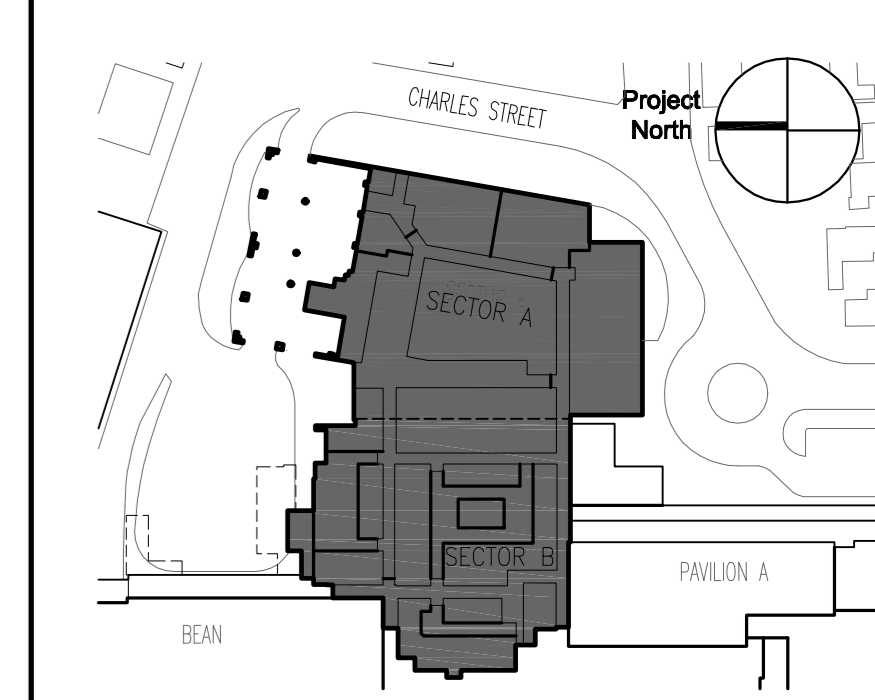


General Notes:
 1. THIS PLAN SHALL BE USED IN CONJUNCTION WITH PHILIPS MEDICAL SYSTEMS EQUIPMENT VENDORS DRAWING FOR EXACT LOCATION OF EQUIPMENT, CABLE TRAY, VERTICAL RACEWAY, ETC.

DRAWING NOTES:
 1. COORDINATE EXACT LOCATION AND WIRING REQUIREMENTS WITH PHILIPS.

MARK	ISSUE DATE	DESCRIPTION
BID	12/14/07	BID SET
Issue Log		



Key Plan

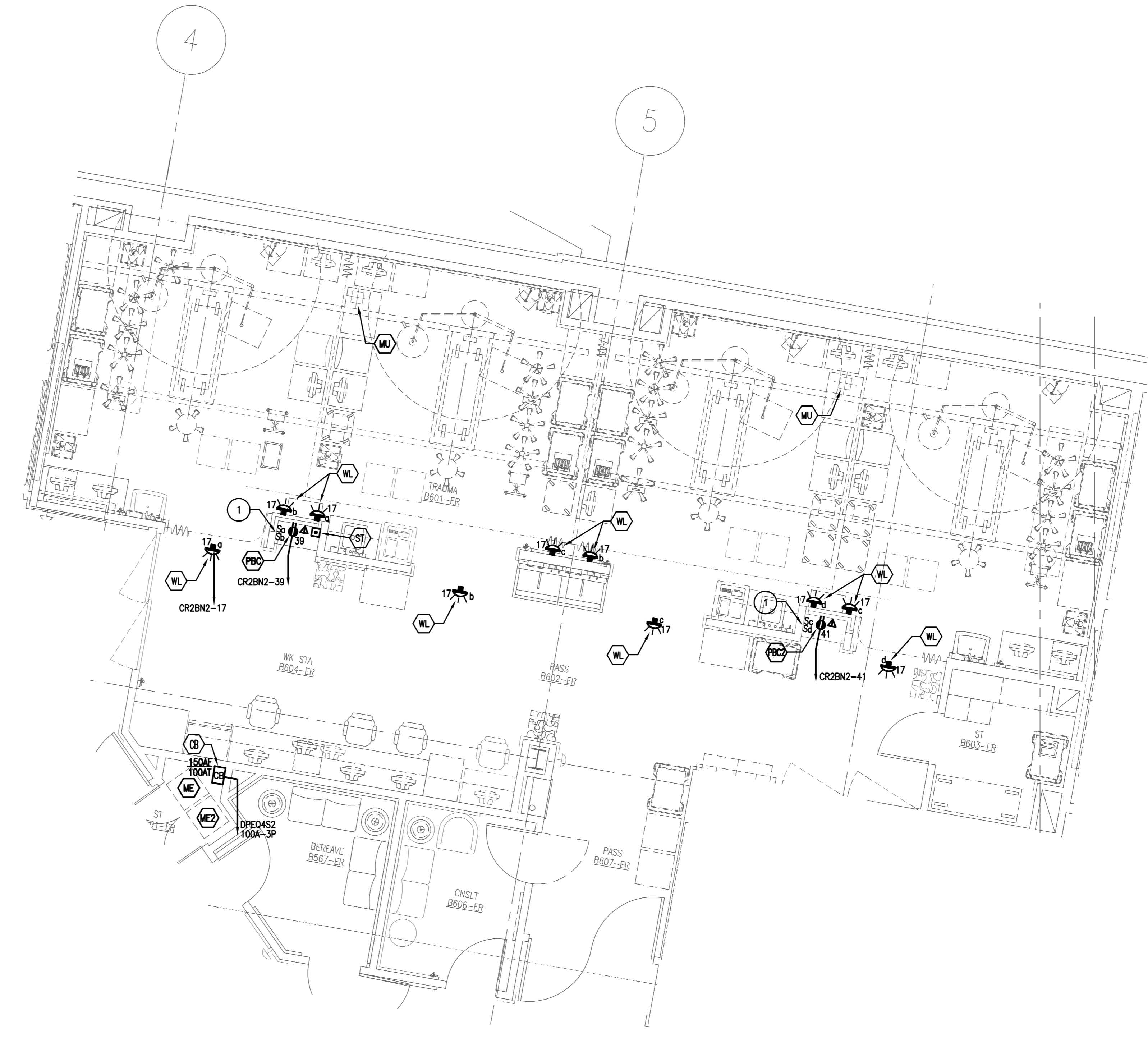
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 ED Expansion and Renovation
 Portland, Maine MMC Project No. 21843

Drawing Title
ELECTRICAL TRAUMA ROOM PART PLAN
 Drawn By AB Commission No. 4696
 Approved By DS Date Issued 12/14/07

Phase / Package Number Sheet Number
E502

COMPONENT DESCRIPTION AND WIRING SCHEDULE			
No.	G.E. COMPONENT	ELECTRICAL CONTRACTOR RESPONSIBILITY	NOTES/COMMENTS
A FURNISHED AND INSTALLED BY PHILIPS B FURNISHED BY CUSTOMER/CONTRACTOR AND INSTALLED BY CUSTOMER/CONTRACTOR C INSTALLED BY CUSTOMER/CONTRACTOR D FURNISHED BY PHILIPS AND INSTALLED BY CONTRACTOR			
B	CB	CIRCUIT BREAKER	(1) 100A CIRCUIT BREAKER WITH SHUNT TRIP AND LOAD SIDE PRESSUR LUGS FOR #2 AWG EXTRA FLEXIBLE CABLE (T + B TYPE 31009 "LOCKTIGHT" OR SIMILAR) RUN POWER FROM BREAKER TO WALL BOX "ME" LEAVING AN 8' TAIL.
B	ST	SUNT TRIP (EMERGENCY OFF)	(1) LARGE MUSHROOM-HEAD BUTTON ON REMOTE CONTROL STATION WITH CONTACTS TO OPERATE FEATURE OF CB
D	ME	OPTIMUS 80 CONTROL CABINET (40E RACK)	(1) 19 1/4"x67"x4"D FLANGED-EDGE TERMINAL WALL BOX WITH REMOVABLE SCREW-TYPE COVER PLATE, SURFACE MOUNTED 75" AFF TO TOP OF BOX. CONDUITS TO TERMINATE ON TOP AND SIDES OF THE BOX AS REQUIRED.
D	ME2	OPTIMUS 80 CONTROL CABINET (40E RACK)	(1) 19 1/4"x67"x4"D FLANGED-EDGE TERMINAL WALL BOX WITH REMOVABLE SCREW-TYPE COVER PLATE, SURFACE MOUNTED 75" AFF TO TOP OF BOX. CONDUITS TO TERMINATE ON TOP AND SIDES OF THE BOX AS REQUIRED.
B	PBC	OPTIMUS CONTROL PANEL	(1) 6"x6"x4"D PULL BOX WITH REMOVABLE SCREW-TYPE COVER PLATE, SURFACE MOUNTED 22" AFF TO BOTTOM OF BOX.
B	PBC2	OPTIMUS CONTROL PANEL	(1) 6"x6"x4"D PULL BOX WITH REMOVABLE SCREW-TYPE COVER PLATE, SURFACE MOUNTED 22" AFF TO BOTTOM OF BOX.
B	MU	CS 4 TUBE CRANE WITH TRAUMA	(1) 6"x8"x6"D CEILING BOX FLUSH MOUNTED WITH REMOVABLE SCREW-TYPE COVER PLATE.
B	MU2	CS 4 TUBE CRANE WITH TRAUMA	(1) 6"x8"x6"D CEILING BOX FLUSH MOUNTED WITH REMOVABLE SCREW-TYPE COVER PLATE.
B	WL	WARMING LIGHT	(1) INCANDESCENT SURFACE OR FLUSH MOUNTED LIGHT FIXTURE ABOVE DOOR TO INDICATE WHEN X-RAY IS ON. PROVIDE A 115V, 15A NORMALLY OPEN RELAY IN THIS FIXTURE.
B	DS	DOOR SWITCH	(1) 120V, 5A SWITCH LIMITED TO OPEN WHEN DOOR IS OPEN. MOUNT IN UPPER CORNER ON STRIKE SIDE OF MAIN ENTRY DOOR(S). COOPER #1665 OR EQUIVALENT.



TRAUMA ROOMS PART PLAN
 1/4"=1'-0"

CONDUIT REQUIRED						
GENERAL NOTES						
1. ALL CONDUIT RUNS MUST TAKE MOST DIRECT ROUTE POINT TO POINT. 2. ALL CONDUIT RUNS MUST HAVE A PULL STRING.						
A CONDUIT SUPPLIED/INSTALLED BY CONTRACTOR - PHILIPS CABLES INSTALLED BY PHILIPS B CONDUIT SUPPLIED/INSTALLED BY CONTRACTOR - PHILIPS CABLES INSTALLED BY CONTRACTOR C CONDUIT AND CABLES SUPPLIED AND INSTALLED BY CONTRACTOR						
P POWER / GROUND CABLES S SIGNAL CABLES V VIDEO CABLES H HIGH TENSION POWER CABLES C COOLING HOSES						
CONDUIT RUN No.	FROM	TO	CONDUIT QUANTITY (* CABLE TYPE)	MINIMUM CONDUIT SIZE	DEFAULT CONDUIT LENGTH	SPECIAL REQUIREMENTS
C 1	CB	POWER PANEL	1 (P)	per NEC	per NEC	
B 2	CB	ME	1 (P)	2"	50'	
C 3	CB	ST	1 (P)	3/4"	50'	
C 4	ME	WL	1 (P)	1/2"	50'	
C 5	ME	DS	1 (P)	1/2"	50'	
A 6	ME	PBC	1 (P)	2"	65'	
A 7	ME	PBC2	1 (S)	2"	65'	
A 8	ME	MU	1 (P)	2 1/2"	32'	LONGER CABLES TO BE ORDERED (14m)
A 9	ME	MU2	1 (S)	2 1/2"	32'	LONGER CABLES TO BE ORDERED (14m)
C 10	CB	POWER PANEL	1 (P)	per NEC	per NEC	
B 11	CB	ME	1 (P)	2"	50'	
C 12	CB	ST	1 (P)	3/4"	50'	
C 13	ME2	WL	1 (P)	1/2"	50'	
C 14	ME2	DS	1 (P)	1/2"	50'	
A 15	ME2	PBC	1 (P)	2"	65'	
A 16	ME2	PBC2	1 (S)	2"	65'	
A 17	ME2	MU2	1 (P)	2 1/2"	32'	LONGER CABLES TO BE ORDERED (14m)
A 18	ME2	MU2	1 (S)	2 1/2"	32'	LONGER CABLES TO BE ORDERED (14m)

BRANCH CIRCUIT AND WIRE GAUGE REQUIREMENTS
 OPTIMUS 80/OPTIMUS C

BRANCH POWER:	150 KVA
CIRCUIT BREAKER:	3 POLE, 100 AMPERES (Ø 480V)
MAXIMUM INSTANTANEOUS POWER:	158 KVA (800 MA @ 100 KV) (SHORT-TERM) <8 AMPS (STAND-BY/LONG-TERM)
RECOMMENDED CONDUCTOR SIZES FOR 1% IMPEDANCE OF BRANCH CONDUCTORS. BASED ON 20°C COPPER CONDUCTORS:	
	460 VAC 480 VAC
#1 AWG	87 ft. 96 ft.
1/0 AWG	110 ft. 121 ft.
2/0 AWG	139 ft. 152 ft.
3/0 AWG	175 ft. 192 ft.
4/0 AWG	221 ft. 242 ft.
250 MCM	261 ft. 287 ft.
300 MCM	313 ft. 344 ft.
400 MCM	418 ft. 459 ft.
500 MCM	522 ft. 574 ft.
INST. CURRENT	200 A 190 A
MAX. PHASE-PHASE IMPEDANCE	0.2 W 0.2 W
MAX. LOAD VOLTAGE DROP	40.0 V 38.0 V
PERCENT REGULATION AT MAXIMUM LOAD	8.7 % 7.9 %
MINIMUM COPPER WIRE SIZE, CIRCUIT BREAKER TO EQUIPMENT:	#2

PHILIPS EQUIPMENT NOTES:

- ELECTRICAL DUCTS AND BOXES SHALL BE ACCESSIBLE AND HAVE REMOVABLE COVERS. FLOOR DUCTS AND BOXES SHALL HAVE WATERIGHT COVERS. DUCTS SHALL BE DIVIDED INTO AS MANY AS THREE SEPARATE CHANNELS BY METAL DIVIDERS TO SEPARATE WIRING AND/OR CABLES INTO GROUPS AS FOLLOWS:
 GROUP "A" - POWER WIRING AND/OR CABLES
 GROUP "B" - SIGNAL AND/OR DATA AND PROTECTIVE GROUND WIRING AND/OR CABLES
 GROUP "C" - X-RAY HIGH VOLTAGE CABLES. THE USE OF 90° ELBS IS NOT ACCEPTABLE ON CEILING DUCT AND WALL DUCT UDE 45 DEG. BENDS AT ALL CORNERS. ALL INTERSECTING POINTS IN DUCT TO HAVE CROSS OVER TUNNELS SUPPLIED AND INSTALLED BY CONTRACTOR TO MAINTAIN SEPARATION OF CABLES.
- CONDUIT POINT-TO-POINT RUNS SHALL BE AS DIRECT AS POSSIBLE. EMPTY CONDUIT RUNS USED FOR CABLES MAY REQUIRE PULL BOXES LOCATED ALONG THE RUN. CONSULT WITH PHILIPS. A PULL WIRE OR CORD SHALL BE INSTALLED IN EACH CONDUIT RUN. ALL CONDUITS WHICH ENTER DUCT PRIOR TO THEIR TERMINATION POINT MUST MAINTAIN SEPARATION FROM OTHER CABLES VIA USE OF DIVIDERS. CROSS OVER TUNNELS OR FLEX CONDUIT SUPPLIED AND INSTALLED BY CONTRACTOR FROM ENTRANCE INTO DUCT TO EXIT FROM DUCT.
- ALL CONDUCTORS SHALL BE 75°C STRANDED COPPER, RING OUT AND MARKED.
- ELECTRICAL RACEWAY SHALL BE INSTALLED WITH REMOVABLE COVERS. THE RACEWAY SHOULD BE ACCESSIBLE FOR THE ENTIRE LENGTH. IN CASE OF NON-ACCESSIBLE FLOORS, WALLS AND CEILINGS, AN ADEQUATE NUMBER OF ACCESS HUTCHES SHOULD BE SUPPLIED TO ENABLE INSTALLATION OF CABLING. APPROVED CONDUITS MAY BE SUBSTITUTED. ALL RACEWAYS WILL BE DESIGNED IN A MANNER THAT WILL NOT ALLOW CABLES TO FALL OUT OF THE RACEWAY WHEN THE COVERS ARE REMOVED. CONDUIT OR RACEWAY ABOVE CEILING MUST BE KEPT AS NEAR TO FINISHED CEILING AS POSSIBLE.
- ALL SECTIONS OF RACEWAY AND CONDUIT SHALL BE GROUNDED WITH AN INDEPENDENT #6 AWG GREEN WIRE THAT IS TO BE ATTACHED USING SOLDERLESS LUGS. ALL CEILING MOUNTED STRUCTURAL SUPPORT MEMBERS AND CEILING PLATES SHALL ALSO BE GROUNDED. ALL GROUNDING CONNECTIONS, TERMINALS, ETC. SHALL BE INSTALLED IN A MANNER TO PROVIDE ACCESSIBILITY FOR INSPECTION, MAINTENANCE, REPAIR, ETC.
- NEUTRAL AND GROUND CONDUCTORS TO BE SIZED EQUIVALENTLY TO PHASE CONDUCTORS, UNLESS OTHERWISE NOTED.
- METAL CONDUIT SHALL NOT BE USED AS THE EQUIPMENT GROUND CONDUCTOR.