FIELD LIGHTING NOTES

1. UNLESS OTHERWISE NOTED, ALL UNDERGROUND FIELD POWER MULTIPLE AND SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED L-824 TYPE. INSULATION VOLTAGE AND SIZE SHALL BE AS SPECIFIED.
2. NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND ISOLATION TRANSFORMERS SHALL BE ROUTED ABOVE GROUND AT LIGHTS, BASES, PULL BOXES HANDHOLES , ETC.
3. THERE SHALL BE NO EXPOSED POWER, CONTROL CABLES BETWEEN THE POINT WHERE THEY LEAVE THE UNDERGROUND (SIGN OR LIGHT BASES) AND WHERE THEY ENTER THE EQUIPMENT ENCLOSURES. THESE CABLES SHALL BE ENCLOSED IN SCHEDULE 40 RIGID CONDUIT OR IN FLEXIBLE, WATER-TIGHT CONDUIT WITH BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN ON APPLICABLE DETAILS.
4. THE CABLE ENTRANCES INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A FULL LENGTH HEAT-SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE.
5. THE ID OF THE PRIMARY L-823 FIELD ATTACHED CONNECTORS SHALL MATCH THE CABLE ID TO PROVIDE A WATER-TIGHT CABLE ENTRANCE. THIS ENTRANCE SHALL BE ENCAPSULATED IN A HEAT SHRINKABLE TUBING WITH CONTINUOUS, FACTORY APPLIED INTERNAL ADHESIVE.
6. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS "A" (FACTORY MOLDED).
7. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE LIGHT OR SIGN BASE.
8. ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPED.
9. SEE SPECIFICATION L-108 FOR REQUIREMENTS OF MINIMUM SLACK TO BE PROVIDED FOR THE PRIMARY CABLE AT EACH HANDHOLE AND TRANSFORMER/CONNECTOR TERMINATION.
10. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS AND BASE COVERS, SHALL NOT BE ACCEPTABLE.
11. SOIL PERMITTING, THE L-867 BASES MAY PRECAST IN CONCRETE OR CAST IN PLACE. CONCRETE AROUND THE BASES SHALL BE USED AS A BACKFILL.
12. LIGHT I.D. AND SIGN NUMBERING SHALL BE AS DIRECTED BY THE OWNER. COORDINATE IN DETAIL WITH THE OWNER'S AUTHORIZED REPRESENTATIVE.
13. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
14. ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLE.
15. THE CABLE AND SPLICE MARKERS SHALL IDENTIFY THE CIRCUITS WHICH THE CABLES BELONG TO SUCH AS "TWY A".
16. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS IF NO HANDHOLE IS INSTALLED.
17. ALL POWER AND CONTROL CABLES IN MANHOLE/HANDHOLES SHALL BE TAGGED. USE ENGRAVED STAINLESS STEEL TAGS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MANHOLE/HANDHOLE - ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT.
18. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
19. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS UNLESS FIELD LIGHTNING ARRESTORS ARE SHOWN TO BE INSTALLED. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER AND FIELD LIGHTNING ARRESTORS CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
20. STAINLESS STEEL CABLE IDENTIFICATION TAGS SHALL BE INSTALLED FOR EACH CABLE PASSING THROUGH A LIGHT BASE OR HANDHOLE THAT CONTAINS A FIELD LIGHTNING ARRESTOR(S). SEE DRAWINGS FOR LOCATIONS.
21. CONCRETE USED FOR BACKFILL AROUND L-867 TRANSFORMER HOUSINGS, MARKERS, ETC. SHALL BE 3000 PSI, MIN., AIR-ENTRAINED. UNLESS NOTED OTHERWISE.

GENERAL NOTES

GI. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR HAVING VISITED THE SITE AND HAVING FAMILIARIZED HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID.

G2. SHOULD ANY EXISTING ACTIVE WIRING OR OTHER UTILITIES BE CUT BY NEW TRENCHING, SUCH SHALL BE REPAIRED (IN MANNER APPROVED BY THE ENGINEER AND OWNER) AND LEFT IN OPERATING CONDITION AT NO ADDITIONAL COST TO THE OWNER.

G3. ALL SALVAGEABLE MATERIAL SHALL REMAIN THE PROPERTY OF THE OWNER. ALL EQUIPMENT AND MATERIAL NOT WANTED BY THE OWNER SHALL BE LEGALLY DISPOSED OFF AIRPORT PROPERTY. SALVAGE ITEMS SHALL BE DELIVERED TO THE OWNER'S STORAGE FACILITY AND OFF LOADED AS DIRECTED. VERIFY WANTED MATERIALS FOR SALVAGE WITH THE AIRPORTS AUTHORIZED REPRESENTATIVE.

G4. WHERE CONDUCTORS ARE SHOWN ON PLANS IN THE SAME GENERAL AREA, THEY SHALL ALL BE RUN IN A COMMON TRENCH.

G5. PROVIDE ONLY ONE (1) #6 BARE COPPER COUNTER POISE CONDUCTOR IN TRENCH THAT MAY CONTAIN MULTIPLE SERIES CIRCUIT CONDUCTORS UNLESS OTHERWISE SHOWN. SEE NOTE #G4.

G6. THE ELECTRICAL INSTALLATION, AS A MINIMUM, SHALL MEET THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND FEDERAL AVIATION ADMINISTRATION STANDARDS.

G7. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS. THE COST OF OBTAINING ALL PERMITS SHALL BE INCLUDED IN THE CONTRACTORS BID PROPOSAL.

G8. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.

G9. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE BEFORE BIDDING AND DURING THE WORK WITH THE LOCAL POWER COMPANY AND TO MEET ALL OF THEIR INSTALLATION REQUIREMENTS. ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO MEET THESE REQUIREMENTS SHALL BE INCLUDED IN THE BID.

G10. ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE, EXCLUDING INCANDESCENT OR QUARTZ LAMPS, WHICH MUST BE IN WORKING CONDITION AT FINAL ACCEPTANCE. MITL FIXTURES WITH LED LAMPS SHALL BE WARRANTED FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

G11. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING UTILITY COMPANIES AND FAA TO IDENTIFY AND LOCATE ANY UNDERGROUND UTILITIES AND/OR CABLE WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL ASSIST UTILITY COMPANY IN EFFORTS TO FIELD VERIFY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL REVIEW ALL AIRFIELD UTILITIES WITH AIRFIELD MAINTENANCE PERSONNEL BEFORE BEGINNING WORK. SEE GENERAL NOTE G2 ABOVE.

G12. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM (INCLUDING FAA APPROVED EQUIPMENT) ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE OWNER WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.

G13. IN CASE THE CONTRACTOR SELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTERS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATIONS, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.

G14. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTRO- MAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.

G15. WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, ETC. WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES, STYLES, CLASSES, ETC. MAY BE FAA APPROVED.

G16. A MINIMUM OF THREE (3) COPIES OF INSTRUCTION BOOKS SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, CONTROL PANEL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:

(A) A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.

(B) THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.

(C) INSTALLATION INSTRUCTIONS.

(D) START-UP INSTRUCTIONS.

(E) PREVENTATIVE MAINTENANCE REQUIREMENTS.

(F) CHART FOR TROUBLESHOOTING.

(G) COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT-"BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OR THE NARRATIVE SHALL SHOW VOLTAGES/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLESHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL THE DIFFERENT MODES.

(H) PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS, SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.

(I) SAFETY INSTRUCTIONS.

G17. ALL EXCAVATION WITHIN 3 FT. OF FAA, NWS, AIRFIELD LIGHTING, TELEPHONE COMPANY AND POWER COMPANY CABLES SHALL BE BY HAND DIGGING.

G18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF CONDUITS, CABLES LIGHT ASSEMBLIES, ETC. AT NO COST TO OWNER.

G19. CONTRACTOR SHALL SEED ALL AREAS DISDURBED BY CONSTRUCTION WITH SEED FOR SAME GRASS AS ADJACENT AREAS.

G20. PRIOR TO LEAVING THE JOB SITE EACH WORK DAY, THE CONTRACTOR SHALL TEST EACH AND EVERY LIGHTING AND NAVIGATIONAL AID CIRCUIT FOR PROPER OPERATION. THE SYSTEMS SHALL BE OPERATIONAL PRIOR CONTRACTOR LEAVING THE JOB SITE.

POWER AND CONTROL NOTES

1. PROVIDE ENGRAVED NAMEPLATE ON ALL ELECTRICAL EQUIPMENT WITHIN THE VAULT ROOM, ATCT OR MAINTENANCE BUILDING TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. PROVIDE PANELBOARD AND CIRCUIT BREAKER IDENTIFICATION THAT SERVES THE EQUIPMENT. SEE DRAWINGS AND SPECIFICATIONS FOR REQUIRED DESCRIPTIONS. ENGRAVED LETTERS SHALL BE 1/4" HIGH MINIMUM, WHITE LETTERS ON BLACK BACKGROUND USING 3 PLY PLASTIC NAMEPLATE. NAMEPLATES SHALL BE ATTACHED TO EQUIPMENT UTILIZING STAINLESS STEEL SCREWS.
2. COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND RED SHALL BE USED FOR SINGLE-PHASE, THREE WIRE SYSTEMS; BLACK, RED AND BLUE SHALL BE USED FOR 208Y/120 VOLT THREE-PHASE SYSTEMS. BROWN, ORANGE AND YELLOW SHALL BE USED FOR 480Y/277 VOLT THREE-PHASE SYSTEM. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS. MATCH ANY EXISTING COLOR CODING THAT EXIST FOR VAULT WORK.
3. ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.
4. IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.
5. ALL POWER AND CONTROL CIRCUIT CONDUCTORS SHALL BE STRANDED COPPER; ALUMINUM SHALL NOT BE ACCEPTED. THIS INCLUDES WIRE, CABLE, BUSSES, TERMINALS, SWITCH/PANEL COMPONENTS, ETC.
6. LOW VOLTAGE (600V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE RACEWAYS.
7. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES. BUNDLE USING NYLON CABLE TIES. TAPE WRAP WILL NOT BE ACCEPTABLE.
8. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND THE SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:

   (A) IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.

   (B) IN ANGLE OR U PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL OF THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
9. A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS. CAST, CONDULET TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.
10. EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.
11. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN HANDHOLE, PULL BOXES. JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
12. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE, BOLT-ON, THERMAL-MAGNETIC, MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM, FRAME.
13. TYPE WRITTEN PANEL SCHEDULES SHALL BE INSTALLED IN EACH PANELBOARD, AND TERMINAL BLOCK SCHEDULES IN EACH CONTROL CABINET. PANEL BOARD DIRECTORIES SHALL BE UPDATED TO REFLECT NEW CIRCUIT IDENTIFICATIONS.
14. DUAL LUGS SHALL BE USED WHERE TWO WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
15. ALL WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON WOODEN MOUNTING BOARDS OR AS OTHERWISE SPECIFIED.
16. WOODEN EQUIPMENT MOUNTING BOARDS SHALL BE PLYWOOD, EXTERIOR TYPE, 3/4-INCH MINIMUM, THICKNESS, BOTH SIDES PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF GRAY, OIL-BASED PAINT.
17. GALVANIZED RIGID STEEL CONDUIT SHALL BE USED THROUGHOUT THE INSTALLATION UNLESS OTHERWISE SPECIFIED. THE MINIMUM TRADE SIZE SHALL BE 3/4 INCH.
18. ALL RIGID CONDUIT SHALL BE TERMINATED AT CONSTANT CURRENT REGULATORS WITH A SECTION (10" MINIMUM) OF FLEXIBLE CONDUIT (24" MAXIMUM).
19. UNLESS OTHERWISE SHOWN ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
20. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC., SHALL BE GALVANIZED.
21. USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 10 AWG OR LARGER WIRE IS INSTALLED, USE INSULATED BUSHINGS.
22. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
23. UNLESS OTHERWISE NOTED, ALL INDOOR SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG STRANDED.
24. BOTH ENDS OF EACH CONTROL CONDUCTOR SHALL BE TERMINATED AT A TERMINAL BLOCK. THE TERMINAL BLOCKS SHALL BE OF PROPER RATING AND SIZE FOR THE FUNCTION INTENDED AND THEY SHALL BE LOCATED IN EQUIPMENT ENCLOSURES OR SPECIAL TERMINAL CABINETS.
25. ALL CONTROL CONDUCTOR TERMINATION'S SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED, CLOSED-EYE TERMINATION'S, OR TERMINATION'S WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
26. IN TERMINAL BLOCK CABINETS THE MINIMUM SPACING BETWEEN PARALLEL TERMINAL BLOCKS SHALL BE 6 INCHES. THE MINIMUM SPACING BETWEEN TERMINAL BLOCK SIDES/ENDS AND CABINET SIDES/BOTTOM/TOP SHALL BE 5 INCHES. THE MINIMUM SPACING WILL BE INCREASED AS REQUIRED BY THE NUMBER OF CONDUCTORS. ADDITIONAL SPACING SHALL BE PROVIDED AT CONDUCTOR ENTRANCES.
27. BOTH ENDS OF ALL CONTROL CONDUCTORS SHALL BE IDENTIFIED AS TO THE CIRCUIT, TERMINAL BLOCK, AND TERMINAL NUMBER. ONLY STICK-ON LABELS SHALL BE USED.
28. A SEPARATE AND CONTINUOUS NEUTRAL CONDUCTOR SHALL BE INSTALLED AND CONNECTED FOR EACH BREAKER CIRCUIT IN THE POWER PANEL(S) FROM THE NEUTRAL BAR TO EACH POWER/CONTROL CIRCUIT UNLESS SHOWN OTHERWISE ON PLANS.
29. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:

   (A) ALL COMPONENTS SHALL BE MOUNTED IN DUST PROOF ENCLOSURE(S) WITH VERTICALLY HINGED COVERS.

   (B) THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS, AND INCOMING AND INTERNAL WIRING.

   (C) ALL INCOMING/OUTGOING WIRING SHALL BE TERMINATED AT TERMINAL BLOCKS.

   (D) EACH TERMINAL ON TERMINAL BLOCKS AND ON CIRCUIT COMPONENTS SHALL BE CLEARLY IDENTIFIED.

   (E) WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING, AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE (5KV) COMPONENTS.

   (F) ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.

   (G) EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER AND ITS FUNCTION.

   (H) A COMPLETE WIRING DIAGRAM (NOT A SCHEMATIC DIAGRAM) SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.

   (I) THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AND NUMBERING AND COLOR OF EACH INTERNAL CONDUCTOR AND TERMINAL.

   (J) ALL WIRING SHALL BE NEATLY TRAINED AND LACED.

   (K) MINIMUM WIRE SIZE SHALL BE NO. 12 AWG. UNLESS OTHERWISE NOTED.

GROUNDING NOTES

1. TOPS OF GROUND RODS SHALL BE 6 INCHES BELOW GRADE.
2. ALL CONNECTIONS FOR THE COUNTERPOISE SYSTEM AND TO EQUIPMENT SAFETY GROUND RODS SHALL BE MADE USING EXOTHERMIC WELDS.
3. THE RESISTANCE TO GROUND OF THE NEW COUNTERPOISE SYSTEM SHALL NOT EXCEED 25 OHMS.

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