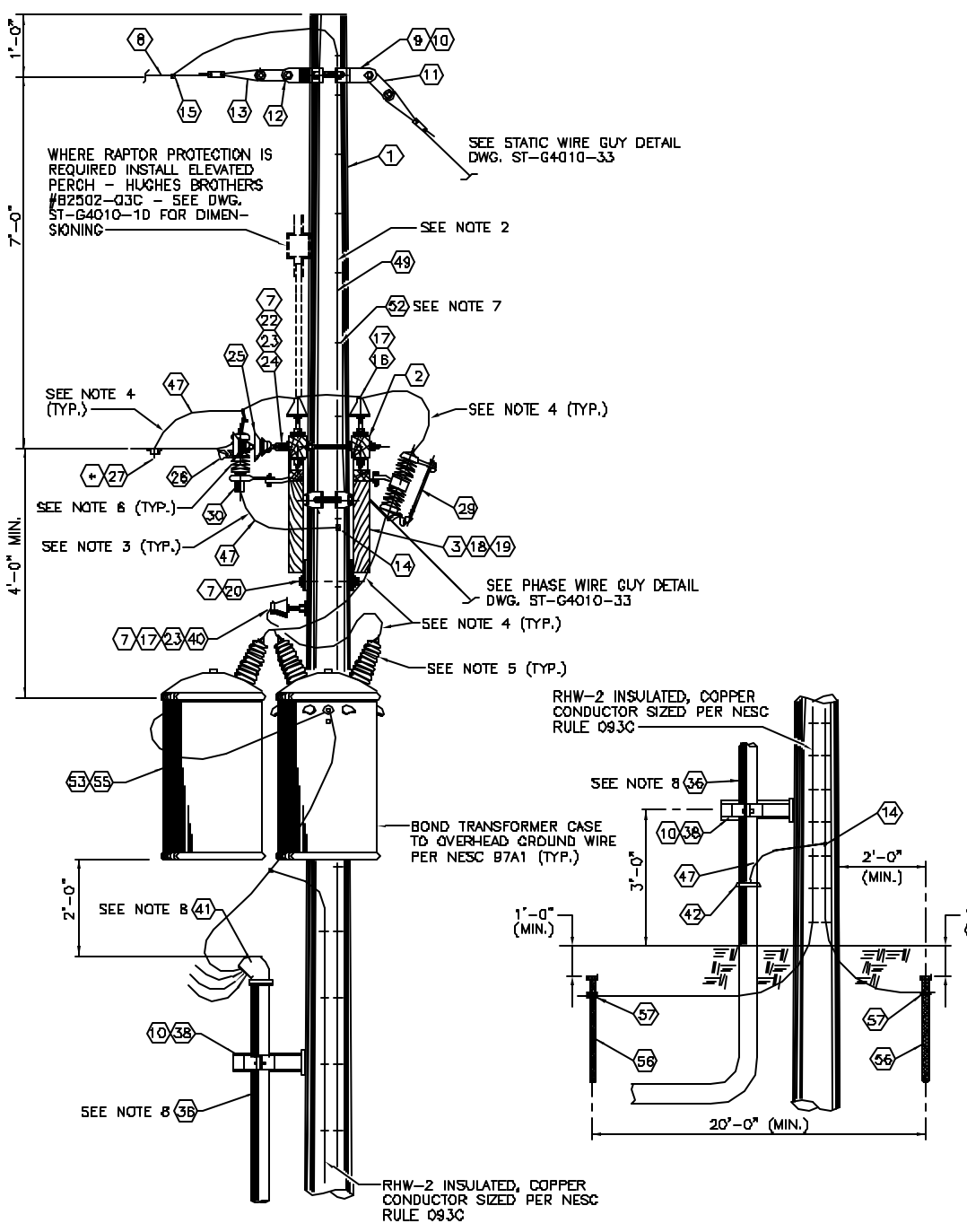


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BILL OF MATERIALS			
ITEM	DESCRIPTION	QTY	MFR. CATALOG No.
1	WOOD POLE, DF _____' CLASS 3	1	
2	CROSS ARM, WOOD, 3 1/2" X 4 1/2" X 8'-0", 4 PIN	2	HUGHES #2202C
3	CROSS ARM BRACE, 1 11/16" X 2 11/16" X 48" SPAN	2	BRDOKS #445-48-24
7	SPRING WASHER, 5/8" SIZE	5	JOSLYN #J177
8	WIRE, 3/8" (#8) H.S. STATIC, 30% COND.	AS REQ'D	COPPERWELD
9	POLE BAND, 4-WAY, FOR 7 1/2" TO 12" DIA.	2	HUGHES #1111
10	LAG SCREW, 1/2" X 4"	4	JOSLYN #J8784
11	CONNECTING LINK	1	HUGHES #3170
12	GUY ROLLER, WHEEL TYPE, WITH 3/4" X 2" BOLT	1	HUGHES #28082
13	GUY GRIP DEAD END, "B" COAT, 3/8" SIZE, GALV.	1	PREFORMED #CDE3115
14	CRIMP CONNECTOR	2	HYTAP
15	CRIMP CONNECTOR	1	HYTAP
16	LOW VOLTAGE STEEL PIN, 5/8", 8" HEIGHT	6	JOSLYN #J1207Z
17	PIN INSULATOR, ANSI CLASS 55-5	7	VICTOR #9R
18	MACHINE BOLT, 1/2" X 8"	4	JOSLYN #JB706
19	SPRING WASHER, 1/2" SIZE	4	JOSLYN #J175
20	MACHINE BOLT, 5/8" X 14"	1	JOSLYN #J8814
22	SQUARE WASHER, 5/8" SIZE	3	JOSLYN #J1074
23	DOUBLE ARMING BOLT, 5/8" X 22"	4	JOSLYN #JB872
24	EYE NUT, 5/8" SIZE	6	JOSLYN #J1092
25	SUSPENSION INSULATOR, POLYMER	6	JOSLYN #L151D
26	STRAIN CLAMP, DEAD END	3	HUBBELL/ANDERSON #GDW-2D4D
27	CLAMP, HOT LINE, FOR ACSR	3	CHANCE #S1530-AGP
28	HOT LINE CLAMP ADAPTER, 1/0-4/0 ACSR	3	FCI-BURNDY #YCB-2BU28
29	DIST. FUSE CUTOFF, 100 AMP.	3	KEARNEY #144261-D20
30	DIST. TYPE METAL OXIDE SURGE ARRESTER WITH MOUNTING BRACKET	3	HUBBELL/OHIO BRASS MODEL PDV-100, #213613-7224
38	CONDUIT, 4" IMC OR 8" RIGID	AS REQ'D	
39	CONDUIT STANDOFF BRACKET WITH STRAP KIT	2	ALUMAFORM #6-CS0-12
40	LEAD THREAD ADAPTER, TRANS.	1	JOSLYN #J2840
41	WEATHERHEAD FOR 4" CONDUIT	1	COOPER/CROUSE-HINDS #F1066
42	GROUND CLAMP FOR 4" OR 6" CONDUIT	1	D.Z. GEDNEY #CG4104
47	NO. 4 BARE COPPER WIRE, 7 STRAND	AS REQ'D	
49	NO. 1/0 BARE COPPER WIRE, 7 STRAND	AS REQ'D	
52	GROUND WIRE STAPLE, 2"	AS REQ'D	JOSLYN #J6655
53	TRANSFORMER, CONV. CLASS A, 14,400/_____ LV	3	
55	TRANSFORMER MOUNTING BRACKETS	1 SET	ALUMAFORM
56	GROUND ROD, 3/4" X 8'	1	JOSLYN #J5338
57	GROUND ROD CLAMP, HEX HEAD, 3/4"	1	JOSLYN #JB493
73	HOT LINE CLAMP BAIL FOR COPPER	3	THOMAS & BETTS/BLACKBURN #7D3DC
74	COMPRESSION TAP, 1/0 TO #2 SOLID COPPER	3	THOMAS & BETTS/BLACKBURN #CF102-1
75	COMPRESSION TAP, 2/0 TO #2 SOLID COPPER	3	THOMAS & BETTS/BLACKBURN #CF402-1

* USE ITEM 73 AND 74 OR 75 FOR COPPER CONDUCTORS. USE ITEM 28 FOR ACSR CONDUCTORS.



NEW 3-PHASE TRANSFORMER BANK ON DEADEND POLE WITH UNDERGROUND SECONDARY DETAIL
SCALE: NONE

DRAWING DEVELOPED FOR ML-3/ML-4 PROJECTS. FOR ML-1/ML-2, ADDITIONAL REQUIREMENTS AND QA REVIEWS ARE REQUIRED. (REMOVE THIS NOTE WHEN INSERTED INTO A DRAWING PACKAGE).

- GENERAL NOTES:**
- CONSTRUCTION FOR WIRE SIZES #4 SOLID COPPER TO #3/0 ACSR (6/1).
 - GROUND OVERHEAD STATIC AT EVERY POLE. WHERE WILDLIFE/RAPTOR PROTECTION IS REQUIRED, GROUNDING DOWN CONDUCTOR SHALL BE INSULATED FROM OVERHEAD SHIELD WIRE TO 3'-0" BELOW TRANSFORMERS.
 - WHERE WILDLIFE/RAPTOR PROTECTION IS REQUIRED USE BOOV. INSULATED WIRE.
 - WHERE WILDLIFE/RAPTOR PROTECTION IS REQUIRED USE NON-SHIELDED 15KV INSULATED CABLE FOR CONNECTIONS TO TRANSFORMER PRIMARY BUSHINGS.
 - WHERE WILDLIFE/RAPTOR PROTECTION IS REQUIRED PROVIDE BUSHING COVERS SIMILAR TO PREFORMED LINE PRODUCTS #WP-10T.
 - WHERE WILDLIFE/RAPTOR PROTECTION IS REQUIRED USE HUBBELL/OHIO BRASS #7325 MOUNTING BRACKET WITH PROTECTIVE CAPS IN LIEU OF #7224 MOUNTING BRACKET.
 - STAPLES ON GROUND WIRE SHALL BE 2'-0" APART EXCEPT FOR A DISTANCE OF 8'-0" ABOVE GROUND AND 8'-0" FROM TOP OF POLE WHERE THEY SHALL BE 8" APART.
 - LANL UTILITY SERVICES INSTALLS ALL SECONDARY CONDUIT & CONDUCTORS TO THE FIRST DISCONNECT DEVICE.
 - EQUIPMENT ITEM NUMBERS ((1)) REFER TO EQUIPMENT NUMBERS IN LANL SUPPORT SERVICES CONTRACTOR'S MASTER BILL OF MATERIALS. ONLY THOSE NUMBERS USED ON THIS DRAWING ARE SHOWN.

NOTES FOR DESIGNER:
(DO NOT INCLUDE ON CONSTRUCTION DRAWING)

- COMPLY WITH CURRENT EDITION OF LANL DRAFTING MANUAL FOR CALL-OUTS PROTOCOL AND LOCATION OF SCHEDULES/MATERIAL.
- ASSIGN AN APPROPRIATE DRAWING NUMBER PER CURRENT EDITION OF LANL DRAFTING MANUAL PROTOCOL FOR DETAILS.

NO.	DATE	CLASS REV	DESCRIPTION	OWN	VER	CHKD	SUB	APP
FACILITY & WASTE OPERATIONS SYSTEMS ENGINEERING & MAINTENANCE								
LANL ENGINEERING MANUAL SITE ELECTRICAL DISTRIBUTION STDS.				DRAWN M. BAKER				
NEW 3 PHASE TRANSFORMER BANK ON DEADEND POLE WITH UNDERGROUND SECONDARY DETAIL				DESIGN D. BRYANT				
				CHECKED J. LANDMAN				
				DATE 8/30/02				
BLDG. X SUBMITTED			TA-X					
DISCIPLINE POCI DAVID POWELL			APPROVED FOR RELEASE STANDARDS MANAGER TOSH GRUCH					
				1 of 1				
CLASSIFICATION U		REVIEWER MICHAEL LADACH		DATE 8/30/02				
PROJECT ID CHAPTER 7		DRAWING NO ST-G4010-23		REV 0				