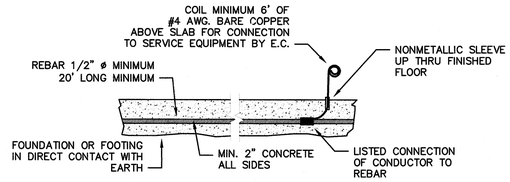
ELECTRICAL GROUNDING ELECTRODE SYSTEM: (FOUNDATION REQUIREMENTS)

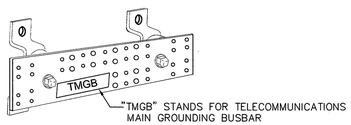
THE GENERAL CONTRACTOR AND/OR INSTALLER OF THE BUILDINGS FOUNDATION SHALL COORDINATE FOR OR INSTALL THE FOLLOWING FOUNDATION ELECTRODE SYSTEM.

A CONCRETE ENCASED ELECTRODE SHALL BE PROVIDED AND SHALL CONSIST OF EITHER 20' OF BARE #4 COPPER WIRE CONTINUOUS AND EXTENDING 6' OUTSIDE THE CONCRETE OR AT LEAST 20 FEET OF ½ INCH REINFORCING STEEL INSTALLED WITHIN OR NEAR THE BOTTOM OF THE FOOTING OR FOUNDATION AND COVERED BY AT LEAST 2" OF CONCRETE WHICH IS IN DIRECT CONTACT WITH EARTH AND CONNECTED BY AN APPROVED METHOD TO A BARE #4 COPPER WIRE EXTENDING 6' OUTSIDE THE CONCRETE. THE CUMULATIVE LENGTH OF FOOTING STEEL CAN BE ACHIEVED BY NORMAL METHODS OF STEEL TIE WIRES JOINING SHORTER LENGTHS. SEE DETAILS BELOW.

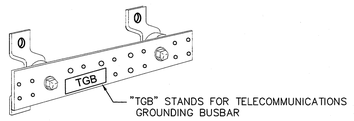


GROUNDING ELECTRODE FOUNDATION CONNECTION DETAIL

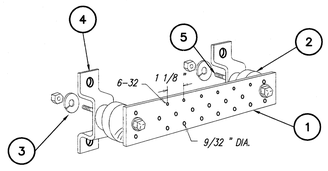
NO SCALE



"TMGB" STANDS FOR TELECOMMUNICATIONS MAIN GROUNDING BUSBAR



"TGB" STANDS FOR TELECOMMUNICATIONS GROUNDING BUSBAR



(#)
1. COPPER GROUND BAR, 1/4 "x4"x10" PER APPROVED MATERIALS LIST.
2. ISOLATED GROUNDING BUSBAR.
3. 5/8" LOCK WASHERS
4. WALL MOUNTING BRACKET
5. 5/8-11 x 1" H.H.C.S. BOLTS,

COMMUNICATIONS GROUND BAR DETAIL

NO SCALE

KEYED NOTES

(1) INSTALL GROUNDED (NEUTRAL) CONDUCTOR SEE RISER DIAGRAM.

(2) INSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250-66 USE NO. 3/0.

(3) INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER OVERCURRENT DEVICE SIZE. SEE RISER DIAGRAM FOR SIZES.

(4) INSTALL EQUIPMENT GROUNDING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE. SEE RISER DIAGKAM FOR SIZES.

(5) INSTALL GROUNDING ELECTRODE CONDUCTOR THAT IS SIZED BASED ON NEC 250.30, 250.64 AND TABLE 250-66 USING THE SEPARATELY DERIVED SYSTEM PHASE CONDUCTOR SIZE. SEE RISER DIAGRAM FOR SIZES.

(6) INSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION. LOCATE ELECTRODE IN THE BOTTOM ONE-THIRD OF THE FOUNDATION WITH AT LEAST 2 INCHES OF CONCRETE COVER.

BARE OR GALVANIZED REBAPS THAT ARE MADE ELECTRICALLY CONTINUOUS. USE REINFORCING BARS NOT SMALLER THAN THE FOLLOWING BASED ON THE TOTAL LENGTH OF THE INTERCONNECTED AND PARALLELED REBARS:

TOTAL LENGTH	MINIMUM REBAR SIZE
40 FT	1/2" (#4 BAR)

(7) EXTEND A #3 INSULATED GROUNDING CONDUCTOR TO EACH LOCATION AS INDICATED ON THE PLAN AND BOND CABLE TRAY AND RACK SYSTEM EQUIPMENT. COORDINATE WITH ARCHITECTUAL DRAWINGS AND SHOP DRAWINGS FOR REQUIREMENTS.

(8) INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND ELECTRODE CONDUCTOR USING IRREVERSIBLE CONNECTORS OR EXOTHERMIC WELDS. MAKE OTHER CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL EACH CONNECTION TO THE GROUND BAR.

(9) NOT USED.

(10) NOT USED.

(11) NOT USED.

(12) NOT USED.

(13) INSTALL A COPPER GROUNDING BAR ON EACH TELECOMMBACKBOARD. CONNECT TO THE "MAIN GROUNDING ELECTRODE GROUND BAR" USING 600V INSULATED #6 COPPER CABLE. BOND RACKS AND CABLE TRAY SIGNAL REFERENCE.

(14) INSTALL NEUTRAL CONDUCTOR THAT IS NOT LESS THAN THE PHASE CONDUCTOR AMPACITY. SEE RISER DIAGRAM.

(15) INSTALL BONDING JUMPER WIRE THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE OR SEPARATELY-DERIVED SYSTEM PHASE CONDUCTOR SIZE.

(16) INSTALL IRREVERSIBLE COMPRESSION CONNECTOR WITH TAMPER- PROOF HARDWARE OR INSTALL EXOTHERMIC WELD.

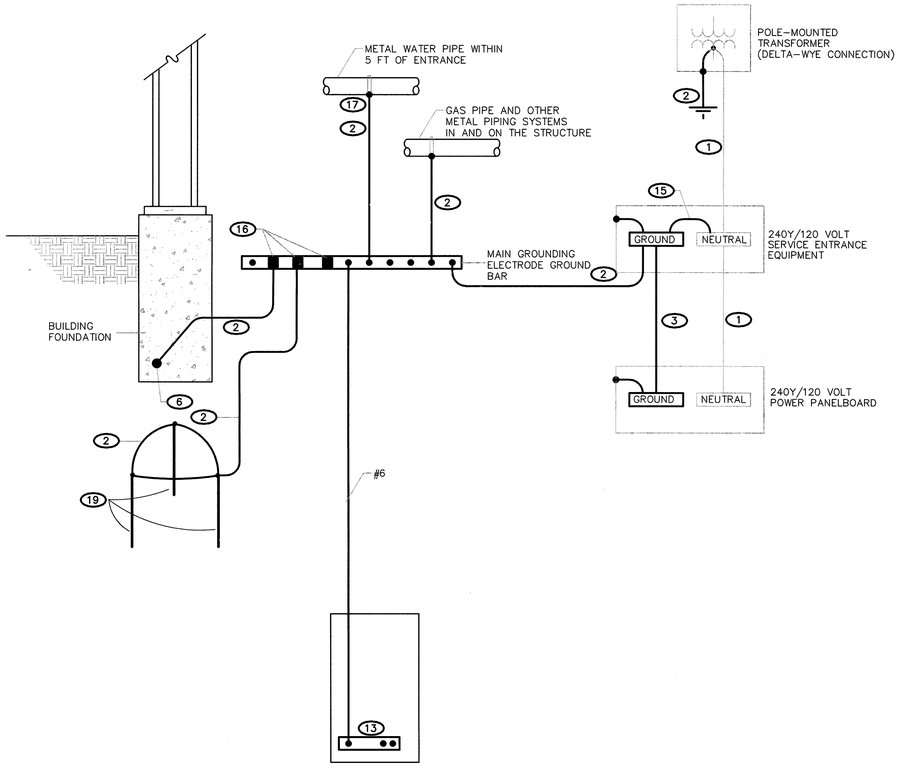
(17) BOND TO METAL PIPING SYSTEMS IN THE AREA SERVED BY THE SEPARATELY DERIVED SYSTEM.

(18) NOT USED.

(19) 5/8"dia. X 10' Cu CLAD GRD. RODS SPACED @ 10' NOT USE IF COUNTERPOSE INSTALLED.

GENERAL NOTES

1. CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.
2. INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
3. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE.
4. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.
5. BOND HOT AND COLD WATER PIPING SYSTEMS.



GROUNDING SYSTEM DIAGRAM

NO SCALE

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ELECTRICAL DETAILS

castleberry mcgregor swinford
ARCHITECTS

BENTON GAS SYSTEM Project No. 10560

E-8
of 13

DATE
10/01/10