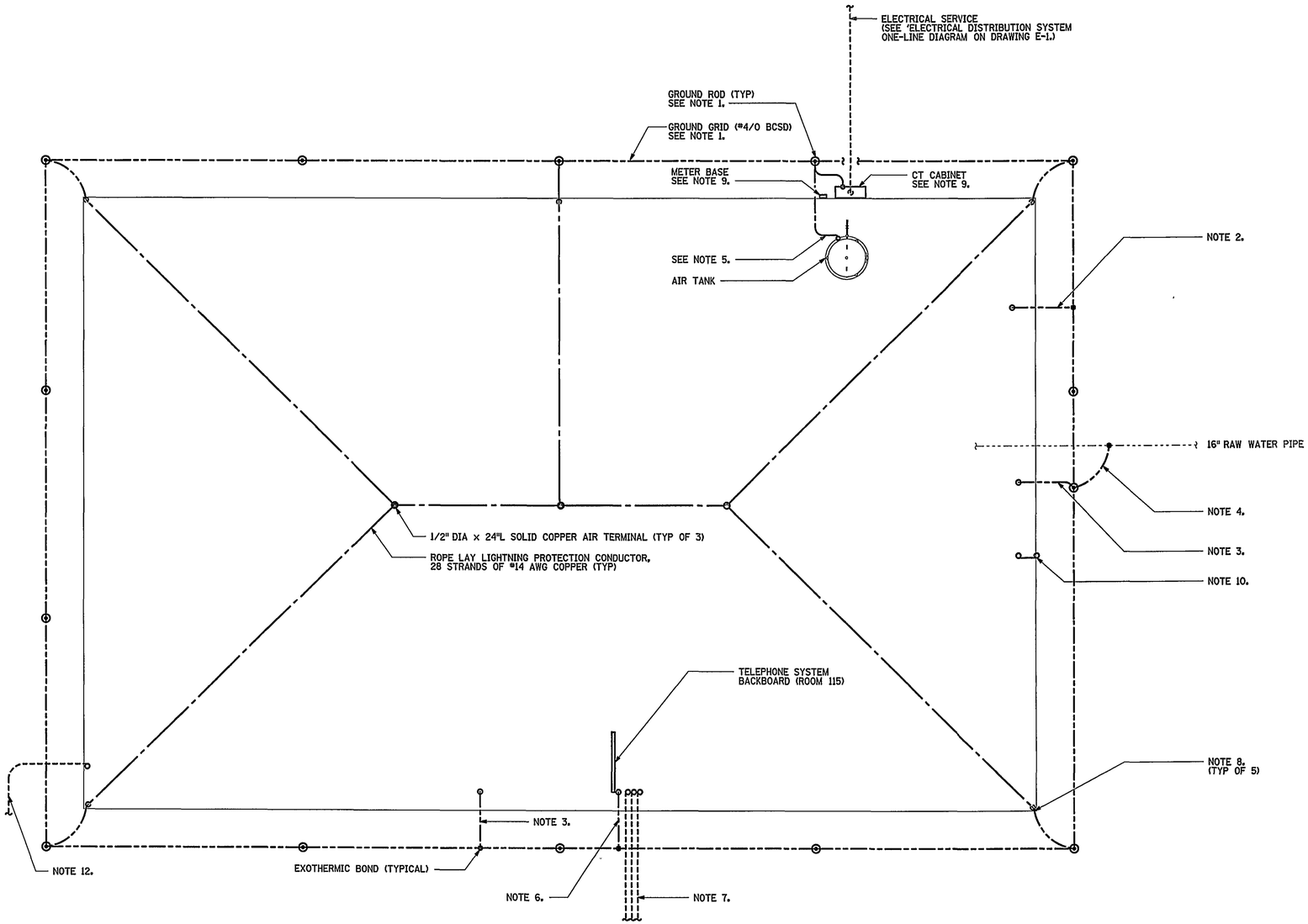
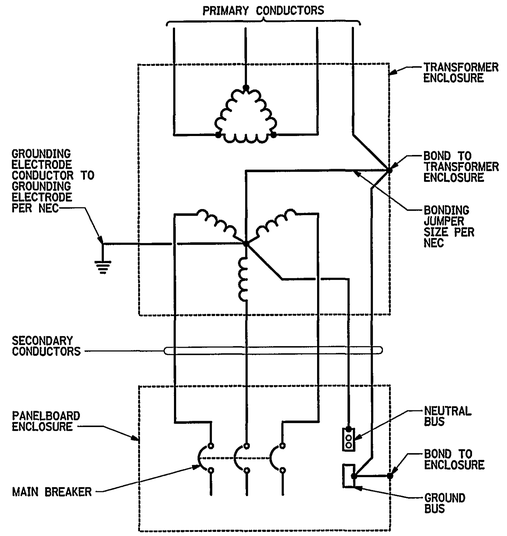


ELECTRICAL SERVICE, LIGHTNING PROTECTION, AND GROUNDING PLAN

SCALE: 1/8" = 1' - 0"

NOTES

1. LOCATIONS INDICATED FOR GROUND RODS AND BURIED GROUND GRID CONDUCTORS ARE APPROXIMATE. COORDINATE ACTUAL LOCATIONS WITH EXISTING AND NEW UNDERGROUND UTILITIES. ALL GROUND RODS AND GROUND GRID CONDUCTORS SHALL BE INSTALLED A MINIMUM OF 30" BELOW GRADE.
2. PROVIDE 1-#4/0 BCSD GROUNDING ELECTRODE CONDUCTOR IN 1-1/2" PVC FROM GROUND GRID UNDER BLDG FOUNDATION TO MEZZANINE FOR MAIN ELECTRICAL SERVICE GROUND. CADWELD GROUND CONDUCTOR TO GROUND GRID. DO NOT ROUTE GROUNDING ELECTRODE CONDUCTOR THROUGH ANY CORROSIVE ENVIRONMENT AREA.
3. PROVIDE 1-#1/0 BCSD GROUNDING ELECTRODE CONDUCTOR IN 1" PVC FROM GROUND GRID UNDER BLDG FOUNDATION TO MEZZANINE FOR GROUNDING OF DRY TRANSFORMER. CADWELD GROUND CONDUCTOR TO GROUND GRID. THIS GROUND SHALL BE MAINTAINED SEPARATE FROM THE MAIN ELECTRICAL SERVICE GROUND AT ALL TIMES.
4. PROVIDE 1-#1/0 BCSD GROUNDING CONDUCTOR FROM GROUND GRID TO RAW WATER PIPE. ATTACH USING APPROVED GROUND CONNECTOR. CADWELD GROUND CONDUCTOR TO GROUND GRID.
5. PROVIDE 1-#1/0 BCSD GROUNDING CONDUCTOR IN 1" PVC FROM GROUND GRID UNDER BLDG FOUNDATION TO STEEL AIR TANK. ATTACH TO TANK USING EXOTHERMIC BOND. CADWELD GROUND CONDUCTOR TO GROUND GRID OR GROUND ROD.
6. PROVIDE GROUNDING CONDUCTOR IN 1" PVC FROM GROUND GRID UNDER BLDG FOUNDATION TO TELEPHONE SYSTEM BACKBOARD (ROOM 115). COORDINATE WITH TELEPHONE COMPANY FOR SIZING OF CONDUCTOR. COIL CONDUCTOR AND LEAVE FOR TELEPHONE COMPANY USE.
7. PROVIDE THREE 2" PVC CONDUITS FROM THE TELEPHONE BACKBOARD UNDER BLDG FOUNDATION, 10' BEYOND THE PAVED PARKING AREA. CAP AND MARK CONDUITS FOR FUTURE USE (DATA & TELECOM).
8. PROVIDE MANUFACTURER RECOMMENDED CONNECTOR FOR CONNECTION OF #4/0 BCSD WITH ROPE LAY COPPER CONDUCTOR. ROPE LAY CONDUCTOR SHALL NOT BE USED BELOW GRADE. ALL LIGHTNING PROTECTION EQUIPMENT AND CONNECTIONS SHALL BE INSTALLED ON THE BUILDING EXTERIOR.
9. COORDINATE WITH AMERICAN ELECTRIC POWER TO RECEIVE ELECTRICAL SERVICE. PROVIDE 4'H x 4'W x 18"D CT CABINET (RATED NEMA 3R), AND INSTALL UTILITY-PROVIDED CT'S. INSTALL UTILITY-PROVIDED METER BASE, AND PROVIDE 1-1/4" RSC BETWEEN CT CABINET AND METER BASE.
10. PROVIDE ONE 1" RSC FROM CONTROL ROOM UP THROUGH MEZZANINE B AND THROUGH EXTERIOR WALL AS SHOWN. DO NOT PENETRATE ROOF. CAP CONDUIT (FOR FUTURE ANTENNA).
11. FIELD DRILL THROUGH PRECAST CONCRETE HOLLOW CORE SLAB FOR 4" DIAMETER OPENINGS AND SMALLER IN APPROVED LOCATIONS AS RECOMMENDED BY THE PRECAST MANUFACTURER. DO NOT CUT PRESTRESSING STEEL.
12. PROVIDE ONE 2" PVC FROM FIRST FLOOR PLENUM SPACE UNDER BLDG FOUNDATION TO CRYSTAL SPRING PUMP STATION (FOR PLC MONITORING SYSTEM). SEE DRAWING E-9 FOR CONTINUATION.



DRY-TYPE TRANSFORMER TYPICAL WIRING DIAGRAM

NO SCALE

IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALE MUST BE USED.

5' 0 5' 10' 15'

1/8" = 1'-0"

REV.	DATE	BY	APP.	DESCRIPTION
	5-01-03	JLW	MKJ	RECORD DRAWING

RECORD DRAWING

DATE: MAY 1, 2003

Wiley & Wilson
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DESIGNED	SAB	DRAWN	SAB
CHECKED	PLG	REVIEWED	MKJ
COMM. NO.	200171.01		
CADD NO.	200171e02.dgn		
DATE	AUG 26, 2001		

PROJECT: CRYSTAL SPRING WATER TREATMENT PLANT FOR THE CITY OF ROANOKE, VIRGINIA

REFERENCE: ELECTRICAL

TITLE: ELECTRICAL SERVICE, LIGHTNING PROTECTION, AND GROUNDING PLAN

DWG. NO. E-3 | SHEET NO. 64 OF 72 | REV. 0