAPPED BY HAND, AND ENDS TWISTED WITH PLIERS OR HOT LINE TOOLS. TWIST LEFTHAND ENDS CLOCKWISE, RIGHTHAND COUNTERCLOCKWISE. WITH HOT LINE LOOPS, TIE WIRES MUST BE 8" LONGER THAN SHOWN.
2. TIE WIRES LENGTHS LISTED BELOW CAN BE USED WITH INSULATORS HAVING NECK DIAMETER UP TO AND INCLUDING 3 1/2".

CONDUCTOR	CONDUCTOR DIAMETER
3/0 - 7 STRAND HD COPPER	.464"
2/0 - 7 STRAND HD COPPER	.414"
1/0 - 7 STRAND HD COPPER	.368"
2-3 STRAND COPPER	.320"
4A COPPERWELD - COPPER	.290"
4 COPPER WIRE	.204"
6 COPPER WIRE	.162"
6A COPPERWELD - COPPER	.230"
8A & 8D COPPERWELD - COPPER	.219"

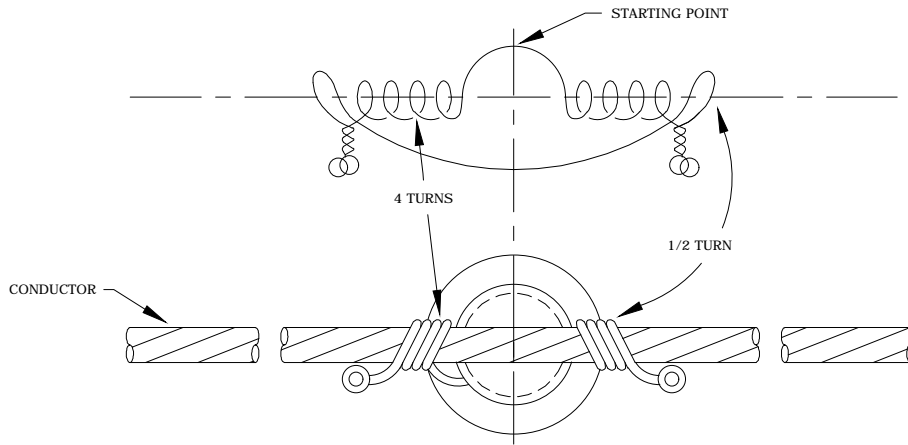
ANNEALED COPPER TIE WIRE		
SIZE	LENGTH SHORT PIECE	LENGTH LONG PIECE
4	27"	40"
4	27"	40"
4	27"	40"
6	23"	35"
6	23"	35"
6	23"	35"
8	21"	30"
8	21"	30"
8	21"	30"



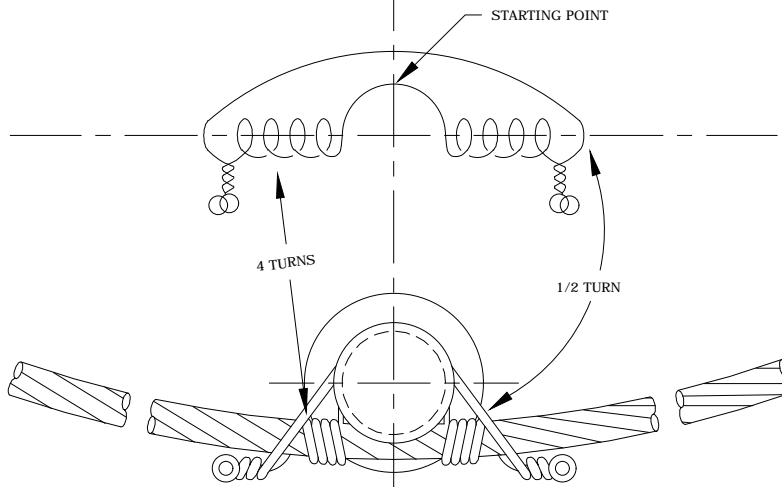
CONSTRUCTION STANDARDS
 SINGLE INSULATOR
 TWO-PIECE TIE
 COPPER TYPE CONDUCTORS

REVISIONS			
NO.	DATE	ENGR	OPS
1	2/15/10	REDRAWN	IN CAD

APP:	ELM	SECTION
DATE:	1/31/80	400



TOP GROOVE TIE



SIDE GROOVE TIE

NOTES:

1. TIE WIRE ASSEMBLY SHOULD BE AS TIGHT AS CAN BE WRAPPED AND ENDS TWISTED WITH HOT LINE TOOLS. TWIST LEFTHAND ENDS CLOCKWISE, RIGHTHAND COUNTERCLOCKWISE.
2. TIE WIRES LENGTHS LISTED BELOW CAN BE USED WITH INSULATORS HAVING A NECK DIAMETER UP TO AND INCLUDING 3 1/2".

COPPERWELD COPPER	
SIZE	COND. DIAM.
2F	.308
2A	.366
3A	.326
4A	.290
5A	.258
6A	.230
7A	.223
8A	.199

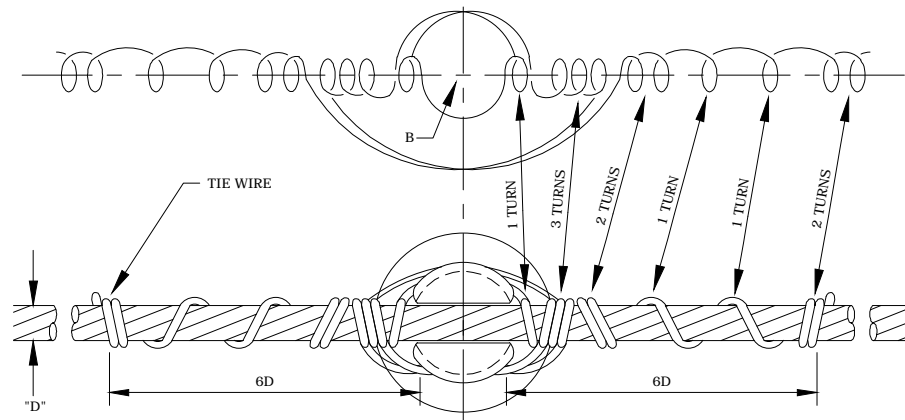
ANNEALED COPPER TIE WIRE			COPPER	
SIZE AWG	FIRST PIECE	SECOND PIECE	SIZE	COND. DIAM.
6	34"	24"	4/0-7W	.308
6	36"	24"	3/0-7W	.366
6	34"	24"	2/0-7W	.326
6	33"	24"	1/0-7W	.290
6	33"	24"	2-3W	.258
6	32"	23"	2-SOL	.230
6	32"	23"	4-SOL	.223
6	31"	23"	6-SOL	.199

ANNEALED COPPER TIE WIRE		
SIZE AWG	FIRST PIECE	SECOND PIECE
6	38"	29"
6	37"	28"
6	37"	28"
6	36"	27"
6	34"	25"
6	33"	24"
6	32"	23"
6	30"	22"

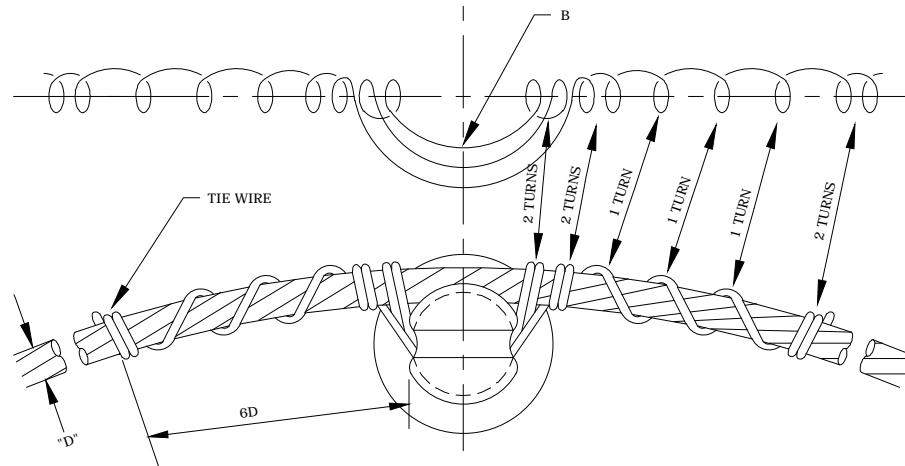


CONSTRUCTION STANDARDS
HOT LINE
COPPER TYPE CONDUCTORS

REVISIONS			
△	DATE	ENGR	OPS



TOP GROOVE DOUBLE TIE



SIDE GROOVE TIE

NOTES:

1. IN MAKING TIES, START WITH MIDDLE OF LENGTH OF TIE WIRE AT POSITION MARKED "B".
2. TO COMPLETE TIE, CINCH UP LAST TWO TURNS AT EACH END WITH PLIARS UNTIL TIE WIRE IS SNUG AND TIGHT.

A. C. S. R.	
SIZE	DIAM. INCHES
4/0	.563
3/0	.502
2/0	.477

TIE WIRE ALUMINUM	
SIZE	LENGTH FEET
4	9'-3"
4	8'-9"
4	8'-3"

A. C. S. R.	
SIZE	DIAM. INCHES
1/0	.398
2	.325
4	.257

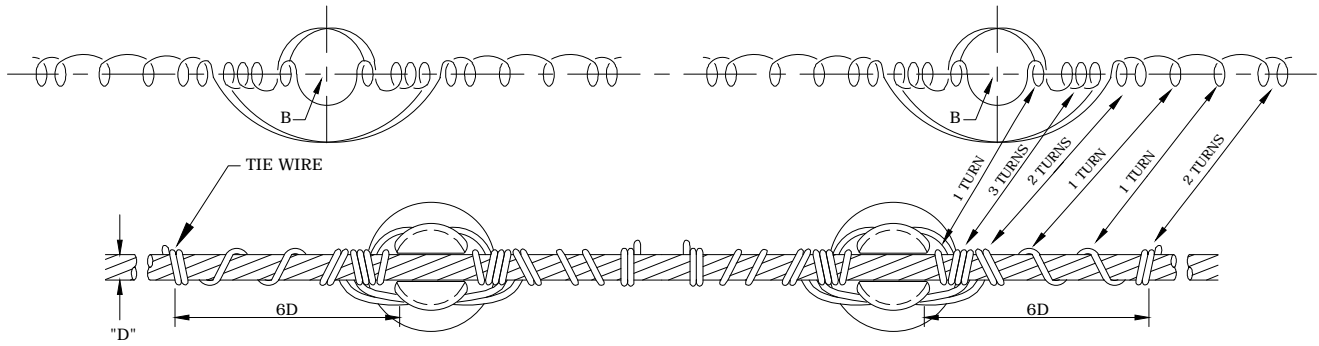
TIE WIRE ALUMINUM ALLOY	
SIZE	LENGTH FEET
6	8'-3"
6	7'-5"
6	7'-3"



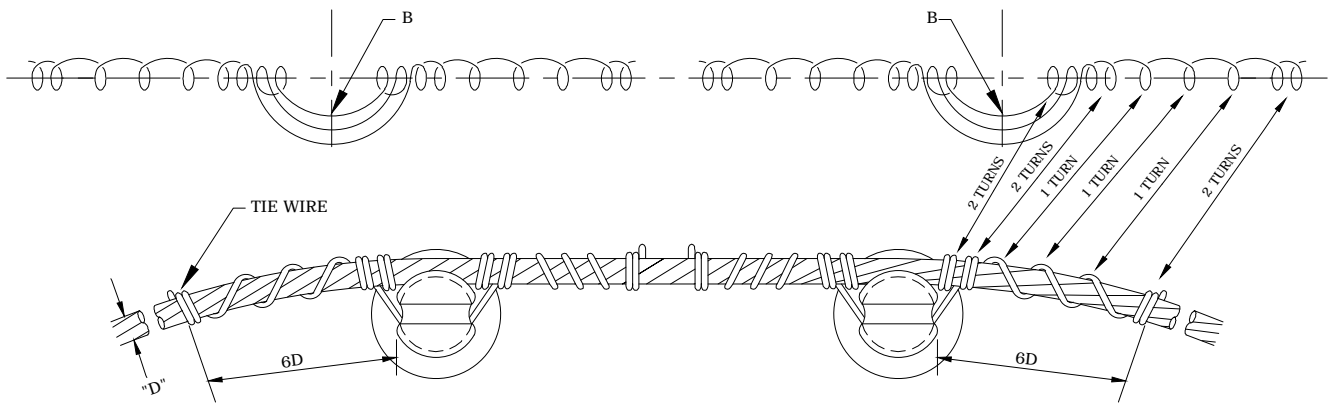
CONSTRUCTION STANDARDS

SINGLE INSULATOR
ALUMINUM ALLOY, ACSR CONDUCTOR,
STRAIGHT OR PREFORMED ARMOR RODS

REVISIONS			
DATE	ENGR	OPS	



TOP GROOVE DOUBLE TIE



SIDE GROOVE TIE

NOTES:

1. IN MAKING TIES, START WITH MIDDLE OF LENGTH OF TIE WIRE AT POSITION MARKED "B".
2. TO COMPLETE TIE, CINCH UP LAST TWO TURNS AT EACH END WITH PLIARS UNTIL TIE WIRE IS SNUG AND TIGHT.
3. USE THE FLAT FACE OF THE PLIARS AGAINST THE AMOR RODS.

A. C. S. R.	
SIZE	DIAM. INCHES
4/0	.563
3/0	.502
2/0	.477

TIE WIRE ALUMINUM	
SIZE	LENGTH FEET
4	9'-3"
4	8'-9"
4	8'-3"

A. C. S. R.	
SIZE	DIAM. INCHES
1/0	.398
2	.325
4	.257

TIE WIRE ALUMINUM ALLOY	
SIZE	LENGTH FEET
6	8'-3"
6	7'-5"
6	7'-3"



CONSTRUCTION STANDARDS

DOUBLE INSULATOR
ALUMINUM ALLOY, ACSR CONDUCTOR,
STRAIGHT OR PREFORMED ARMOR RODS

REVISIONS			
DATE	ENGR	OPS	