ELECTRICAL LEGEND

NOTES:
- ALL MOUNTING HEIGHTS GIVEN ARE TO CENTERLINE OF DEVICE UNLESS OTHERWISE NOTED.
- ALL SYMBOL MAY NOT BE USED.

SYMBOL	DESCRIPTION
$a	SINGLE POLE TOGGLE SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$3 a	THREE WAY TOGGLE SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$4 a	FOUR WAY TOGGLE SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$K a	SINGLE POLE KEYED TOGGLE SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$3K a	THREE WAY KEYED TOGGLE SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$4K a	FOUR WAY KEYED TOGGLE SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$DM a	DIMMER SWITCH WITH MOMENTARY ON/OFF BUTTON - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$M a	MOMENTARY ON/OFF SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$LV	LOW VOLTAGE ON/OFF SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$D a	LOW VOLTAGE ON/OFF/DIMMING SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$VS a	WALL MOUNTED DUAL TECHNOLOGY VACANCY SENSOR SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
$OS a	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH - MOUNT AT 48" A.F.F. · SUB-SMALL LETTER INDICATED SWITCH LEG.
ST	THERMAL OVERLOAD SWITCH - MOUNT AT FRACTIONAL HP MOTOR
OS a	CEILING MOUNTED OCCUPANCY SENSOR - DUAL TECHNOLOGY · SUB-SMALL LETTER INDICATED SWITCH LEG.
VS a	CEILING MOUNTED VACANCY SENSOR - DUAL TECHNOLOGY · SUB-SMALL LETTER INDICATED SWITCH LEG.
PC	PHOTOCELL
	INVERTER WITH INTEGRAL BACK-UP BATTERY
PPx a	POWER PACK. · SUB-SMALL LETTER INDICATED SWITCH LEG.
	GROUNDED DUPLEX RECEPTACLE (NEMA5-20R) - MOUNT AT 15" A.F.F. U.N.O.
A	GROUNDED DUPLEX RECEPTACLE (NEMA5-20R) - MOUNT ABOVE COUNTER BACKSPLASH OR 42" A.F.F.
C	GROUNDED DUPLEX RECEPTACLE (NEMA5-20R) - MOUNT AT CEILING
GFI	GROUNDED DUPLEX RECEPTACLE (NEMA5-20R) - GFI TYPE - MOUNT AT 18" A.F.F. U.N.O.
WP	GROUNDED DUPLEX GFI RECEPTACLE (NEMA5-20R) W/ "WEATHERPROOF WHILE IN USE" COVER
	GROUNDED DUPLEX RECEPTACLE (NEMA5-20R) WITH TOP RECEPTACLE CONTROLLER BY SWITCH/SENSOR AND BOTTOM RECEPTACLE SHALL NOT BE CONTROLLED BY SWITCH/SENSOR. CONTROLLED RECEPTACLE SHALL BE PERMANENTLY MARKED AS PER NEC 406.3 (E) AND PROVIDED IN GREEN COLOR.
U	GROUNDED DUPLEX RECEPTACLE WITH INTEGRAL USB-A & USB-C CHARGING PORTS (EQUAL TO HUBBELL, #USB20AC5) - MOUNT AT 15" A.F.F. U.N.O.
	SPECIAL PURPOSE RECEPTACLE - MATCH NEMA CONFIGURATION OF EQUIPMENT SERVED - MOUNT AT 15" A.F.F. U.N.O.
	GROUNDED DOUBLE DUPLEX RECEPTACLE (NEMA5-20R) - MOUNT AT 15" A.F.F. U.N.O.
	GROUNDED DOUBLE DUPLEX RECEPTACLE (NEMA5-20R) WITH TOP RECEPTACLE CONTROLLER BY SWITCH/SENSOR AND BOTTOM RECEPTACLE SHALL NOT BE CONTROLLED BY SWITCH/SENSOR. CONTROLLED RECEPTACLE SHALL BE PERMANENTLY MARKED AS PER NEC 406.3 (E) AND PROVIDED IN GREEN COLOR.
X D-xx	DATA OUTLET W/ JACKS, BACK BOX, 1" CONDUIT TILL CEILING SPACE WITH PULL STRING, ONE 90° ELBOW AND PLASTIC BUSHING AT BOTH ENDS AND CAT6 PLENUM RATED CABLES TO IT RACK - MOUNT AT 15" A.F.F. U.N.O. "X" INDICATE NUMBER OF JACKS IN OUTLET: 1: ONE DATA. 2: TWO DATA. 3: THREE DATA. 4: FOUR DATA. "D-xx" INDICATE OUTLET ID
WAP	WIRELESS ACCESS POINT (WAP) WITH JUNCTION BOX, 1" CONDUIT TILL CEILING SPACE WITH PULL STRING, ONE 90° ELBOW AND PLASTIC BUSHING AT BOTH ENDS WITH TWO (2) CAT6 PLENUM RATED DATA CABLES TO IT RACK.
	FLUSH MOUNTED FLOOR BOX WITH RECEPTACLE AS LISTED ABOVE
	FLUSH MOUNTED FLOOR BOX WITH DATA DEVICES AS LISTED ABOVE
	FLUSH MOUNTED FLOOR BOX WITH RECEPTACLE/DATA DEVICES AS LISTED ABOVE
J J	JUNCTION BOX
	MOTORIZED DAMPER
	MOTOR
	EMERGENCY SWITCH - MOUNT AT 48" A.F.F, M - MASTER, S = SLAVE
	NON-FUSED SAFETY DISCONNECT SWITCH -MOUNT TOP AT 75" A.F.F. U.N.O.
	FUSED SAFETY DISCONNECT SWITCH - MOUNT TOP AT 75" A.F.F. U.N.O.
	PUSH BUTTON
	BUZZER SYSTEM
	STEP DOWN TRANSFORMER
	SURFACE MOUNTED ELECTRIC PANEL - REFER TO PANEL SCHEDULES & POWER RISER DIAGRAM FOR VOLTAGE, RATING AND FEEDER SIZE.
	RECESSED MOUNTED ELECTRIC PANEL - REFER TO PANEL SCHEDULES & POWER RISER DIAGRAM FOR VOLTAGE, RATING AND FEEDER SIZE.
	TRANSFORMER
	LIGHTING CONTROL RELAY PANEL
TC	TIMECLOCK
S	CEILING MOUNTED SPEAKER. PROVIDE JUNCTION BOX AND 1" CONDUIT TILL CEILING SPACE WITH PULL STRING, ONE 90° ELBOW AND PLASTIC BUSHING AT BOTH ENDS. COORDINATE WIRING'S REQUIREMENT WITH SOUND SYSTEM'S VENDOR.
	WALL MOUNTED SPEAKER. PROVIDE JUNCTION BOX AND 1" CONDUIT TILL CEILING SPACE WITH PULL STRING, ONE 90° ELBOW AND PLASTIC BUSHING AT BOTH ENDS. COORDINATE WIRING'S REQUIREMENT WITH SOUND SYSTEM'S VENDOR.
VC	VOLUME CONTROL. PROVIDE JUNCTION BOX AND 1" CONDUIT WITH PULL STRING TO A/V RACK. COORDINATE WIRING'S REQUIREMENT WITH SOUND SYSTEM'S VENDOR.
	BRANCH CIRCUIT WIRING
	BRANCH CIRCUIT FEEDER
	UNSWITCHED BRANCH CIRCUIT WIRING
	ELECTRICAL GROUND

ELECTRICAL DRAWING LIST

APPLICABLE CODES

a. 2011 NYC ELECTRICAL CODE. (NYEC).

b. 2020 NYC ENERGY CONSERVATION CODE (NYECC)

ABBREVIATION

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A	AMPERE	J	JUNCTION BOX
A.F.F.	ABOVE FINISH FLOOR	KEF	KITCHEN EXHAUST FAN
APS	AUXILIARY POWER SUPPLY	LCP	LIGHTING CONTROL PANEL
C	CONDUIT	LTG	LIGHTING
CKT	CIRCUIT	LV	LOW VOLTAGE
CU	CONDENSING UNIT	MCB	MAIN CIRCUIT BREAKER
DE	DEMOLITION	MD	MOTORIZED DAMPER
DF	DESTRATIFICATION FAN	MDP	MAIN DISTRIBUTION PANEL
DWCP	DOMESTIC WATER CIRCULATING PUMP	MH	MOUNTING HEIGHT
E.C.	ELECTRICAL CONTRACTOR	MLO	MAIN LUGS ONLY
EF	EXHAUST FAN	N	NEW
EM	ITEM PROVIDED WITH OR CONNECTED TO EMERGENCY POWER	NL	NIGHT LIGHT
		P	POLE
EMT	ELECTRICAL METALLIC TUBING	PE	PRIMARY ELECTRIC SERVICE
ER	EXISTING TO REMAIN	PP	POWER PANEL
ETP	ELECTRONIC TRAP PRIMER	PVC	POLYVINYL CHLORIDE CONDUIT
ETR	EXISTING TO REMAIN	RE	RELOCATE
EV	EVAPORATOR UNIT	RGS	RIGID GALVANIZED STEEL CONDUIT
EWC	ELECTRIC WATER COOLER	RTU	ROOF TOP UNIT
EWH	ELECTRIC WATER HEATER	SF	SAFETY SWITCH
EX	EXISTING TO REMAIN	SW	SWITCHBOARD
FACP	FIRE ALARM CONTROL PANEL	T.B.D.	TO BE DETERMINED
FATC	FIRE ALARM TERMINAL CABINET	TR	TAMPER RESISTANT
G.C.	GENERAL CONTRACTOR	TV	TELEVISION
GFI	GROUND FAULT INTERRUPTER	TX	TRANSFORMER
HT	HEAT TRACE	U.N.O.	UNLESS NOTED OTHERWISE
HVAC	HEATING VENTILATION AIR CONDITIONING	WH	WATER HEATER
		WP	WEATHER PROOF
IG	ISOLATED GROUND	ZD	ZONE DAMPER

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CURRENT APPLICABLE CODES, ORDINANCES, THE REGULATORY AGENCIES HAVING JURISDICTION AND THE SPECIFICATIONS. THE SPECIFICATIONS MAY EXCEED THE REQUIREMENTS OF THE CODE, THE MOST STRINGENT CONDITION WILL APPLY.
2. THE INTENT OF THESE DOCUMENTS IS FOR THE MEP TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED ELECTRICAL SYSTEM SHALL BE COMPLETE IN ALL RESPECTS; OPERATIONAL, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
3. THE TRADES SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS AND ALL OF THE VARIOUS DOCUMENTS IN THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
4. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATION TO THE EQUIPMENT LAYOUT, REQUIRED FOR INSTALLATION, IS TO BE PERFORMED UNDER THE CONTRACT AGREEMENT, AT NO ADDITIONAL COST. REFER TO DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT AND CONDUITS. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EQUIPMENT AND CONDUITS INSTALLATION WITH ALL THE TRADES BEFORE COMMENCING WORK.
6. EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS, WHEN EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING (GYP BOARD OR EQUIVALENT), OR BEHIND A WALL, AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. IF AN ACCESS DOOR IS REQUIRED, IT SHALL BE OF A RATING APPROPRIATE FOR THE WALL/CEILING IN WHICH IT IS TO BE INSTALLED. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ACCESS PANELS FOR ALL DEVICES, REQUIRING ACCESS, WITH THE ARCHITECT, PRIOR TO INSTALLATION OF SUCH DEVICES OR OTHER APPURTENANCES.
7. WHERE A CONFLICT OCCURS BETWEEN THE DOCUMENTS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
8. THIS CONTRACT SHALL INCLUDE ALL THE NECESSARY CONDUITS, FITTINGS, TRANSITIONS ETC. AS REQUIRED TO INSTALL CONDUITS AND EQUIPMENT, AND TO AVOID ANY CONFLICTS WITH OTHER TRADES AND THE BUILDING STRUCTURE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS HE MAKES AS A RESULT OF HIS FAILURE TO COORDINATE WITH OTHER TRADES OR BECOME FULLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES.
9. DO NOT INSTALL ANY ELECTRICAL PANELS, TRANSFORMERS, SPECIAL EQUIPMENT, BELOW PIPING OR THROUGH MECHANICAL ROOMS, THAT ARE NOT ASSOCIATED WITH OR SERVE THE RESPECTIVE ROOMS. COORDINATE THE LOCATION OF MECHANICAL EQUIPMENT IN THE FIELD AND ADJUST AS NECESSARY.
10. CONTRACTOR TO FOLLOW EXISTING BASE BUILDING PHASING COLOR CODE. IF BASE BUILDING PHASING COLOR CODE IS UNKNOWN, FOLLOW COLOR CODE AS MENTIONED IN SPECIFICATION.
11. FIELD VERIFY WITH MANUFACTURER'S PROVIDED EXACT ELECTRICAL CHARACTERISTICS AND CONNECTION REQUIREMENTS OF ALL OPERATIONAL EQUIPMENT PRIOR TO MAKING ELECTRICAL POWER CONNECTION. FURNISH AND INSTALL SAFETY DISCONNECT AS REQUIRED BY NEC.
12. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF EQUIPMENT WITH DIV. 21, 22 AND 23 PRIOR TO ROUGHING OR INSTALLING OUTLETS.
13. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER, ALL LOCATIONS OF EQUIPMENT BEING FURNISHED BY THE OWNER PRIOR TO ROUGHING OR INSTALLING OUTLETS.
14. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATIONS AND EXACT LOCATION OF DEVICES PRIOR TO ROUGHING OR INSTALLATION OF OUTLETS.
15. REFER TO ARCHITECTS REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF CEILING MOUNTED DEVICES.
16. CONTRACTOR SHALL PROVIDE ALL NECESSARY MISCELLANEOUS STEEL FOR THE SUPPORT OF ALL EQUIPMENT, PIPING, CONDUIT AND DUCTWORK. SUSPENDED FROM SLAB, STEEL, WALL OR TRUSSWORK.
17. ELECTRICAL CONTRACTOR SHALL SEAL ALL CONDUITS PENETRATING EXTERIOR WALLS WITH FIRE STOPPING MATERIAL.
18. ALL PENETRATIONS OF FLOORS AND WALLS (WHETHER OR NOT FIRE RESISTANCE RATED) SHALL BE PROVIDED WITH A THROUGH PENETRATION PROTECTION SYSTEM (FIRESTOPPING). EACH THROUGH - PENETRATION PROTECTION SYSTEM SHALL BE TESTED IN ACCORDANCE WITH ASTM E814 AND BE LISTED FOR THE TYPE OF FLOOR OR WALL ASSEMBLY PENETRATED AND THE TYPE OF PROTECTION SYSTEM.
19. IT IS NOT THE INTENTION TO SHOW EVERY FITTING, HANGER, WIRE OR DEVICE, ALL SUCH ITEMS SHALL BE FURNISHED AND INSTALLED AS NECESSARY FOR A COMPLETE SYSTEM.
20. SEE SPECIFICATION SECTION "ELECTRICAL IDENTIFICATION" FOR PROPERLY LABELING EQUIPMENT WIRING, PANELS, SWITCHBOARD, DISCONNECT SWITCHES, BOXES, CONDUITS,.. ETC.
21. CONTRACTOR SHALL DETERMINE THE QUANTITY OF CONDUCTORS REQUIRED FOR PROPER OPERATION OF ALL SWITCHING SCHEMES.
22. SEISMICALLY SUPPORT THE EQUIPMENT AS REQUIRED BY CODE, THE AUTHORITY HAVING JURISDICTION, AND/OR AS SPECIFIED. SUBMIT ENGINEERED INSTALLATION DETAILS PER THE SPECIFICATIONS. THE CONTRACTOR'S SEISMIC ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A DETAILED REPORT FOR THE RECORD.
23. PROVIDE ALL BONDING AND GROUNDING REQUIRED BY THE NATIONAL ELECTRIC CODE, NFPA 70 AND AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
24. ALL REQUIRED BONDING CONDUCTORS SHALL BE MINIMUM #8 SOLID INSULATED COPPER, PROVIDE ALL NECESSARY FITTINGS, JUNCTION BOXES, END FITTINGS, ETC., FOR A COMPLETE, CONTINUOUS INSTALLATIONS.
25. ALL BONDING/GROUNDING CONNECTIONS SHALL BE MADE BY LISTED CLAMP OR CONNECTORS AS REQUIRED BY ARTICLE 250 OF NFPA 70, THE NATIONAL ELECTRIC CODE (CURRENT ADOPTED EDITION).
26. AN INSULATED (GREEN) EQUIPMENT GROUND WIRES SHALL BE PROVIDED WITH ALL FEEDERS AND BRANCH CIRCUITS.
27. AN EXTRA SEPARATE ISOLATED GROUND CONDUCTOR SHALL BE PROVIDED FOR EACH ISOLATED GROUND RECEPTACLE IN ADDITION TO THE REGULAR GROUND CONDUCTOR. THIS EXTRA SEPARATE ISOLATED GROUND CONDUCTOR SHALL BE TERMINATED AT THE GROUND BAR OF THE MAIN PANEL BOARD AND IS NOT ALLOWED TO GROUND RACEWAYS, BOXES...ETC.
28. ISOLATED GROUND RECEPTACLES SHALL BE IDENTIFIED BY ORANGE TRIANGLE LOCATED ON THE FACE OF THE RECEPTACLE.
29. RECEPTACLE CONTROLLED BY SWITCH SHALL BE PERMANENTLY MARKED AS PER NEC 406.3 (E).
30. RECEPTACLES LOCATED WITHIN 6' OF A WATER SOURCE, OR OUTSIDE, AND WHERE REQUIRED BY CODE SHALL BE PROVIDED WITH GFCI PROTECTION, WHETHER INDICATED OR NOT.
31. EXTERIOR RECEPTACLES SHALL BE PROVIDED WITH "CAST ALUMINUM" LOCKABLE COVERS RATED "WEATHER-PROOF WHILE IN USE". LOCKS SHALL BE KEYED ALIKE.
32. ALL 15- AND 20-AMPERE, 125V- AND 250-VOLT NON-LOCKING RECEPTACLE SHALL BE LISTED TAMPER RESISTANT.
33. WHERE INDICATED, PROVIDE FIXTURES WITH EMERGENCY BATTERY TO OPERATE LAMPS FOR 1 1/2 HOURS UPON LOSS OF NORMAL POWER. WIRE EMERGENCY BATTERY AND EXIT LIGHTS TO LINE SIDE OF AREA LIGHTING CIRCUIT.
34. DIRECTIONAL CHEVRONS FOR EXIT SIGN SHALL CONFORM TO NFPA 5-10.4.1.2 AND SHALL BE IDENTIFIABLE AS A DIRECTIONAL INDICATOR AT A MINIMUM OF 40 FT. UNDER ALL SPACE CONDITIONS. PROVIDE DIRECTIONAL CHEVRONS AS INDICATED ON PLAN.
35. VERIFY ALL LIGHT FIXTURE FINISHES WITH ARCHITECT/OWNER PRIOR TO PURCHASE.
36. VERIFY ALL LIGHT FIXTURE MOUNTING HEIGHTS WITH ARCHITECT/OWNER PRIOR TO INSTALLING LIGHT FIXTURE.
37. VERIFY LOCATION OF ALL OUTLETS WITH OWNER PRIOR TO ANY WORK
38. ALL 1 POLE, 15 AND 20 AMPERE BRANCH CIRCUITS SERVING RECEPTACLE OR LIGHTING SHALL BE 2 WIRE CIRCUITS PROVIDING AN INDIVIDUAL NEUTRAL CONDUCTOR FOR EACH UNGROUNDED (HOT) CIRCUIT CONDUCTOR. DO NOT SHARE NEUTRAL CONDUCTORS.
39. BRANCH CIRCUIT WIRING IS SHOWN ON THE FLOOR PLANS. NUMERALS ADJACENT TO THE HOMERUN SYMBOLS FOR LIGHTING, RECEPTACLES, MOTORS, APPLIANCES, ETC. INDICATE THE CIRCUIT NUMBER TO WHICH THE ITEMS ARE TO BE CONNECTED. PROVIDE BRANCH CIRCUIT WIRING FOR ALL ITEMS SHOWN IN ACCORDANCE WITH THESE GENERAL NOTES AND THE ELECTRICAL SPECIFICATIONS.
40. ALL FEEDERS & BRANCH CIRCUITS SHALL BE COPPER.
41. ALL HOMERUNS SHALL BE 2#12, 1#12G., 3/4"C TO 20A-1P CIRCUIT BREAKER IN PANEL DESIGNATED UNLESS OTHERWISE NOTED.
42. ALL 120 VAC CIRCUITS EXCEEDING 75' IN LENGTH SHALL BE INCREASED TO 2#10, 1#10G, 3/4" CONDUIT.
43. ALL 120 VAC CIRCUITS EXCEEDING 150' IN LENGTH SHALL BE INCREASED TO 2#8, 1#10G, 3/4" CONDUIT.
44. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH SEPARATE NEUTRALS. USE OF COMMON NEUTRALS WILL NOT BE ALLOWED.
45. ALL WIRING SHALL BE IN CONDUIT, UNLESS OTHERWISE INDICATED. CONDUITS SHALL BE RUN CONCEALED IN NEW AND ABOVE CEILINGS.
46. ALL EXPOSED WIRING IN CEILING OR INTERIOR WALLS MUST BE IN EMT.
47. METAL CLAD CABLE "MC" MAY BE USED ABOVE ACCESSIBLE CEILINGS AND IN DRYWALL. FOR RECEPTACLES AND LIGHTING FIXTURES ONLY. MC CABLE IS LIMITED TO BRANCH CIRCUITS NOT EXCEEDING 30AMP. HOME RUN FROM FIRST RECEPTACLE/LIGHT FIXTURE TO PANEL BOARD SHALL BE IN CONDUIT.
48. ALL HOME RUNS FROM FIRST RECEPTACLE/LIGHT FIXTURE/KITCHEN EQUIPMENT/HVAC EQUIPMENT...ETC TO PANEL BOARD SHALL BE IN CONDUIT.
49. NO "MC" CABLE IS ALLOWED IN DEMISING WALLS.
50. CABLES TYPES NM, NMC, NMS AND ROMEX IS NOT PERMITTED.
51. FLEXIBLE CONDUIT MAY BE USED ONLY FOR FINAL CONNECTIONS FROM OUTLET/JUNCTION BOXES TO LIGHT FIXTURES, MOTORS, APPLIANCES..ETC. LENGTH OF FLEXIBLE CONDUITS SHALL NOT EXCEED 6'.
52. ALL EXPOSED CABLES OF ANY TYPE IN PLENUM CEILING SPACE SHALL BE PLENUM RATED.
53. NO MORE THAN FOUR (4) 90 DEGREE BENDS IN ONE RUN FOR ELECTRICAL POWER SYSTEM.
54. ALL EMPTY CONDUITS SHALL HAVE A PULL STRING WITH A MINIMUM 10' OF SLACK ON BOTH END.
55. CONTRACTOR TO INSTALL EXPOSED CONDUIT IN NEAT AND ORGANIZED WAY IN STRAIGHT LINES AND PARALLEL OR IN RIGHT ANGLES TO THE BUILDING STRUCTURE. DO NOT LOOP EXCESS FLEXIBLE CONDUIT IN CEILING SPACE OR WALL CAVITY.
56. CONTRACTOR TO PROVIDE RIGHT ANGLES TURNS USING FITTINGS OR SYMMETRICAL BENDS.
57. CONTRACTOR TO PAINT ALL EXPOSED CONDUITS.
58. NO CONDUIT TO BE SUPPORTED FROM THE DECK.
59. CONTRACTOR TO RUN CONDUITS ABOVE SUSPENDED CEILING AND UP-HIGH AS POSSIBLE IN AREAS WITH NO SUSPENDED CEILING.
60. CONDUITS INSTALLED ON ROOF SHALL HAVE A MINIMUM DISTANCE OF 7/8" BETWEEN BOTTOM OF CONDUIT AND TOP OF ROOF OTHERWISE CONTRACTOR TO USE "XHHW-2" INSULATED CONDUCTOR "AS PER NFPA 310.15(B)(3)(C).".
61. NO MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS TO BE INSTALLED IN ONE CONDUIT. IF MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS INSTALLED IN ONE CONDUIT, CONTRACTOR TO ADJUST THE SIZE WIRING AS PER TABLE 310.15(B)(3)(a), NEC 2017.
62. ALL EQUIPMENT, DEVICES AND FIXTURES SHALL BE GROUNDED IN COMPLIANCE WITH NEC & UL REQUIREMENT.
63. ALL ELECTRICAL PANELS TO BE UL LABELED WITH BOLT ON TYPE CIRCUIT BREAKER.
64. VERIFY EXACT LOCATION AND ELECTRICAL REQUIREMENT OF ALL HVAC EQUIPMENT WITH MECHANICAL DRAWINGS PRIOR TO ANY WORK AND MODIFY AS NEEDED.
65. VERIFY EXACT LOCATION AND ELECTRICAL REQUIREMENT OF ELECTRIC WATER HEATER WITH PLUMBING DRAWINGS PRIOR TO ANY WORK AND MODIFY AS NEEDED.
66. COORDINATE ALL FLOOR CUT MEANS (TRENCHING/CORING) OF EXISTING FLOOR SLAB WITH LANDLORD PRIOR TO ANY WORK.
67. FLOOR OUTLETS SHALL BE FED FROM THE NEAREST AVAILABLE FULL HEIGHT WALL. CONTRACTOR TO COORDINATE CONDUIT ROUTING AND TRENCHING OF EXISTING FLOOR SLAB WITH LANDLORD AND EXISTING CONDITION IN THE FIELD PRIOR TO ANY WORK. SEAL ALL PENETRATION WITH FIRE STOPPING MATERIALS (TYPICAL NOTE).
68. NOTHING IS PERMITTED TO BE ATTACHED TO, SUSPENDED FROM OR PENETRATE LANDLORD'S STRUCTURE, FLOOR DECK OR ROOF DECK. TENANT'S CONTRACTOR MAY ATTACH, NON-DESTRUCTIVELY, TO OR SUSPEND FROM THE TOP CHORD OF THE JOIST OR THE STRUCTURE STEEL WHICH EXISTS ABOVE TENANT SPACE. WHEN ATTACHING TO LANDLORD'S STRUCTURE, DO NOT DRILL, WELD, SCREW OR SHOOT INTO STRUCTURE, ALTERNATIVE METHODS OF ATTACHMENT ONLY, NOTHING TO DAMAGE LANDLORD'S BASE BUILDING STRUCTURE. TENANT'S CONTRACTOR SHALL PROVIDE SIGNED AND SEALED STRUCTURAL DRAWINGS BY A STRUCTURAL ENGINEER WITH LEGALLY ACTIVE REGISTRATION AS INDICATED BY ALL JURISDICTIONAL REQUIREMENTS, FOR ALL ELECTRICAL INSTALLATION AND ALL STRUCTURE MODIFICATIONS FOR LANDLORD RECORDS.
69. SLAB ON GRADE:
70. TENANT'S GENERAL CONTRACTOR SHALL ADVISE THE OPERATION TEAM PRIOR TO ANY SLAB MODIFICATION OR REMOVAL. TENANT'S GENERAL CONTRACTOR SHALL VERIFY THAT WORK SHALL NOT CONFLICT WITH ANY EXISTING STRUCTURE, UTILITY OR OTHER UNDER-SLAB CONDITION. NON-DESTRUCTIVE VERIFICATION MAYBE REQUIRED. ANY DAMAGE OR DOWNTIME CAUSED BY TENANT'S GENERAL CONTRACTOR WORK SHALL BE REPAIRED AND REIMBURSED AT TENANT'S GENERAL CONTRACTOR EXPENSES.
71. ELEVATED SLABS:
72. TENANT'S GENERAL CONTRACTOR SHALL ADVISE THE OPERATION TEAM PRIOR TO ANY SLAB MODIFICATION OR REMOVAL. IF ANY ELEVATED SLAB IS TO BE MODIFIED IN ANYWAY (DRILLED, CORED OR PENETRATED), TENANT'S GENERAL CONTRACTOR SHALL PROVIDE STAMPED AND CERTIFIED DRAWINGS BY A LICENSED STRUCTURAL ENGINEER CERTIFIED IN THE LOCAL JURISDICTION. ALL PENETRATIONS SHALL BE CORE BORED ONLY. SAW CUTTING, JACK HAMMERING AND TRENCHING IS STRICTLY PROHIBITED. ALL PENETRATIONS SHALL BE SLEEVED, SEALED, FIRE STOPPED AND WATERPROOFED. THE PENETRATION SLEEVE SHALL EXTEND A MINIMUM OF 4" ON EITHER SIDE OF THE SLAB AND BE LABELED WITH THE REQUIRED NFPA RATING. TENANT'S GENERAL CONTRACTOR SHALL VERIFY THAT WORK SHALL NOT CONFLICT WITH ANY EXISTING STRUCTURE, UTILITY OR OTHER UNDER-SLAB CONDITION. NON-DESTRUCTIVE VERIFICATION MAYBE REQUIRED. ANY DAMAGE OR DOWNTIME CAUSED BY TENANT'S GENERAL CONTRACTOR WORK SHALL BE REPAIRED AND REIMBURSED AT TENANT'S GENERAL CONTRACTOR EXPENSES.
73. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED SLEEVES AND FIRE STOP FOR CONDUITS AND CABLES PENETRATING FIRE RATED WALLS AND FLOORS.
74. ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF DUCT SMOKE DETECTORS WITH DIV. 23. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR, INSTALLED BY DIV. 23.
75. CONDUITS AND/OR WIRING SHALL NOT PENETRATE STAIR ENCLOSURES UNLESS SPECIFICALLY SERVING EQUIPMENT OR DEVICES LOCATED WITHIN STAIR ENCLOSURE.
76. ANY CONDUITS, WIRING, CIRCUITS, FIRE ALARM LOOPS, DEVICES, EQUIPMENT,...ETC RELATED FOR LANDLORD'S SYSTEM INSIDE TENANT'S SPACE TO REMAIN, VERIFY WITH LANDLORD.
77. ROOF PENETRATION IF NEEDED SHALL BE DONE BY LANDLORD'S ROOF CONTRACTOR AT ELECTRICAL CONTRACTOR EXPENSES TO MAINTAIN ROOF WARRANTY. CONTRACTOR TO COORDINATE WITH LANDLORD PRIOR TO ANY WORK.
78. ELECTRICAL CONTRACTOR TO COORDINATE WITH ELECTRICAL INSPECTOR TO FILED VERIFY THE EXIT AND MEANS OF EGRESS LIGHTING ONCE ALL FIXTURE, FURNITURE,..ETC ARE IN PLACE. ELECTRICAL CONTRACTOR TO PROVIDE ADDITIONAL EXIT SIGN/EMERGENCY LIGHT AS REQUIRED.
79. WATER HEATER SHALL BE JUMPERED BETWEEN THE COLD AND HOT WATER PIPES WITH A JUMPER SIZED ACCORDING TO NEC TABLE 250.66, PER NEC 250.104(A)(1).
80. CONTRACTOR TO MAINTAIN THE PROPER CLEARANCES FOR THE ELECTRICAL PANELS/SWITCHBOARD AND NOT USED AS STORAGE. CLEARANCE IN FRONT OF PANEL/SWITCHGEAR SHALL BE AS PER NEC 110.26.
81. CONTRACTOR TO PROVIDE EQUIPMENT GROUNDING CONDUCTOR SUITABLE FOR CONDUCTOR'S SIZE. ANY INCREASE IN CONDUCTOR SIZE IN ORDER TO COMPENSATE FOR VOLTAGE DROP REQUIRES A PROPORTIONAL INCREASE IN THE SIZE OF THE EQUIPMENT GROUNDING CONDUCTOR FOR THAT FEEDER OR CIRCUIT.
82. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE SHORT CIRCUIT STUDY, ARC FLASH LABEL AND COORDINATION STUDY FOR ALL PANEL BOARDS PRIOR OF PURCHASING OR SUBMITTAL.
83. AIC RATING OF PANEL BOARDS IS SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE TO VERIFY AIC RATING OF EACH PANEL BOARDS VIA SHORT CIRCUIT STUDY.
84. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO REPLACE ANY DEVICES/EQUIPMENT AS REQUIRED BY SHORT CIRCUIT STUDY AND COORDINATION STUDY REPORTS.
85. ELECTRICAL CONTRACTOR TO PROVIDE LABEL ON EACH POWER PANEL INDICATES THE MAXIMUM AVAILABLE FAULT CURRENT.
86. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO BALANCE ALL PHASES WITHIN 10% USING ACTUAL LOADS.
87. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE PRINTED CIRCUIT DIRECTORY FOR EACH PANEL BOARD (EITHER NEW PANEL OR EXISTING PANEL) IN PROTECTIVE PLASTIC SLEEVE. CIRCUIT DIRECTORY FOR EACH PANEL SHALL ENOUGH DETAIL SO THAT EACH CIRCUIT CAN BE DISTINGUISHED FROM ALL OTHERS.
88. ALL PANELS SHALL BE UL LABELED WITH BOLT ON TYPE CIRCUIT BREAKERS. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE LABEL/TAGS FOR EACH PANEL BOARD & DISCONNECT SWITCH. LABEL/TAG SHALL INDICATES NAME OF PANEL/DISCONNECT SWITCH, SOURCE OF ORIGIN, VOLTAGE, NUMBER OF PHASES AND AMPERAGE. FOR DISCONNECT SWITCH, INDICATES NAME OF LOAD/EQUIPMENT BEING SERVED BY DISCONNECT SWITCH. ALL PANELS SHALL NOT BE RECESSED IN DEMISING AND SHALL BE MOUNTED ON PLYWOOD BACKER PANELS UNLESS RECESSED INTO A FURRED OUT OR INTERIOR WALL.

ELECTRICAL DEMOLITION GENERAL NOTES

1. BEFORE SUBMITTING BID, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BECOME FULLY FAMILIAR WITH THE EXISTING CONDITIONS AND THE DOCUMENTS OF OTHER TRADES UNDER WHICH THEIR WORK WILL BE ACCOMPLISHED. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS MADE AS A RESULT OF FAILURE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS.
2. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ANY DAILY INTERRUPTIONS OR SHUTDOWNS OF THE EXISTING SYSTEMS IN ADVANCE WITH OWNER'S DESIGNATED REPRESENTATIVE. THIS SHALL INCLUDE SERVICES INTERRUPTIONS AND CONNECTIONS, MECHANICAL AND ELECTRICAL DISRUPTIONS EFFECTING OTHER TRADES. INCLUDE ALL WORK REQUIRED TO ALLOW PHASED CONSTRUCTION WHERE NECESSARY.
3. DEMOLITION DRAWINGS ARE STRICTLY DIAGRAMMATIC AND SHOW GENERAL ARRANGEMENT AND APPROXIMATE LOCATION OF EXISTING MECHANICAL AND ELECTRICAL EQUIPMENT. IT IS NOT THE INTENT OF THESE DRAWINGS TO SHOW ALL EQUIPMENT, PIPING OR CONDUIT TO BE REMOVED. EQUIPMENT NOT BEING REUSED SHALL BE REMOVED, INCLUDING ALL ASSOCIATED HANGERS, SUPPORTS, PIPES, CONDUITS, WIRES, AND CONTROLS BACK TO THE POINT OF ORIGIN.
4. REFER TO THE ARCHITECTURAL DEMOLITION DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. THE FULL EXTENT OF THE DEMOLITION AND RECONSTRUCTION SCOPE OF WORK SHALL BE DETERMINED BY THE ENTIRE SET OF BID DOCUMENTS.
5. THE CONTRACTORS SHALL COORDINATE THE DEMOLITION SCOPE OF WORK WITH THE GENERAL CONTRACTOR'S OR CONSTRUCTION MANAGER'S PHASING SCHEDULE PRIOR TO COMMENCEMENT OF WORK. CARE MUST BE TAKEN SO AS NOT TO DESTROY, REMOVE OR DEMOLISH ANY EQUIPMENT, APPURTENANCES OR DEVICES INTENDED TO REMAIN. PROVIDE TEMPORARY SERVICES AND SYSTEM MODIFICATIONS TO ACCOMMODATE CONTINUOUS OPERATION OF ACTIVE SYSTEM.
6. THE LOCATION OF EXISTING ELECTRICAL SYSTEM SHOWN ON FLOOR PLANS, IS BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD VERIFY PRIOR TO COMMENCEMENT OF CONSTRUCTION, EXACT QUANTITY AND LOCATION(S) OF EXISTING EQUIPMENT, PANELS, CONDUITS, LIGHTING, ETC. TO BE REMOVED AND ADJUST AS NECESSARY.
7. ALL EQUIPMENT, AND ASSOCIATED WIRING, CONDUITS INDICATED TO BE REMOVED OR RELOCATED, SHALL BE DISCONNECTED AND REMOVED, INCLUDING HANGERS AND OTHER COMPONENTS. NO EQUIPMENT, WIRING OR CONDUITS SHALL BE ABANDONED IN PLACE, UNLESS SPECIFICALLY NOTED.
8. ALL SYSTEMS TO BE REMOVED SHALL BE REMOVED BACK TO THE POINT OF SOURCE. THE CONTRACTOR SHALL VERIFY WHICH SYSTEMS MUST REMAIN ACTIVE TO SERVE ADJACENT SPACES DURING CONSTRUCTION. SHOULD THE CONTRACTOR ENCOUNTER, DURING DEMOLITION OF EXISTING WALLS OR CHASES, ANY WIRING OR CONDUIT WHICH MUST REMAIN ACTIVE, IMMEDIATELY GIVE NOTICE TO THE ENGINEER, GENERAL CONTRACTOR OR CONSTRUCTION MANAGER.
9. ALL SALVAGEABLE MATERIALS OR EQUIPMENT TO BE REMOVED SHALL BE TURNED OVER TO THE OWNER AT THE END OF EACH DAY. ITEMS REMOVED AND NOT REUSED OR CLAIMED BY THE OWNER SHALL BECOME PROPERTY OF THE TRADE CONTRACTOR AND SHALL BE TRANSPORTED FROM THE SITE. SITE STORAGE OF REMOVED ITEMS WILL NOT BE PERMITTED.
10. PROPERLY DISPOSE OF ALL DEMOLISHED EQUIPMENT IN COMPLIANCE WITH CODES AND REGULATIONS; THIS APPLIES TO HAZARDOUS MATERIALS AND CONTAMINATED ITEMS TO BE DEMOLISHED.
11. THE CONTRACTOR SHALL OBTAIN EXISTING ELECTRICAL DRAWINGS FROM THE OWNER IF AVAILABLE TO HELP DETERMINE FULL SCOPE OF WORK.
12. PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES BY DEMOLITION WORK.
13. RETURN ELEMENTS OF CONSTRUCTION AND SURFACES TO REMAIN TO CONDITION EXISTING PRIOR TO START OF DEMOLITION. REPAIR ADJACENT CONSTRUCTION OR SURFACE SOILED OR DAMAGED BY DEMOLITION WORK.
14. CONTRACTOR SHALL DEMOLISH THE WIRING THAT IS NO LONGER IN SERVICE COMPLETELY BACK TO SOURCE. EXISTING CONDUIT AND WIRING FOR BRANCH CIRCUITS SHALL NOT BE REUSED UNLESS OTHERWISE NOTED. CIRCUITS THAT REMAIN SHALL BE LEFT IN OPERATING CONDITION.
15. WHERE EXISTING CONDUITS ARE CONCEALED, REMOVE EXISTING CONDUCTORS AND CUT CONDUIT FLUSH WITH SURROUNDING SURFACE AND CAP.
16. CONTRACTOR SHALL PROVIDE HEAVY DUTY COVER FOR BACK BOXES INSTALLED IN COLUMNS OR EXISTING WALLS TO REMAIN. PAINT COVER TO MATCH SURROUNDING SURFACE.
17. CONTRACTOR TO SEAL ANY PENETRATION WITH FIRE STOPPING MATERIALS.
18. ANY UNUSED ELECTRICAL EQUIPMENT, FEEDERS, CONDUITS, PANELS,..ETC WITHIN THE PREMISES MUST BE COMPLETELY REMOVED TO POINT OF ORIGIN. DO NOT ABANDON IN PLACE.
19. CONTRACTOR SHALL CONFIRM THAT ANY CONDUIT, WIRING CIRCUITS, FIRE ALARM LOOPS...ETC THAT FEED ANY EQUIPMENT OUTSIDE OF SCOPE OF WORK SPACE SHALL MAINTAINED AND KEPT IN GOOD WORKING CONDITIONS.
20. CONTRACTOR SHALL REFERENCE ARCHITECTURAL AND ELECTRICAL PLANS FOR MORE INFORMATION.
21. COORDINATE DEMOLITION WORK WITH ALL OTHER TRADES.
22. CONTRACTOR IS RESPONSIBLE TO VERIFY THE EXACT LOCATION OF ALL EXISTING DEVICES (LIGHTING FIXTURES, RECEPTACLES. SWITCHES, TELEPHONE/DATA OUTLETS, FIRE ALARM DEVICES, PANELS.... ETC) AT THE FILED.
23. CONTRACTOR SHALL CONFIRM THAT ANY CONDUITS, WIRING, CIRCUITS, FIRE ALARM LOOPS. DEVICES, EQUIPMENT,..ETC RELATED FOR LANDLORD'S SYSTEM INSIDE TENANT'S SPACE TO REMAIN.
24. INDICATED HERE OF EXISTING LAYOUT IS GENERAL IN NATURAL AND SHALL NOT RELIEVE THE CONTRACTOR FROM VERIFYING ALL CONDITIONS IN THE FILED.
25. STORAGE OR SALE OF UNREGULATED REMOVED ITEMS ON THE SITE WILL NOT BE PERMITTED.
26. UPON COMPLETION OF DEMOLISH WORK, REMOVE TOOLS, EQUIPMENT AND DEMOLISHED MATERIALS FROM SITE.
27. LEAVE INTERIOR AREAS BROOM CLEAN.
28. ALL MATERIALS REMOVED UNDER THIS DIVISION AND NOT SCHEDULED FOR REUSE OR REQUESTED BY THE OWNER, SHALL BE DISPOSED OF OFF SITE.
29. DEMOLITION PLANS ARE BASED ON THE AVAILABLE INFORMATION AND FOR REFERENCE ONLY.

WOLF AND SHEPHERD

WOLF AND SHEPHERD

△ ISSUANCE NAME	DATE

ELECTRICAL LEGENDS & DETAILS

E-001.00

GENERAL

1. REQUIREMENTS SPECIFIED ON COVER SHEET, ALONG WITH ELECTRICAL SPECIFICATIONS AND ALL ITS SECTIONS, COMPRISE THE CONTRACT DOCUMENTS FOR THE ELECTRICAL CONTRACT. DRAWINGS AND ALL THEIR REVISIONS UP TO THE BID SUBMITTAL DATE BECOME A BINDING PART OF THE CONTRACT, ALONG WITH THESE SPECIFICATIONS AS THOUGH THEY WERE ONE, AND ANYTHING IMPLIED BY THE SPECIFICATIONS SHALL BE INTERPRETED AS ALSO IMPLIED BY THE DRAWINGS AND VICE VERSA. PROVIDE NECESSARY ITEMS FOR A COMPLETE INSTALLATION OF ALL ELECTRICALLY OPERATED EQUIPMENT LISTED IN THE SPECIFICATIONS OR SHOWN ON THE CONTRACT DRAWINGS.
2. THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND EQUIPMENT DRAWINGS AND SPECIFICATIONS ARE INCORPORATED INTO, AND BECOME A PART OF THIS DIVISION. THIS CONTRACTOR SHALL EXAMINE ALL SUCH DRAWINGS AND SPECIFICATIONS AND BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS CONTAINED THEREIN. THE SUBMISSION OF HIS BID SHALL INDICATE SUCH KNOWLEDGE.
3. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THEY ARE INTENDED TO SHOW THE APPROXIMATE LOCATIONS OF EQUIPMENT AND CONDUIT. DIMENSIONS GIVEN ON THE PLANS, IN FIGURES, SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONSAND SHALL BE VERIFIED IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL LAYOUT ALL EQUIPMENT ROOMS TO MAKE SURE THE EQUIPMENT, AS PURCHASED, FITS IN THE ROOM OR SPACE SHOWN. EXACT LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD AND ROUTING OF CONDUITS SHALL SUIT FIELD CONDITIONS.
4. UNTIL THE TIME OF INSTALLATION, THE ARCHITECT RESERVES THE RIGHT TO MAKE MINOR CHANGES IN THE LOCATION OF CONDUIT AND EQUIPMENT WITHOUT ADDITIONAL COST TO THE CONTRACT.
5. THE ELECTRICAL DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER. MATERIAL AND LABOR NECESSARY TO THE PROJECT SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. LABOR AND/OR MATERIALS NEITHER SHOWN NOR SPECIFIED, BUT OBVIOUSLY NECESSARY FOR THE COMPLETION AND PROPER FUNCTIONING OF THE SYSTEM, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AT NO ADDITIONAL COST.
6. ARRANGE ALL EQUIPMENT SUBSTANTIALLY AS SHOWN ON THE DRAWINGS. MAKE DEVIATIONS ONLY WHERE NECESSARY TO AVOID INTERFERENCE. CHECK ALL EQUIPMENT SIZES AGAINST AVAILABLE SPACE PRIOR TO SHIPMENT TO AVOID INTERFERENCE.
7. EXAMINE THE WORK OF OTHER TRADES INSOFAR AS THEIR WORK COMES IN CONTACT WITH OR IS COVERED BY THIS WORK. IN NO CASE ATTACH TO, OR FINISH AGAINST ANY DEFECTIVE WORK OR INSTALL WORK IN A MANNER WHICH WILL PREVENT PROPER INSTALLATION OF THE WORK OF OTHER TRADES.
8. ELECTRICAL CONTRACTOR SHALL VERIFY WITH OTHER TRADES ALL ELECTRICAL CHARACTERISTICS OF EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS. CONTRACTOR SHALL VERIFY VOLTAGE, PHASE AND HORSEPOWER AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO START OF WORK. ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECTING MEANS AND OVERLOAD PROTECTION FOR ALL EQUIPMENT, UNLESS FURNISHED INTEGRAL WITH EQUIPMENT PACKAGE.
9. IT IS THE INTENT OF THESE DRAWINGS THAT THIS BE A COMPLETE ELECTRICAL JOB. ANY ERRORS OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BIDDING THE JOB.

VISIT TO THE SITE

1. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING HIS WORK. THE SUBMISSION OF HIS PROPOSAL SHALL INDICATE SUCH KNOWLEDGE. NO ADDITIONAL PAYMENT SHALL BE MADE ON CLAIMS THAT ARISE FROM A LACK OF KNOWLEDGE OF THE EXISTING CONDITIONS.

CODE AND PERMITS

1. INSTALLATION SHALL BE IN FULL ACCORDANCE WITH ALL CODES, RULES AND REGULATIONS OF MUNICIPAL, CITY, COUNTY, STATE AND PUBLIC UTILITIES AND ALL OTHER AUTHORITIES HAVING JURISDICTION OVER THE PREMISES.
2. COMPLY WITH ANY SPECIFICATION REQUIREMENTS THAT ARE IN EXCESS BUT NOT IN CONFLICT WITH CODE REQUIREMENTS.
3. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, PLAN REVIEWS AND CERTIFICATES OF INSPECTION IN CONNECTION WITH HIS WORK, REQUIRED BY THE FOREGOING AUTHORITIES. BEFORE FINAL PAYMENT OF THE CONTRACT IS ALLOWED, ALL CERTIFICATES SHALL BE DELIVERED TO THE ARCHITECT IN DUPLICATE.
4. ELECTRICAL MATERIAL AND EQUIPMENT SHALL BEAR THE UL LABEL EXCEPT WHERE UL DOES NOT LABEL SUCH TYPES OF MATERIAL AND EQUIPMENT.

SHOP DRAWINGS SUBMITTALS

1. THE ELECTRICAL CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS. THE SHOP DRAWINGS OF THE FOLLOWING EQUIPMENT USING THE INDICATED NUMBERING SYSTEM AND TITLES, SHALL BE SUBMITTED THROUGH THE ARCHITECT TO THE ENGINEER AND THEN RESUBMITTED FOR FINAL APPROVAL, IF NECESSARY. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING ITEMS:
   A. WIRING DEVICES
   B. PANELBOARDS AND SAFETY SWITCHES INCLUDING FAULT CURRENT STUDY BASED ON EQUIPMENT BEING SUPPLIED.
   C. CONTACTORS, TIME SWITCHES AND PHOTOCELL
   D. LIGHTING FIXTURES
   E. SUPERVISORY ALARM SYSTEM
2. ALL SUBMITTED SHOP DRAWINGS (MANUFACTURERS "EQUIPMENT DESCRIPTIVE SHEETS OR VENDORS" PREPARED DRAWINGS) SHALL HAVE THE GENERAL CONTRACTOR'S OR SUBCONTRACTOR'S "STAMP OF APPROVAL" INDICATING THAT THE ITEM SUBMITTED IS AS CALLED FOR ON THE PLANS AND SPECIFICATIONS, IS APPROVED BY THE GENERAL CONTRACTOR OR SUBCONTRACTOR, THE DATE OF APPROVAL AND INITIALED BY THE PERSON APPROVING THE SUBMITTAL AND THE NAME OF THE COMPANY SUBMITTING SAID EQUIPMENT FOR APPROVAL.
3. SUBMIT BOUND BROCHURES COMPLETE WITH A TABLE OF CONTENTS. LOOSE OR STAPLED TOGETHER SHEETS ARE NOT ACCEPTABLE. ANY SUBMITTALS NOT IN BROCHURE FORM OR NOT AS SPECIFIED SHALL BE RETURNED AT THE CONTRACTOR'S EXPENSE FOR RESUBMITTAL.
4. ALL DESCRIPTIVE LITERATURE SHALL BE SUBMITTED IN A THREE (3) HOLE BROCHURE WITH A COVER IDENTIFYING THE FOLLOWING:
   A. NAME OF THE JOB.
   B. LOCATION OF THE JOB, ADDRESS, CITY AND STATE.
   C. NAME AND ADDRESS OF THE COMPANY SUBMITTING THE BROCHURES.
   D. DATE OF THE SUBMITTAL.
5. EVERY EFFORT SHALL BE MADE, IN CHECKING THE SHOP DRAWINGS, TO DETECT AND CORRECT ALL ERRORS, OMISSIONS AND INACCURACIES. FAILURE TO DO THIS WILL NOT RELIEVE THE ELECTRICAL CONTRACTOR OF THE RESPONSIBILITY FOR THE PROPER AND COMPLETE INSTALLATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

RECORD DRAWINGS

1. SUBMIT TO THE ARCHITECT ONE SET OF REPRODUCIBLE (MYLARS) ELECTRICAL DRAWINGS SHOWING THE RECORD CONDITIONS.

STANDARDS AND SUBSTITUTIONS

1. WHEREVER THE WORDS "APPROVED BY", "APPROVED EQUAL", "AS DIRECTED" OR SIMILAR PHRASES ARE USED IN THE FOLLOWING SPECIFICATIONS, THEY SHALL BE UNDERSTOOD TO REFER TO THE OWNER AS THE APPROVING AGENCY. THE NAME OR MAKE OF ANY EQUIPMENT OR MATERIALS NAMED IN THIS SPECIFICATION (WHETHER OR NOT THE WORDS "OR APPROVED EQUAL" ARE USED) SHALL BE KNOWN AS THE "STANDARD".
2. THESE SPECIFICATIONS ESTABLISH QUALITY STANDARD OF MATERIALS AND EQUIPMENT TO BE PROVIDED. SPECIFIC ITEMS ARE IDENTIFIED BY MANUFACTURER, TRADE NAME OR CATALOG DESIGNATION. THIS CONTRACTOR SHALL SUBMIT HIS BASE BID PRICE BASED UPON STANDARD SPECIFIED EQUIPMENT DESCRIBED HEREIN AND AS DETAILED ON DRAWINGS AND ASSOCIATED CONTRACT DOCUMENTS. THESE SPECIFICATIONS ARE NOT TO BE CONSIDERED PROPRIETARY THE CONTRACTOR MAY SUBMIT INFORMATION ON MATERIALS AND MANUFACTURERS (OTHER THAN THOSE LISTED) FOR REVIEW BY THE ARCHITECT AND ENGINEER NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED. IN ADDITION, SAMPLES OF PROPOSED EQUIPMENT MAY BE REQUIRED TO BE SUBMITTED TO THE ENGINEER FOR REVIEW NO LATER THAN TEN (10) DAYS BEFORE BIDS ARE SUBMITTED. MANUFACTURERS OF PRODUCTS ACCEPTED BY THE ARCHITECT AND ENGINEER WILL BE LISTED IN AN ADDENDUM TO THE SPECIFICATIONS AS AN ACCEPTABLE SUBSTITUTION EQUIPMENT ACCEPTED AS DETAILED BELOW AND SHALL BE SHOWN AS A SEPARATE ADD OR DEDUCT PRICE TO BE FACTORED INTO THE BASE BID PRICE BY THE ARCHITECT AND OWNER IF ACCEPTED.
3. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED OR APPROVED BY ADDENDUM, SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS TO THE ARCHITECT AT THE BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID; BE ACCOMPANIED WITH COMPLETE DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. FAILURE BY THIS CONTRACTOR TO SUBMIT THE REQUISITE DOCUMENTATION DETAILED ABOVE SHALL BE UNDERSTOOD BY THE ARCHITECT AND ENGINEER TO INDICATE THAT SUBSTITUTE EQUIPMENT WILL NOT BE PRESENTED BY THE CONTRACTOR FOR CONSIDERATION. SUCH SUBSTITUTIONS WILL NOT BE CONSIDERED AFTER THE BID OPENING DATE AND DELAY OF PROJECT WILL NOT BE PERMITTED FOR FURTHER INSPECTION AND EVALUATION AFTER THIS DATE.
4. WHERE SUCH SUBSTITUTIONS ALTER THE DESIGN OR SPACE REQUIREMENTS INDICATED ON THE DRAWINGS, INCLUDE ALL ITEMS OF COST FOR THE REVISED DESIGN AND CONSTRUCTION INCLUDING COST OF ALL ALLIED TRADES INVOLVED.
5. ACCEPTANCE OR REJECTION OF THE PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO APPROVAL OF THE ARCHITECT AND ENGINEER. IF REQUESTED, THE CONTRACTOR SHALL SUBMIT (AT HIS COST) INSPECTION SAMPLES OF BOTH THE SPECIFIED AND PROPOSED SUBSTITUTE ITEMS.
6. IN ALL CASES WHERE SUBSTITUTIONS ARE PERMITTED, THE CONTRACTOR SHALL BEAR ANY EXTRA COST OF EVALUATING THE QUALITY OF THE MATERIAL AND EQUIPMENT TO BE PROVIDED, INCLUDING ALL ARCH/ENGINEER FEES ASSOCIATED WITH CHANGE.

TESTING AND PLACING IN SERVICE

1. ANY MATERIAL OR EQUIPMENT FAILING A TEST SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
2. TESTS SHALL INCLUDE THE FOLLOWING:
   A. MEASURE THE LOAD ON EACH PHASE OF THE MAIN SERVICE AND EACH PHASE OF EVERY FEEDER UNDER FULL LOAD CONDITIONS.
   B. MEASURE THE NO-LOAD AND FULL-LOAD VOLTAGES (PHASE TO PHASE, PHASE TO NEUTRAL AND PHASE TO GROUND FOR EACH PHASE OF EACH SERVICE, OF EACH SEPARATELY DERIVED SYSTEM, AND AT EACH PANELBOARD OR TRANSFORMER).
   C. MEASURE THE GROUND RESISTANCE OF THE MAIN SERVICE GROUNDING ELECTRODE AND THE GROUND RESISTANCE OF EACH SEPARATELY DERIVED SYSTEM'S GROUNDING ELECTRODE.
   D. MAKE INSULATION RESISTANCE TESTS ON ALL DRY TYPE TRANSFORMERS AND MOTORS.

INTERFERENCES

1. BEFORE THE INSTALLATION OF ANY ITEM BEGINS, THE ELECTRICAL CONTRACTOR SHALL CAREFULLY ASCERTAIN THAT IT DOES NOT INTERFERE WITH CLEARANCES FOR THE ERECTION OF FINISH BEAMS, COLUMNS, PILASTERS, WALLS OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF ANY WORK IS INSTALLED AND THE ARCHITECTURAL DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE CHANGES IN HIS WORK AS DIRECTED BY THE ARCHITECT TO PERMIT THE COMPLETION OF THE ARCHITECTURAL WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
2. IT SHALL BE THE DUTY OF THIS CONTRACTOR TO REPORT ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF ANY OF THE OTHER CONTRACTORS AS SOON AS THEY ARE DISCOVERED. THE ARCHITECT SHALL DETERMINE WHICH EQUIPMENT WILL BE RELOCATED, REGARDLESS OF WHICH WAS INSTALLED FIRST. HIS DECISION WILL BE FINAL.

QUALITY ASSURANCE

1. ALL PRODUCTS SHALL BE NEW AND OF THE TYPE AND QUALITY SPECIFIED. WHERE MATERIALS, EQUIPMENT, APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OF CATALOG NUMBER, SUCH DESIGNATION SHALL ESTABLISH THE STANDARDS OF THE DESIRED QUALITY AND STYLE. IT IS THE INTENT OF THESE SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY OF MATERIALS AND EQUIPMENT INSTALLED.

NAMEPLATES

1. FURNISH AND MOUNT ON EACH PANELBOARD, SWITCHBOARD (INCLUDING BRANCH SWITCHES), LARGE JUNCTION BOX, SAFETY SWITCH, STARTER, REMOTE CONTROL, PUSH BUTTON STATION, AND ALL SIMILAR CONTROLS, A NAMEPLATE DESCRIPTIVE OF THE EQUIPMENT OR EQUIPMENT CONTROLLED.
2. PROVIDE BLACK AND WHITE NAMEPLATES CONSTRUCTED FROM LAMINATED PHENOLIC WITH A WHITE CENTER CORE. LETTERS SHALL BE ENGRAVED IN THE PHENOLIC TO FORM WHITE LETTERS 3/8" HIGH. FASTEN THE NAMEPLATES WITH SCREWS AND AN ADHESIVE TYPE FASTENER.

MOUNTING ACCESSORIES

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL ANGLE IRON, CHANNEL IRON, RODS, SUPPORTS, HANGERS, CONCRETE OR PLYWOOD REQUIRED TO INSTALL, MOUNT AND SUPPORT ANY ELECTRICAL EQUIPMENT OR DEVICE CALLED FOR ON THE PLANS.
2. SUPPORTING MATERIAL SHALL BE COMPLETE WITH HANGERS, CONNECTORS, BOLTS, CLAMPS AND NECESSARY ACCESSORIES TO MAKE A COMPLETE INSTALLATION. SUPPORTING MATERIAL SHALL BE GALVANIZED, PAINTED OR OTHERWISE SUITABLY FINISHED. PRODUCTS BY BRINKLEY, STEEL CITY OR RACO WILL BE ACCEPTABLE.
3. ALL SURFACE-MOUNTED EQUIPMENT ON BLOCK WALLS SHALL BE MOUNTED ON 3/4" PLYWOOD BACKBOARD. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED ON A 4" HIGH CONCRETE HOUSEKEEPING PAD.

EXECUTION

1. THE ELECTRICAL WORK FOR CONSTRUCTION PROPOSED SHALL CONFORM TO ALL FEDERAL (OSHA), STATE, ALL SPECIFIC SAFETY REQUIREMENTS AND THE REQUIREMENTS OF THE CURRENT EDITION OF THE NEC.
2. CHECK THE HVAC AND PLUMBING SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS AND INCLUDE THE SAME IN THE CONTRACT COST.
3. EQUIPMENT CONNECTIONS, STARTERS, DISCONNECT SWITCHES, CONTROL TRANSFORMERS AND PUSHBUTTON STATIONS FOR THE EQUIPMENT FURNISHED BY THE OWNER OR UNDER A SEPARATE CONTRACT SHALL BE INSTALLED AND CONNECTED UNDER THIS DIVISION, AS INDICATED ON THE CONTRACT DRAWINGS.
4. ALL CUTTING, PATCHING, EXCAVATING, BACKFILLING AND CONCRETE WORK RELATED TO THIS CONTRACT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF PROVIDING THE SLEEVES, CHASES AND OPENINGS NECESSARY FOR THE ELECTRICAL INSTALLATION AND FOR THEIR REPAIR IN AN ACCEPTABLE MANNER, AS DETERMINED BY THE ARCHITECT. ALL HOLES SHALL BE CORE-DRILLED. PROVIDE FIRE STOP IN ALL OPENINGS CREATED THROUGH FIRE-RATED WALLS, FLOORS OR CEILINGS.
5. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED ACCESS PANELS NECESSARY FOR HIS WORK, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.

MATERIALS AND WORKMANSHIP

1. ALL WORK SHALL BE INSTALLED IN A PRACTICAL AND WORKMANLIKE MANNER, BY MECHANICS SKILLED IN THE SEVERAL TRADES NECESSARY.
2. ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND SHALL BE THE BEST OF THEIR SEVERAL KINDS UNLESS SPECIFIED OR INDICATED ON THE DRAWINGS TO HE CONTRARY.
3. DURING EACH PHASE AND AT THE COMPLETION OF THE CONSTRUCTION, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS CAUSED BY HIS WORK. HE SHALL LEAVE THE AREA OF OPERATION BROOM CLEAN.
4. ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OR ETL LABEL.
5. THIS CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIAL (LAMPS EXCEPTED) FOR A PERIOD OF ONE YEAR FROM THE DATE OF BUILDING OPENING AND LEAVE HIS WORK IN PERFECT ORDER AT THE COMPLETION. SHOULD DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD, THE CONTRACTOR SHALL, UPON NOTICE OF THE SAME, REMEDY THE DEFECTS AND HAVE ALL DAMAGES TO OTHER WORK OR FURNISHINGS CAUSED BY THE REPAIRS CORRECTED AT HIS EXPENSE TO THE CONDITION BEFORE SUCH DAMAGE.

SCOPE OF WORK

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, STORAGE, UNPACKING AND PLACEMENT; TO INCLUDE BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:
   A. COMPLETE POWER AND LIGHTING DISTRIBUTION SYSTEM INCLUDING ALL PANELS AND FEEDERS.
   B. COMPLETE BRANCH CIRCUIT WIRING SYSTEM.
   C. COMPLETE POWER WIRING FOR ALL AIR CONDITIONING EQUIPMENT, PLUMBING SYSTEM, HEATING EQUIPMENT, VENTILATING AND EXHAUST EQUIPMENT.
   D. LIGHTING FIXTURE INSTALLATION, INCLUDING ALL FLUORESCENT LAMPS.
   E. COMPLETE TELEPHONE AND COMMUNICATION CONDUIT SYSTEM INCLUDING PULL BOXES, OUTLET BOXES, AND CONDUIT AS SPECIFIED, SHOWN ON THE DRAWINGS AND REQUIRED BY THE LOCAL TELEPHONE COMPANY AND/OR OWNER. FROM EACH OUTLET PROVIDE A 1" EMPTY EMT CONDUIT ROUTED INTO THE CEILING CAVITY OR TO THE CLOSEST TELECOMMUNICATIONS CLOSET. PROVIDE A DRAG LINE IN EACH RUN AND TERMINATE IN A BUSED ELBOW.
   F. TEMPORARY ELECTRICAL POWER AND LIGHTING AS REQUIRED FOR CONSTRUCTION.
   G. TESTING OF ALL CABLES AND CIRCUIT WIRING AFTER INSTALLATION.
   H. EXIT LIGHT SYSTEM.
   I. WIRING DEVICES.
   J. LIGHTING CONTROLS.
   K. GROUNDING OF THE ELECTRICAL SYSTEM.
   L. IDENTIFY RACEWAYS AND CABLES WITH COLOR BANDING AS FOLLOWS:
2. COLORS:
   A. FIRE ALARM SYSTEM: RED
   B. SECURITY SYSTEM: BLUE AND YELLOW.
   C. TELECOMMUNICATION SYSTEM: GREEN AND YELLOW.

GROUNDING AND BONDING

1. GROUND ALL EQUIPMENT PER N.E.C.
2. ALL CONDUITS SHALL CONTAIN A CODE-SIZED GROUND WIRE SIZED PER N.E.C. IN ADDITION TO THE CONDUCTORS SHOWN ON THE PLANS. WHERE CIRCUIT CONDUCTORS ARE INCREASED IN SIZE FOR VOLTAGE DROP, THE GROUND WIRE SIZE SHALL BE INCREASED PROPORTIONATELY.
3. AFTER INSTALLING GROUNDING SYSTEM BUT BEFORE PERMANENT ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.

WIRE AND CABLE

1. COLOR CODE CONDUCTORS (EXCEPT CONTROL AND INSTRUMENTATION CONDUCTORS) AS FOLLOWS:

208/120V SYSTEM
   A. PHASE A BLACK;
   B. PHASE B RED;
   C. PHASE C BLUE;
   D. NEUTRAL WHITE;
   E. GROUND GREEN.
      a. #12 AND #10 CONDUCTORS SHALL HAVE CONTINUOUS INSULATION COLOR, AS LISTED ABOVE.
      b. COLOR CODE CONDUCTORS LARGER THAN ABOVE, WHICH DO NOT HAVE CONTINUOUS INSULATION COLOR BY APPLICATION OF AT LEAST TWO LAPS OF COLORED TAPE ON EACH CONDUCTOR AT ALL POINTS OF ACCESS INCLUDING JUNCTION BOXES. COLOR TAPE SHALL BE THE EQUAL OF 3M PRODUCTS SCOTCH #35.
      c. CONDUCTORS SHALL BE SOFT ANNEALED COPPER INSULATED FOR 600 VOLTS UNLESS SPECIFICALLY INDICATED OTHERWISE. ALUMINUM AND NM (ROMEX) CONDUCTORS ARE NOT ALLOWED ON THIS PROJECT.

1. INSULATION TYPE SHALL BE TYPE THWN FOR WIRE SIZES #8 AWG AND LARGER AND THHN OR THWN FOR #10AWG AND SMALLER. THHN SHALL NOT BE USED IN WET OR DAMP LOCATIONS.
2. FLEXIBLE CORD SHALL BE HEAVY DUTY TYPE SO WITH AN EQUIPMENT GROUND CONDUCTOR IN ADDITION TO THE CURRENT CARRYING CONDUCTORS.
3. PROVIDE #12 CONDUCTORS, UNLESS OTHERWISE INDICATED.
   A. CONTROL CONDUCTORS SHALL BE #14 MINIMUM FOR NEC CLASS I AND #16 FOR NEC CLASS II.
4. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED.
5. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID.
6. INSTALL WIRING IN CONDUIT. CONCEALED WIRING IN WALLS OR ABOVE CEILINGS, OR EXPOSED IN UNFINISHED AREAS (WHERE NOT SUBJECT TO PHYSICAL DAMAGE) MAY BE RUN IN MC OR AC CABLE.
7. CONNECT #10 AND SMALLER WIRES WITH CONSTANT PRESSURE EXPANDABLE SPRING TYPE CONNECTORS, "SCOTCHLOK" BY 3M OR B-CAP BY BUCHANAN.
8. CONNECT #8 AND LARGER WIRES WITH COMPRESSION CONNECTORS OR SPLICES AS MANUFACTURED BY BURNDY OR T&B.
9. INSULATE SPLICING CONNECTORS TO AT LEAST 200% OF THE WIRE INSULATION. USE PRE-STRETCHED TUBING CONNECTOR INSULATORS, 3M PST FOR #2 AND LARGER CONDUCTORS.
10. PULL CONDUCTORS USING RECOGNIZED METHODS AND EQUIPMENT LEAVING AT LEAST 6" WIRE AT ALL JUNCTION BOXES FOR CONNECTIONS.
   A. CLEANOUT EACH CONDUIT SYSTEM BEFORE PULLING WIRE.
11. FORM AND TIE ALL WIRING IN PANELBOARDS.
12. THERE SHALL BE NO WIRENUT JOINTS OR SPLICES MADE INSIDE SWITCHBOARDS/PANELBOARDS.
13. BRANCH CIRCUIT WIRE SIZES (AND CONDUITS) SHALL BE INCREASED FROM THOSE INDICATED ON THE PLANS TO PREVENT EXCESSIVE VOLTAGE DROP. BRANCH CIRCUITS SHALL BE INSTALLED WITH WIRES OF SUFFICIENT SIZE SO THAT VOLTAGE DROP BETWEEN THE PANEL AND THE LOADS DOES NOT EXCEED LIMIT OF 3%.
14. WIRE SIZES SHALL BE BASED ON THE 75 DEGREES C. AMPACITIES.
15. CIRCUITS MAY BE MULTI-PLEXED IN CONDUIT PROVIDED WIRE IS PROPERLY DERATED AND CONDUIT SIZED PER CODE. UNDER NO CIRCUMSTANCE SHALL MORE THAN (8) CURRENT CARRYING CONDUCTORS BE RUN IN A SINGLE CONDUIT.

RACEWAYS

1. ALL WIRE SHALL BE RUN IN ACCORDANCE WITH CODE IN CORROSION RESISTANT, RIGID, THREADED, METAL CONDUIT OR ELECTRICAL METALLIC TUBING (E.M.T.) UNLESS OTHERWISE SPECIFICALLY STATED HEREIN.
   A. CONDUIT IN EXTERIOR WALLS, BELOW FLOOR SLAB, OR UNDERGROUND SHALL BE RIGID, THREADED, GALVANIZED, HEAVY WALL TYPE.
   B. CARLON PVC TYPE 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.
   C. CONDUIT RUN EXPOSED TO THE WEATHER SHALL BE HEAVY WALL, METAL THREADED TYPE.
   D. PROVIDE BRANCH CIRCUIT CONDUCTORS THAT ARE TYPE THHN OR THWN AS REQUIRED. MC CABLE CAN BE USED FOR LIGHT FIXTURE TO LIGHT FIXTURE.
2. CONDUIT SIZE SHALL BE 3/4" MINIMUM.
3. CONDUIT SHALL BE SECURELY FASTENED IN PLACE.
4. ALL CONDUIT SHALL BE CONCEALED IN WALLS, FLOOR AND CEILINGS WHEREVER POSSIBLE. EXPOSED CONDUIT IN FINISHED AREAS WILL NOT BE PERMITTED. EXPOSED CONDUIT WILL BE PERMITTED IN UNFINISHED AREAS WITH THE SPECIFIC APPROVAL OF THE ARCHITECT.
5. USE FLEXIBLE CONDUIT FOR THE CONNECTION TO RECESSED OR SEMI-RECESSED LIGHTING FIXTURES (6' LENGTH MAXIMUM). USE LIQUID TIGHT METAL CONDUIT FOR ALL CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SUBJECT TO VIBRATION AND IN AREAS SUBJECT TO MOISTURE.
6. USE WATERTIGHT JOINTS WITH BURIED AND CONCRETE ENCASED CONDUIT. ALL BURIED CONDUITS OUTSIDE OF BUILDINGS SHALL HAVE A MINIMUM OF 24" OF COVER. METAL CONDUITS BURIED IN EARTH SHALL BE PAINTED (TWO COATS) WITH HEAVY ASPHALTUM PAINT.
7. SUPPORT RUNS OF CONDUIT AS DETAILED IN THE APPROPRIATE TABLE OF THE NATIONAL ELECTRICAL CODE (NEC).
8. INSTALL EXPOSED RUNS OF CONDUIT AND CONDUIT ABOVE LAY-IN CEILINGS PARALLEL OR PERPENDICULAR TO THE WALLS, STRUCTURAL MEMBERS OF INTERSECTIONS OF VERTICAL PLANES AND CEILINGS. PROVIDE RIGHT ANGLE TURNS USING FITTINGS OR SYMMETRICAL BENDS. SUPPORT CONDUITS WITHIN 1" OF ALL CHANGES IN DIRECTION.
9. IF A CONDUIT IS SUSPENDED, IT SHALL BE SUPPORTED ON TRAPEZE HANGERS WHICH USE "ALL-THREAD" RODS FROM THE STRUCTURAL STEEL. THE USE OF CEILING SUPPORT WIRE OR SIMILAR MATERIAL WILL NOT BE ACCEPTED.
10. INSTALL EMPTY CONDUIT FOR FUTURE USE AS INDICATED ON THE DRAWINGS. CONDUIT SHALL BE COMPLETE WITH JETLINE OR PULL ROPE, JUNCTION/OUTLET BOXES, TILE RINGS AND APPROPRIATE COVER PLATES.
11. PROVIDE PITCHPOCKETS WHERE CONDUITS PENETRATE THE ROOF.
12. THREAD LUBRICATION/SEALANT IS REQUIRED ON OUTDOOR AND UNDERGROUND THREADED METAL JOINTS.
13. INSTALL FIRE SEAL FITTINGS WHERE CONDUITS PENETRATE CONCRETE FLOOR SLABS OR MASONRY WALLS REQUIRED TO BE FIRE RATED.
14. HORIZONTAL PORTION OF CONDUIT EXPOSED ON THE ROOF AND FEEDING EQUIPMENT SHALL NOT BE MORE THAN 5'-0" UNLESS THE WRITTEN APPROVAL FROM ARCHITECT OR ENGINEER IS OBTAINED.

PULL AND JUNCTION BOXES

1. INSTALL PULL AND JUNCTION BOXES WHERE SHOWN ON THE DRAWINGS, AND WHERE REQUIRED FOR CHANGES IN DIRECTION, AT JUNCTION POINTS, AND TO FACILITATE WIRE PULLING. FURNISH BOX SIZES IN ACCORDANCE WITH NEC UNLESS LARGER BOXES ARE INDICATED.
2. PROVIDE STEEL BOXES AND REMOVABLE COVERS OF CODE GAUGE, HOT ROLLED SHEET STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, FOR ABOVE GROUND WORK. FURNISH WEATHERPROOF BOXES WHEN INSTALLED ABOVE GROUND OUTSIDE.
3. PROVIDE CAST IRON BOXES, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE WHERE SHOWN ON THE DRAWINGS. FURNISH REMOVABLE COVERS WITH GASKETS AND STAINLESS STEEL, BRASS OR BRONZE SCREWS.
4. PROVIDE CONCRETE BOXES FOR UNDERGROUND WORK UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FURNISH STEEL FRAMES AND COVERS WITH THE COVER ATTACHED TO THE FRAME WITH HEXAGON HEAD, BRASS OR BRONZE CAP SCREWS, 3/8" DIAMETER. PROVIDE A RUBBER GASKET FOR SEALING BETWEEN THE COVER AND THE FRAME. PAINT THE COVER WITH TWO COATS OF HEAVY ASPHALTUM.

OUTLET BOXES

1. USE SHEET STEEL BOXES, ZINC COATED OR CADMIUM PLATED, FOR CONCEALED INTERIOR WORK.
2. USE CAST BOXES, ZINC-CADMIUM FINISH MALLEABLE IRON, FOR EXPOSED INTERIOR WORK, AND FOR EXPOSED OR CONCEALED WORK IN WET, DAMP OR EXTERIOR LOCATIONS.
3. WALL BOX SIZES (MINIMUM) SHALL BE 4" SQUARE x 2-1/2" DEEP WHERE WALL CONSTRUCTION PERMITS. WHERE WALL CONSTRUCTION DICTATES, THE WIDTH MAY BE REDUCED TO 2-1/8" OR 1-1/2" UNDER SPECIAL CONDITIONS.
4. FIXTURE OUTLETS IN CEILINGS (MINIMUM) SHALL BE 4" OCTAGONAL x 1-1/2" DEEP (4-11/16" OCTAGONAL x 2-1/2" DEEP WHERE REQUIRED TO ACCOMMODATE LARGER CONDUIT OR LARGER NUMBER OF WIRES).
5. GANG BOXES SHALL BE ONE PIECE (MINIMUM), 2-1/8" DEEP.
6. PROVIDE CONCRETE-TIGHT FLOOR BOXES WITH ADJUSTABLE COVERS SET FLUSH AND LEVEL WITH THE FINISHED FLOOR, WITH OUTLETS AS INDICATED ON THE DRAWINGS. PROVIDE WIREMOLD #EFB6S SERIES BOXES WITH LEVELING SCREWS FOR ABOVE GRADE APPLICATIONS, AND WIREMOLD #EFB6S-OG FOR ON-GRADE APPLICATIONS. FLUSH TYPE COVERS AND OPENINGS TO SERVE OUTLETS USED. FURNISH FLUSH CAPS FOR CLOSING OFF BOX WHEN NOT IN USE.
7. PROVIDE WIREMOLD EVOLUTION SERIES WALL BOX BEHIND ALL WALL MOUNTED FLAT SCREEN MONITORS. COORDINATE HEIGHT WITH ARCHITECT.
8. FLUSH MOUNT BOXES IN ALL FINISHED WALLS. INSTALL THE PLASTER RINGS IN DRYWALLED PLASTERED WALLS AND RAISED COVERS AS REQUIRED IN WALLS WITH OTHER FINISHES SO THAT THE COVER PLATES FIT TIGHTLY AGAINST BOXES OR RINGS, 3/16" MAXIMUM GAPS ARE ALLOWED FOR NONCOMBUSTIBLE WALLS.
9. ADJUST LOCATION OF OUTLETS IN MASONRY OR TILE CONSTRUCTION TO OCCUR IN THE NEAREST JOINT TO THE HEIGHT SPECIFIED. HEIGHTS SHALL MEET A.D.A. REQUIREMENTS.
10. SUPPORT ALL BOXES TO MAINTAIN PROPER ALIGNMENT AND RIGIDITY.
11. CLEAN BOXES OF ALL FOREIGN MATTER PRIOR TO THE INSTALLATION OR WIRING OF DEVICES.
12. MOUNTING HEIGHTS ON THE DRAWINGS ARE TO THE CENTERLINE OF THE BOX UNLESS OTHERWISE NOTED.

WIRING DEVICES

1. WIRING DEVICE COLOR SHALL BE WHITE, UNLESS OTHERWISE INDICATED.
2. OCCUPANCY SENSOR SWITCHES SHALL BE 120/277 VOLT, DUAL TECHNOLOGY 0-10V DIMMING WALL SWITCH OCCUPANCY SENSORS, WATTSTOPPER #DW-311.
3. DIMMER SWITCHES SHALL BE WIDE SLIDE 0-10V PRESET DIMMER WITH INTEGRATED POWER PACK EQUAL TO PASS & SEYMOUR WS4FBL3PW.
4. GENERAL SWITCHES SHALL BE SPECIFICATION GRADE AS MANUFACTURED BY PASS & SEYMOUR.
5. CEILING MOUNTED OCCUPANCY SENSORS SHALL BE LOW VOLTAGE DUAL TECHNOLOGY, WATTSTOPPER #DT-300.
6. PROVIDE NEMA CONFIGURATION 5-20R DUPLEX 125 VOLT GROUNDING TYPE RECEPTACLES RATED FOR 20 AMPERES UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
7. RECEPTACLES SHALL BE SPECIFICATION GRADE AS MANUFACTURED BY PASS & SEYMOUR.
8. RECEPTACLES REQUIRING AMPERAGES, VOLTAGES OR CONFIGURATIONS DIFFERENT FROM THE DUPLEX CONVENIENCE RECEPTACLES ABOVE SHALL BE AS INDICATED ON THE DRAWINGS.
9. PROVIDE OTHER RECEPTACLES OF A QUALITY, MATERIAL AND WORKMANSHIP EQUAL TO THAT SPECIFIED FOR DUPLEX CONVENIENCE RECEPTACLES.
10. PROVIDE COVER OR DEVICE PLATES FOR OUTLET BOXES AS FOLLOWS UNLESS OTHERWISE NOTED:
   A. FINISHED AREAS: STAINLESS STEEL.
   B. UNFINISHED AREAS: ZINC COATED SHEET METAL, ALUMINUM, OR CAST METAL, AS APPROPRIATE FOR THE TYPE OF BOX.
   C. EXTERIOR AREAS: COPPER FREE ALUMINUM WITH GRAY, POWDER EPOXY FINISH, GASKET, WEATHERPROOF. TELEPHONE, COMMUNICATION, AND SIGNAL OUTLET PLATES, SHALL MATCH THOSE USED FOR RECEPTACLES AND SWITCHES. ALL OUTLET AND/OR JUNCTION BOXES SHALL BE COMPLETE WITH A COVER PLATE BY THIS CONTRACTOR.
   D. WHERE DEVICES ARE GANGED, THEY SHALL BE INSTALLED UNDER A COMMON COVERPLATE.
11. LOCATE THE SWITCHES APPROXIMATELY 4'-0" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS OTHERWISE INDICATED. THE LONG DIMENSION OF THE SWITCHES SHALL BE VERTICAL.
12. LOCATE RECEPTACLES APPROXIMATELY 1"-6" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS NOTED OTHERWISE. THE LONG DIMENSION OF RECEPTACLES SHALL BE VERTICAL.

SAFETY SWITCHES

1. SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY-DUTY TYPE (TYPE HD) WITH QUICK-MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD LOCKABLE OPERATING HANDLE.
2. SAFETY SWITCHES SHALL BE RATED FOR 240 OR 600 VOLTS AS APPLICABLE. THEY SHALL BE HORSEPOWER RATED WHEN USED IN MOTOR CIRCUITS.
3. SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE, 2, 3, OR 4 POLE AS INDICATED ON THE DRAWINGS.
4. SAFETY SWITCHES SHALL BE SINGLE THROW UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
5. ENCLOSURES SHALL BE NEMA 1 INDOORS AND NEMA 3R OUTDOORS UNLESS OTHERWISE INDICATED ON DRAWINGS.
6. MANUFACTURER SHALL BE SQUARE D, SIEMENS, OR CUTLER-HAMMER. ALL SAFETY SWITCHES SHALL BE BY ONE MANUFACTURER.
7. MOUNT THE SAFETY SWITCHES SECURELY BETWEEN 3' & 6' LEVELS ABOVE THE FLOOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
8. SWITCHES ON BLOCK WALLS SHALL BE MOUNTED ON A 3/4" PLYWOODBACKBOARD, WHERE LOCATED INDOORS.

DISTRIBUTION AND PANELBOARDS

1. PANELBOARDS SHALL BE FULLY RATED TO INTERRUPT SYMMETRICAL SHORT CIRCUIT AT THE TERMINALS.
2. PANELBOARDS SHALL BE LABELED WITH PHENOLIC NAMEPLATES INSCRIBED AS INDICATED ON THE DRAWINGS. PROVIDE LABELS AFFIXED TO PANELBOARDS AS REQUIRED BY NFPA 70E.
3. PANELBOARDS SHALL BE ENCLOSED DEAD FRONT SAFETY TYPE WITH FEATURES AND RATINGS AS SCHEDULED ON THE DRAWINGS.
4. MOLDED CASE CIRCUIT BREAKERS SHALL BE AS SCHEDULED ON THE DRAWINGS AND SPECIFIED IN THIS DIVISION.
5. ALL BUS BARS SHALL BE RECTANGULAR TIN PLATED ALUMINUM.
6. SPACE, WHERE SHOWN IN PANEL SCHEDULES, DESIGNATES SPACE FOR FUTURE PROTECTIVE DEVICES AND SHALL INCLUDE BUS AND SUPPORT.
7. INSTALL CABINETS SO THAT CENTER OF THE TOP BREAKER DOES NOT EXCEED 6'-6" ABOVE THE FINISHED FLOOR.
8. ENTRIES ON DIRECTORY CARDS SHALL BE TYPED, COMPLETE AND ACCURATE.
9. ALL BOLTED CONNECTIONS SHALL BE TORQUED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
10. ELECTRICAL CONTRACTOR SHALL ARRANGE CIRCUITS AS NEAR AS POSSIBLE TO CIRCUIT NUMBERS ON THE DRAWINGS. AT COMPLETION OF JOB, ELECTRICAL CONTRACTOR SHALL TAKE CURRENT READING CHECKS OF RESPECTIVE PHASES. A MINIMUM OF CIRCUIT CONNECTIONS SHALL BE REARRANGED TO BALANCE, AS CLOSELY AS POSSIBLE, THE LOAD IN THE PANEL.
11. ALL BREAKERS SHALL BE BOLT-ON TYPE.
12. MANUFACTURER SHALL BE SQUARE D AS THE PREFERRED SWITCHGEAR.

LIGHTING FIXTURES

1. NEW LIGHTING FIXTURES SHALL BE AS LISTED IN THE LIGHTING FIXTURE SCHEDULE.
2. ALL LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR AS INDICATED ON THE LIGHTING FIXTURE SCHEDULE, INCLUDING LAMPS. LAMPS SHALL BE OF SAME MANUFACTURER FOR ALL TYPES.
3. ALL FIXTURES SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
4. BALLASTS FOR LINEAR FLUORESCENT LAMPS SHALL BE AS LISTED IN THE LIGHTING FIXTURE SCHEDULE.
5. HIGH INTENSITY DISCHARGE BALLASTS SHALL BE CONSTANT WATTAGE TYPE.
6. THIS CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY SUPPORT MEDIA FOR ALL LIGHTING FIXTURES INCLUDING STRUCTURAL STEEL, ANGLE, RODS, ETC. IN GENERAL, FLUORESCENT AND HIGH INTENSITY DISCHARGE FIXTURES SHALL BE SUPPORTED IN A MANNER ACCEPTABLE TO THE LOCAL INSPECTION AUTHORITIES. ALL FIXTURES SHALL BE FIRMLY SUPPORTED FROM BEAMS OR JOISTS.
   A. PROVIDE ALL NECESSARY BACKING, BLOCKING AND SUPPORTS FOR WALL MOUNTED FIXTURES.
   B. FIXTURES SHALL NOT BE SUPPORTED FROM ROOF DECK.
7. ALL FIXTURES SHALL BE U.L. LISTED AND APPROVED FOR THE PURPOSE INTENDED.
8. RECESSED FIXTURES IN FIRE RATED CEILING OR SUPPLY AIR PLENUMS SHALL BE APPROVED FOR THE FIRE RATING OF THE CEILING. PROVIDE AIR-TIGHT GASKETS TO SEAL AROUND OPENINGS.
9. ALL ADJUSTABLE FIXTURES SHALL BE AIMED AND ADJUSTED DURING EVENING HOURS TO THE SATISFACTION OF THE ARCHITECT.

GENERAL NOTES

1. E.C TO MAKE A FIELD SURVEY OF THE EXISTING ELECTRICAL SERVICE TO ENSURE THAT THE TOTAL CONNECTED LOAD DOES NOT EXCEED THE ELECTRICAL SERVICE. ANY/ ALL MODIFICATIONS OR UPGRADES NEEDED ARE SUBJECT TO LANDLORD'S PRIOR APPROVAL, AND WILL BE COMPLETED BY TENANT/ TENANT'S GC, AT TENANT'S SOLE EXPENSE.
2. EMT (ELECTRIC METALLIC TUBING) SHALL BE USED IN ALL DEMISING WALLS, HOME RUNS, AND BETWEEN J-BOXES AND PULL BOXES. MC CABLE MAY BE USED IN OTHER APPLICATION AS ALLOWED BY THE AUTHORITY HAVING JURISDICTION (AHJ). ALL EXPOSED CONDUIT, RIGID OR MC CABLE, SHALL BE INSTALLED IN TIGHT STRAIGHT LINES, PARALLEL OR IN RIGHT ANGLES TO THE BUILDING STRUCTURE. DO NOT LOOP EXCESS MC CABLE IN CEILING SPACE OR WALL CAVITY.
3. 7 DAY, 24 HOUR TIME CLOCK IS REQUIRED TO CONTROL STOREFRONT ENTRY LIGHTS, SHOW WINDOW LIGHTS, SHOW WINDOW RECEPTACLES AND STOREFRONT SIGNAGE. ILLUMINATED STOREFRONT SIGNS MUST REMAIN LIT DURING ALL MALL BUSINESS HOURS.
4. ALL PENETRATIONS SHALL BE CORE BORED ONLY. SAW CUTTING, JACK HAMMERING, AND TRENCHING IS STRICTLY PROHIBITED. ALL PENETRATIONS SHALL BE SLEEVED, SEALED, FIRE STOPPED, AND WATERPROOFED. THE PENETRATION SLEEVE SHALL EXTEND A MINIMUM OF 4" ON EITHER SIDE OF THE SLAB AND BE LABELED WITH THE REQUIRED NFPA.
5. EC SHALL VERIFY THAT WORK SHALL NOT CONFLICT WITH ANY EXISTING STRUCTURAL, UTILITY, OR OTHER UNDER-SLAB CONDITION. (NONDESTRUCTIVE VERIFICATION MAYBE REQUIRED.) ANY DAMAGE OR DOWNTIME CAUSED BY TENANT'S WORK SHALL BE REPAIRED AND REIMBURSED AT TENANT'S EXPENSE.
6. EC TO USE OF ENERGY STAR PRODUCTS AND/OR EQUIPMENT WHENEVER POSSIBLE DURING TENANT BUILD OUT, WHICH CAN REDUCE ENERGY CONSUMPTION.

WOLF AND SHEPHERD

WOLF AND SHEPHERD

△ ISSUANCE NAME	DATE

ELECTRICAL SPECIFICATIONS & DETAILS

E-002.00

LIGHTING CONTACTORS (LC) TYPICAL DETAIL

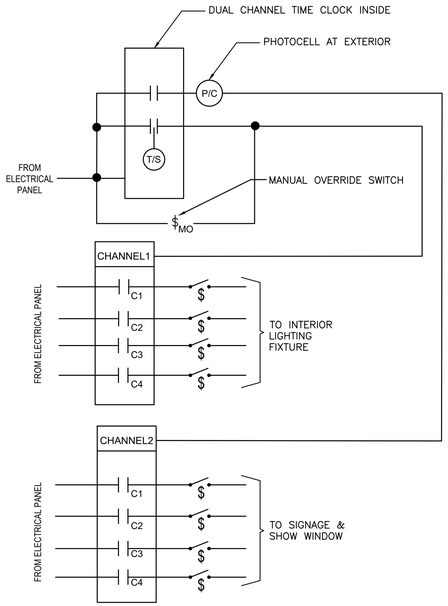
A. LIGHTING CONTACTOR PANEL SHALL BE LOCATED NEAR THE ELECTRICAL PANEL.

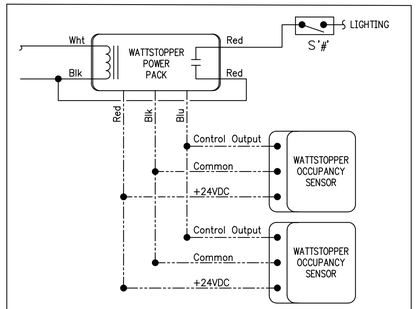
B. PROVIDE DUAL CHANNEL TIME CLOCK (TC), LOCATE NEAR PANEL.

C. PROVIDE MANUAL OVERRIDE SWITCH (MO) LOCATE NEAR PANEL.

D. PROVIDE PHOTOCELL (PC) LOCATE AT EXTERIOR OF THE BUILDING.

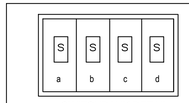
E. DIAGRAM BELOW INDICATES THE GENERAL ARRANGEMENT OF THE CONTACTOR PANEL. SEE ELECTRICAL LIGHTING PLAN FOR CIRCUIT AND CONTROL DETAILS. CONTRACTOR SHALL SELECT THE QUANTITY OF THE CONTACTORS AS REQUIRED.





OCCUPANCY SENSOR DETAIL

N.T.S.



SWITCHBANK DETAIL

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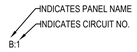


LIGHTING GENERAL NOTES:

A. VERIFY ALL LUMINAIRE COLORS, TRIMS, LENGTHS, ETC. WITH THE ARCHITECT PRIOR TO PLACING FINAL PURCHASE ORDERS. SUBMISSION PF SHOP DRAWINGS WILL BE INTERPRETED AS HAVING BEEN COORDINATED WITH THE ARCHITECTURAL DRAWINGS.

B. PROVIDE ALL LENGTHS, FEEDS, ACCESSORIES, CONNECTORS, WIRING, POWER SUPPLIES, DRIVERS ETC. FOR A COMPLETE INSTALLATION. THE E.C. SHALL VERIFY THE COMPLETE BILL OF MATERIAL WITH MANUFACTURER'S REPRESENTATIVE AND ENSURE ALL EQUIPMENT ARE INCLUDED IN BID PRICE. COORDINATE INSTALLATION WITH ARCHITECTURAL DETAILS.

C. VERIFY FINAL LUMINAIRE LOCATIONS WITH OTHER CEILING MOUNTED EQUIPMENTS SUCH AS DIFFUSER WITH ARCHITECTURAL REFLECTED CEILING PLANS.

D. VERIFY EXACT MOUNTING HEIGHT AND LOCATIONS OF ALL WALL MOUNTED LUMINAIRE WITH ARCHITECTURAL PLANS AND ELEVATIONS PRIOR TO ROUGH-IN

E. ANY PROPOSED ALTERNATE LUMINAIRES SHALL BE APPROVED BY THE ARCHITECT PRIOR TO FINAL BID PRICING.

F. SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS, EQUIPMENT AND DEVICES OTHER THAN THOSE SPECIFIED AND LISTED, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS, TO THE ENGINEERS AT LEAST TEN (10) BUSINESS DAYS PRIOR TO BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID AND SHALL INCLUDE A COMPLETE SPECIFICATIONS CUTSHEET SUBMITTAL AS OUTLINED IN THE SPECIFICATIONS, COMPLETE WITH DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. INDICATE ANY ADDITIONS OR DEDUCTIONS TO THE CONTRACT PRICE WITH THE SUBSTITUTION SUBMITTAL AND ON THE BID FORM.

G. ALL FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH 90-MINUTE BATTERY PACK AND ALL FLORECENT FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH 1300LUMENS, 90MINUTE BATTERY PACK.

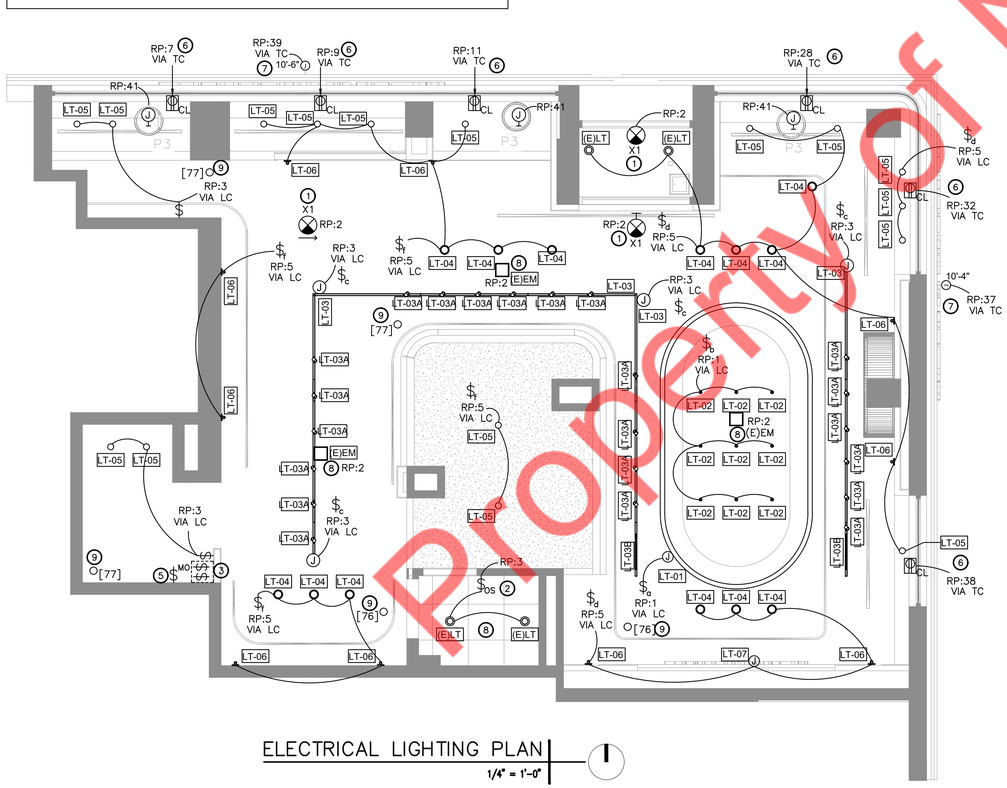
H. PROVIDE SHATTER-RESISTANT LAMPS OR PROVIDE CLEAR LENSES ON ALL FIXTURES LOCATED ABOVE ALL KITCHEN AREA.

I. VERIFY FINAL SELECTION OF LIGHT FIXTURES WITH ARCHITECT.

J. E.C. SHALL COORDINATE WITH THE LIGHTING VENDOR FOR LIGHTING FIXTURE DRIVER REQUIREMENT.

LIGHTING SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	SPECIFICATION	INPUT WATTS	DIMMING LOAD TYPE	LUMINAIRE NOTES
LT-01	1" LINEAR LED PENDANT IN PILL SHAPE, 13'-6" X 6'-0"	ALW LIGHTING	LP1/MR1SD-[SHAPE]-DECOR-3000K-SW-UNV	6.4W/FT	0-10V, DALI, DMX	WHITE HOUSING FINISH
LT-02	1/2" APERTURE RECESSED TRIMLESS LED DOWNLIGHT	CSL LIGHTING	WS-IC-30-90	16.1W	0-10V	
LT-03	RECESSED TRACK	XAL LIGHTING	MOVE1.2-RTL-BL-48V-ST-[LENGTH]	N/A	0-10V	
LT-03A	LED TRACKHEAD	XAL LIGHTING	MOVEINS-JUST32-WH-30K-C90	9W	0-10V	WHITE FINISH
LT-03B	LED MONOPOINT TRACK LIGHT	XAL LIGHTING	MOVEINS-1.2MULTI-30K-C90-1FT	7.2W	0-10V	WHITE FINISH
LT-04	2" APERTURE ADJUSTABLE LED CYLINDER PENDANT	CSL LIGHTING	LP2-TWIST-15-30-50-WT-4	15W	0-10V	
LT-05	3" APERTURE LED CYLINDER PENDANT	OXYGEN LIGHTING	3-614-1624	6W	TRIAC, ELV	GRAY/SATIN NICKEL FINISH
LT-06	LED CYLINDER WALL SCONCE	VISUAL COMFORT & CO.	TOB 2716PN-BZ	20W	DIM	BLACK FINISH
LT-07	LED TAPELIGHT IN CHANNEL	OPTIC ARTS BY LUMINII	TAPELIGHT: LL42-HO-30K CHANNEL: BOS-C	2.4W/FT	0-10V	
(E)LT	EXISTING RECESSED DOWNLIGHT	-		-	-	
X1	EXIT SIGN	-		-	-	
(E)EM	EXISTING RECESSED SQUARE EMERGENCY LIGHTING	-		-	-	
[76]	(E) CAMERA DOME TO REMAIN	-		-	-	
[77]	RELOCATE (E) CAMERA DOME @NEW CEILING	-	-	-	-	



ELECTRICAL LIGHTING PLAN

1/4" = 1'-0"

LIGHT FIXTURE SCHEDULE NOTES:

A. VERIFY FINAL SELECTION OF LIGHT FIXTURES WITH THE ARCHITECT PRIOR TO BID.

B. EMERGENCY FIXTURES SHALL HAVE MIN 90. MIN BATTERY BACKUP.

ELECTRICAL LIGHTING PLAN KEY NOTES:

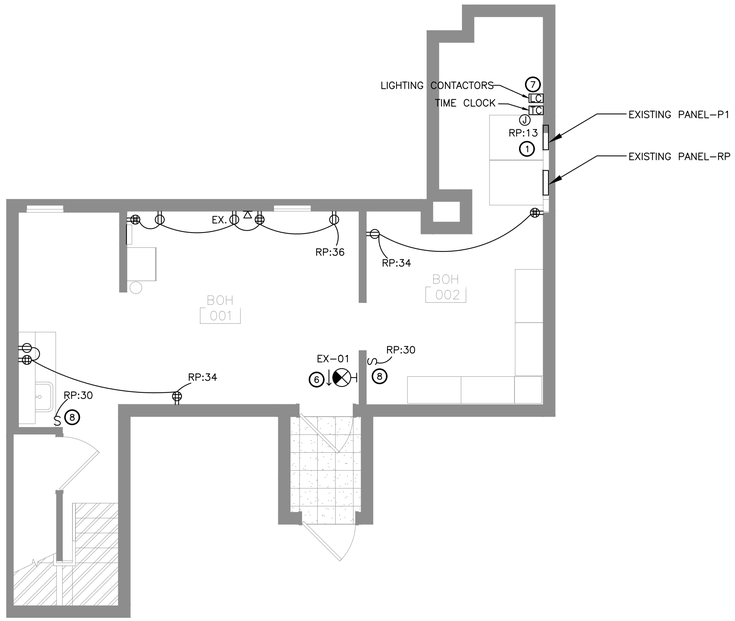
1. WIRE ALL EMERGENCY, EXIT LIGHT AND NIGHT LAMPS AHEAD OF SWITCHING FOR CONTINUOUS OPERATIONS. CONNECT IT TO THE ADJACENT LIGHTING CIRCUIT.
2. WALL MOUNTED OCCUPANCY SENSOR WITH SWITCH. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT IN FIELD.
3. SWITCH BANK. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
4. NOT USED.
5. MANUAL OVERRIDE SWITCH.
6. E.C. TO PROVIDE SHOW WINDOW RECEPTACLES AS PER 210.62.
7. E.C. SHALL COORDINATE EXACT LOCATION OF THE SIGNAGE, AND PROVIDE JUNCTION BOX AND TOGGLE SWITCH FOR EXTERIOR SIGNAGE. CONNECT TO THE INDICATED CIRCUIT VIA TIME CLOCK. COORDINATE WITH THE OWNER FOR TIME SETTING.
8. EXISTING LIGHTS & EMERGENCY LIGHTING SHALL REMAIN CONNECTED TO THE EXISTING CIRCUIT. E.C. SHALL VERIFY OPERABLE CONDITION OF THE FIXTURE AND CIRCUIT IN FIELD. PROVIDE NEW IF REQUIRED.
9. E.C. SHALL COORDINATE WITH THE LV VENDOR FOR EXACT LOCATION OF THE CCTV CAMERA IN FIELD. PROVIDE WIRING AS REQUIRED.

WOLF AND SHEPHERD

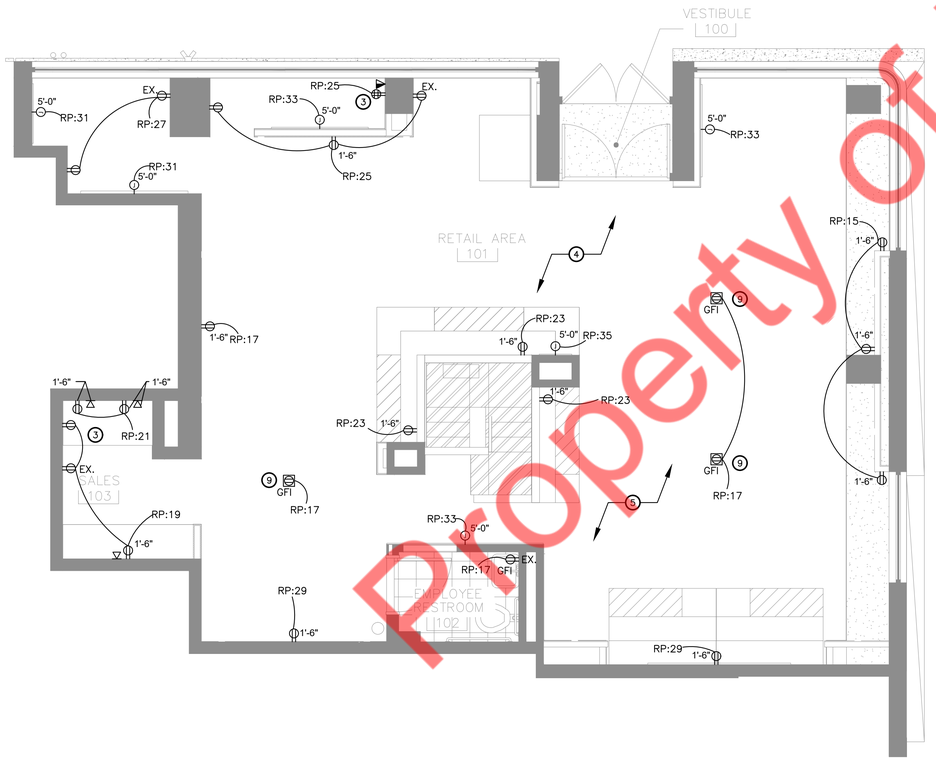
△ ISSUANCE NAME	DATE

ELECTRICAL LIGHTING PLAN

E-100.00



ELECTRICAL POWER BASEMENT PLAN | 1
1/4" = 1'-0"



ELECTRICAL POWER FLOOR PLAN | 2
1/4" = 1'-0"

ELECTRICAL POWER PLAN GENERAL NOTES:

A. ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE INDICATED.

B. MOUNT ALL RECEPTACLES AT 18" ABOVE FINISHED FLOOR TO CENTER OF THE COVER PLATE UNLESS OTHERWISE INDICATED.

C. FOR OUTLETS REQUIRING GFCI PROTECTION WHERE THE RECEPTACLE IS CONCEALED SUCH AS IN THE CASE OF A WATER FOUNTAIN OR VENDING MACHINE INSTALLATION, THE CONTRACTOR SHALL PROVIDE A STANDARD RECEPTACLE WITH GFCI CIRCUIT BREAKER IN THE ASSOCIATED PANEL. BLANK FACE GFCI TEST/RESET BUTTONS ARE NOT PERMITTED UNLESS EXPLICITLY LOCATED ON THESE DRAWINGS.

D. FURNISH AND INSTALL ALL EXTERIOR RECEPTACLES WITH WEATHERPROOF COVERS. EXTERIOR RECEPTACLES SHALL BE GFCI TYPE.

E. FOR ALL EXTERIOR ELECTRICAL EQUIPMENT, FURNISH AND INSTALL WITH NEMA 3R ENCLOSURES MINIMUM. IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THIS REQUIREMENT AND INFORMATION LOCATED ELSEWHERE IN THE ELECTRICAL DOCUMENTS, THE CONTRACTOR SHALL BID ACCORDING TO THE MOST STRINGENT REQUIREMENT.

F. IN BREAK ROOMS AND SIMILAR SPACES, THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DOCUMENTS AND LOCATE ELECTRICAL DEVICES AT LOCATIONS AND ELEVATIONS TO BEST SERVE EACH DEDICATED APPLIANCE.

G. COORDINATE WITH OTHER DISCIPLINES IN THE FIELD TO ENSURE THAT THE INTEGRITY OF FIRE RATED CONSTRUCTION IS PRESERVED WHERE PENETRATING RATED WALLS AND FLOORS.

H. THE CONTRACTOR SHALL ROUTE ALL EXPOSED CONDUIT NEATLY AND TIGHT TO SUPPORTING SURFACES. IN THE EVENT THAT THE OWNER IS NOT SATISFIED WITH WORKMANSHIP, THE CONTRACTOR SHALL MAKE CORRECTIONS AT NO ADDITIONAL COST TO THE OWNER. MC CABLE IS NOT PERMITTED IN EXPOSED AREAS.

I. FOR ALL CONDUIT RUNS SHOWN ON ELECTRICAL DRAWINGS, THE ROUTING IS APPROXIMATE. THE CONTRACTOR SHALL MAKE ROUTING ADJUSTMENTS AS REQUIRED BASED ON FIELD CONDITIONS AND COORDINATION WITH OTHER DISCIPLINES.

J. IN THE EVENT THAT THERE IS A DISCREPANCY IN THE MINIMUM CIRCUIT AMPACITY (MCA) AND/OR THE MAXIMUM OVER CURRENT PROTECTION (MOCP) BETWEEN THE DIVISION 26 AND DIVISION 22/23 SCHEDULES, THE CONTRACTOR SHALL BID ACCORDING TO THE MORE STRINGENT REQUIREMENTS.

K. MECHANICAL, PLUMBING, AND OTHER EQUIPMENT FURNISHED AND INSTALLED BY OTHER DIVISIONS IS SHOWN ON ELECTRICAL DRAWINGS FOR CIRCUITING PURPOSES ONLY. THE CONTRACTOR SHALL REFER TO OTHER DISCIPLINE CONSTRUCTION DOCUMENTS FOR EXACT LOCATIONS OF EQUIPMENT PRIOR TO ROUGH-IN OF THE ASSOCIATED ELECTRICAL CIRCUITS, DISCONNECTING MEANS, OUTLETS, ETC. AND ADJUST ROUTING AND LOCATIONS ACCORDINGLY.

L. THE RECEPTACLES MARKED AS "GFI" ON THE FLOOR PLAN INDICATES THAT THE RECEPTACLE SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE GFI BREAKER IN PANEL IF GFI RECEPTACLE IS NOT READILY ACCESSIBLE OR FOR THE RECEPTACLES OTHER THAN 20A.

M. TAMPER RESISTANT "TR" RECEPTACLES SHALL BE PROVIDED AS PER ARTICLE 406.12 OF NEC.

N. ALL THE RECEPTACLES SHALL BE GFI PROTECTED EITHER AT RECEPTACLE OR AT ELECTRICAL PANEL AS SPECIFIED IN 210.8(B)

O. ELECTRICAL CONTRACTOR SHALL VERIFY AND PROVIDE THE EXACT ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG, CORD, CIRCUIT BREAKER AND CABLES FOR ALL THE EQUIPMENT IN COORDINATION WITH THE EQUIPMENT SUPPLIER/MANUFACTURER IN THE FIELD. BASE BID ACCORDINGLY.

P. EXISTING MECHANICAL AND PLUMBING EQUIPMENT SHALL REMAIN CONNECTED TO THE EXISTING CONNECTIONS. E.C. TO VERIFY OPERABLE CONDITION, RATING AND EXACT LOCATION IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

ELECTRICAL FLOOR & BASEMENT POWER PLAN KEYED NOTES: (#)

1. CLEAR WORKING & DEDICATED SPACE SHALL BE PROVIDED FOR THE ELECTRICAL PANELS IN ACCORDANCE WITH THE NEC 110.26.
2. NOT USED.
3. E.C. TO COORDINATE WITH OWNER / ARCHITECT FOR EXACT MOUNTING HEIGHT OF THE RECEPTACLE IN FIELD.
4. ALL LOW VOLTAGE WIRING TO BE IN CONDUIT UNLESS OTHERWISE APPROVED BY AHJ.
5. PROVIDE CCTV AND AUDIO SYSTEM WITH NECESSARY WIRING, POWER REQUIREMENT AS REQUIRED. COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION AND QUALITY. BASE BID ACCORDINGLY.
6. WIRE ALL EMERGENCY, EXIT LIGHT AND NIGHT LAMPS AHEAD OF SWITCHING FOR CONTINUOUS OPERATIONS. CONNECT IT TO THE ADJACENT LIGHTING CIRCUIT.
7. COORDINATE FINAL SELECTION AND LOCATION OF THE TIME CLOCK WITH THE ARCHITECT AND COORDINATE WITH THE TIME CLOCK VENDOR FOR MORE DETAILS AND PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED.
8. EXISTING LIGHTS & THEIR CONTROLS SHALL REMAIN. E.C. SHALL VERIFY OPERABLE CONDITION, RATING & EXACT LOCATION INFIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
9. FLOOR DUPLEX INTEGRATED INTO MILLWORK. POWER FOR INCASE LIGHTING.

WOLF AND SHEPHERD

WOLF AND SHEPHERD

△ ISSUANCE NAME	DATE

ELECTRICAL POWER PLAN

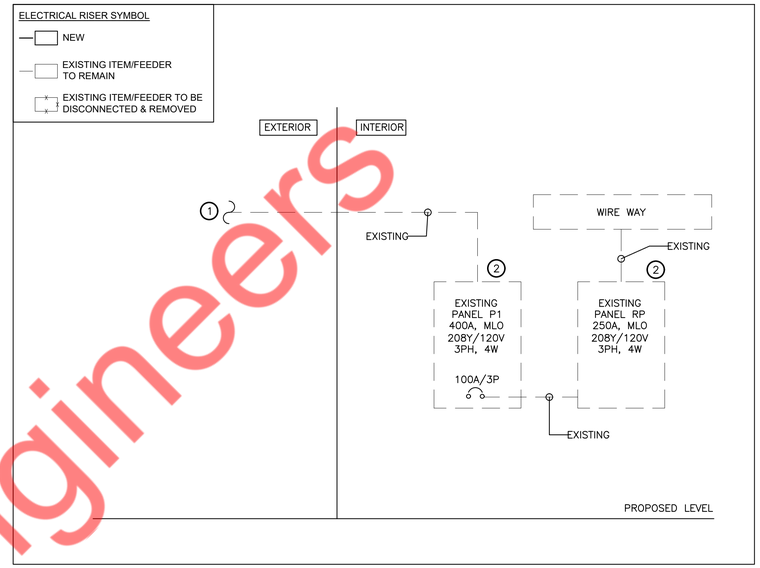
E-200.00

PANEL:	P1	(EXISTING)								MOUNTING:	SURFACE		
208Y/120	VOLTS		3	PHASE	4	WIRE				PANEL LOCATION:	EXISTING		
MLO	400A		BUS:	EXISTING	MINIMUM					FED FROM:	EXISTING		
NOTE:													

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	60/3P	AC-1	H	5.18	EXISTING	6.89			EXISTING	1.71	H	AC-2	20/2P	2
3			H	5.18			6.89			1.71	H			4
5			H	5.18				6.68	EXISTING	1.50	O	EWH-1	20/2P	6
7	20	FSD	O	0.25	EXISTING	1.75				1.50	O			8
9	100/3P	EX. PANEL RP	O	8.52	EXISTING		9.70		EXISTING	1.18	O	TX-1	20	10
11			O	8.52				9.22	EXISTING	0.70	O	OAF-1	20	12
13			O	8.52		8.72			EXISTING	0.20	O	MD & CP	20	14
15		SPACE					0.36		EXISTING	0.36	M	HWCP-1	20	16
17		SPACE						0.00						18
19		SPACE				0.00				0.00	0	SPARE	20/3P	20
21		SPACE					0.00			0.00	0			22
23		SPACE						0.00				SPACE		24
25		SPACE				0.00						SPACE		26
27		SPACE					0.00					SPACE		28
29		SPACE						0.00				SPACE		30
31		SPACE				0.00						SPACE		32
33		SPACE					0.00					SPACE		34
35	20/2P	SPARE						0.00				SPACE		36
37			0	0.00		0.00						SPACE		38
39	20/2P	SPARE					0.00					SPACE		40
41			0	0.00				0.00				SPACE		42
						17.37	**16.95**	**15.90**						

PANEL:	RP	(EXISTING)								MOUNTING:	SURFACE		
208Y/120	VOLTS		3	PHASE	4	WIRE				PANEL LOCATION:	EXISTING		
MLO	250A		BUS:	EXISTING	MINIMUM					FED FROM:	PANEL P1		
NOTE:													

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA) A	B	C	MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	20	DECORATIVE LIGHTING	L	0.42	2-12 + 1#12G, 3/4"C	0.92			2-12 + 1#12G, 3/4"C	0.50	L	EX. EXIT SIGN & EM. LIGHTING	20	2
3	20	GENERAL LIGHTING	L	0.60	2-12 + 1#12G, 3/4"C		0.60							4
5	20	GENERAL LIGHTING	L	0.67	2-12 + 1#12G, 3/4"C			0.67		0.00	0	SPARE	20/3P	6
7	20	SHOW WINDOW RECEPTACLE	R	1.00	2-12 + 1#12G, 3/4"C	1.00				0.00	0			8
9	20	SHOW WINDOW RECEPTACLE	R	1.00	2-12 + 1#12G, 3/4"C		1.00							10
11	20	SHOW WINDOW RECEPTACLE	R	1.00	2-12 + 1#12G, 3/4"C			1.00		0.00	0	SPARE	20/3P	12
13	20	TIME CLOCK	L	0.50	2-12 + 1#12G, 3/4"C	0.00				0.00	0			14
15	20	GENERAL RECEPTACLE	R	0.72	2-12 + 1#12G, 3/4"C		0.72							16
17	20	FLOOR, RESTROOM, GENERAL RECEPTAC	R	1.08	2-12 + 1#12G, 3/4"C			1.08		0.00	0	SPARE	20/3P	18
19	20	CASHWRAP RECEPTACLE	R	0.54	2-12 + 1#12G, 3/4"C	0.54				0.00	0			20
21	20	CASHWRAP POS RECEPTACLE	R	0.36	2-12 + 1#12G, 3/4"C		0.36							22
23	20	GENERAL RECEPTACLE	R	0.72	2-12 + 1#12G, 3/4"C			0.72		0.00	0	SPARE	20/3P	24
25	20	POS & GENERAL RECEPTACLE	R	0.90	2-12 + 1#12G, 3/4"C	0.90				0.00	0			26
27	20	GENERAL RECEPTACLE	R	0.36	2-12 + 1#12G, 3/4"C		1.36		2-12 + 1#12G, 3/4"C	1.00	R	SHOW WINDOW RECEPTACLE	20**	28
29	20	SPARE			2-12 + 1#12G, 3/4"C			0.50	2-12 + 1#12G, 3/4"C	0.50	L	BASEMENT EX. LIGHTING	20**	30
31	20	JUNCTION BOX FOR LIGHTING	L	1.20	2-12 + 1#12G, 3/4"C	2.20			2-12 + 1#12G, 3/4"C	1.00	R	SHOW WINDOW RECEPTACLE	20	32
33	20	JUNCTION BOX FOR LIGHTING	L	1.20	2-12 + 1#12G, 3/4"C		2.64		2-12 + 1#12G, 3/4"C	1.44	R	BASEMENT RECEPTACLE	20**	34
35	20	JUNCTION BOX FOR LIGHTING	L	1.20	2-12 + 1#12G, 3/4"C			2.46	2-12 + 1#12G, 3/4"C	1.26	R	BASEMENT RECEPTACLE	20**	36
37	20	EXTERIOR SIGNAGE	O	1.00	2-12 + 1#12G, 3/4"C	2.00			2-12 + 1#12G, 3/4"C	1.00	R	SHOW WINDOW RECEPTACLE	20	38
39	20	EXTERIOR SIGNAGE	O	1.00	2-12 + 1#12G, 3/4"C		1.00					SPACE		40
41	20	FOH JUNCTION BOX	L	1.00	2-12 + 1#12G, 3/4"C			1.00				SPACE		42
						7.56	**7.68**	**7.43**						



ELECTRICAL RISER DIAGRAM | 1
NTS

ELECTRICAL RISER DIAGRAM GENERAL NOTES:

A. ELECTRICAL CONTRACTOR (E.C.) SHALL PROVIDE AND INSTALL ALL THE DEVICES IN FIELD IN COORDINATION WITH THE OWNER AND UTILITY. ALL THE INSTALLATIONS SHALL BE IN COMPLIANCE WITH THE NEC AND LOCAL CODES.

B. E.C. SHALL COORDINATE WITH THE UTILITY COMPANY AND AHJ FOR EXACT FAULT CURRENT (Isc) RATING AVAILABLE IN THE FIELD. PRIOR TO BID.

C. E.C. SHALL COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL THE DEVICES SHOWN, WITH THE ARCHITECT/OWNER AND UTILITY.

D. PROVIDE SEPARATE GROUND CONDUCTOR IN ALL CONDUITS.

E. E.C. SHALL COORDINATE WITH THE ARCHITECT / OWNER / FOR EXACT SCOPE OF WORK PRIOR TO BID.

F. E.C. SHALL COORDINATE WITH THE ARCHITECT / OWNER / LANDLORD FOR ANY TYPE OF ADDITION / ALTERATION TO THE EXISTING SYSTEM PRIOR TO BID. NO WORK SHALL BE PERFORMED WITHOUT THEIR CONSENT.

G. ALL THE FEEDERS SHALL BE NEW (U.N.O.). SIZE SHALL BE AS PER RISER.

H. E.C. SHALL VERIFY OPERABLE CONDITION OF ALL THE EXISTING & RELOCATED EXISTING EQUIPMENT PRIOR TO BID. REPLACE EQUIPMENT WITH NEW ONE. KEEPING ALL THE PARAMETERS SAME.

ELECTRICAL RISER DIAGRAM KEY NOTES: (#)

1. EXISTING SERVICE FEEDER TO REMAIN. E.C. TO VERIFY RATING, OPERABLE CONDITION AND EXACT LOCATION IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

2. EXISTING PANEL TO REMAIN. E.C. TO VERIFY EXISTING PANEL RATING, OPERABLE CONDITION AND EXACT LOCATION IN FIELD. REPLACE IF FOUND INOPERABLE BASE BID ACCORDINGLY.

PANEL SCHEDULE GENERAL NOTES:

A. ELECTRICAL CONTRACTOR SHALL VERIFY THE BREAKER AND CABLE RATING WITH EQUIPMENT SUPPLIER/OWNER AND ACCORDINGLY UPDATE THE BREAKER RATING CABLE SIZE IN FIELD.

B. GFI MARKED ON THE POWER PLAN INDICATES THAT THE CIRCUIT SHALL BE GFCI PROTECTED. E.C. SHALL PROVIDE GFCI BREAKER FOR THE GFI MARKED RECEPTACLES, IF EITHER RECEPTACLE IS NOT ACCESSIBLE OR NOT AVAILABLE.

C. PROVIDE HACR BREAKER FOR HAVC UNITS. COORDINATE WITH HVAC DRAWINGS.

D. PROVIDE LOCKING DEVICES ON CIRCUIT BREAKER WHERE EVER REQUIRED.

E. E.C. TO VERIFY SCOPE OF WORK WITH OWNER/ARCHITECT. PRIOR TO BID.

F. VERIFY EXACT POWER DISTRIBUTION IN FIELD.

PANEL SCHEDULE ABBREVIATIONS:

L=LIGHTING
R=RECEPTACLE
H=HVAC
M=MOTOR
O=OTHER

(*) GFCI BREAKER
(**) NEW BREAKER IN EXISTING PANEL
(***) PROVIDE HACR BREAKER

WOLF AND SHEPHERD

WOLF AND SHEPHERD

△ ISSUANCE NAME	DATE

ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULE

E-300.00