

GENERAL NOTES

- THIS INSTALLATION SHALL BE IN COMPLIANCE WITH THE CITY OF AURORA, IL BUILDING CODES OF ORDINANCES, LOCAL AMENDMENTS AND NATIONAL CODES INCLUDING BUT NOT LIMITED TO: 2015IBC, 2014NEC, 2015IECC, AND NFPA72.
- BEFORE COMMENCING WORK THE CONTRACTOR SHALL VISIT THE JOB SITE AND FULLY INFORM HIMSELF OR HERSELF OF ALL CONDITIONS THAT AFFECT THE WORK. EXAMINE THE DRAWINGS AND SPECIFICATIONS SHEET, AND SUBMIT ANY QUESTIONS IN WRITING TO THE ARCHITECT AND ENGINEER.
- ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION SHEET AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THIS WORK SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT BEFORE COMMENCING ANY WORK. THE PROJECT DRAWINGS FORM THE BASIS OF THIS CONTRACT REQUIREMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS TO BE INSTALLED, EQUIPMENT TO BE FURNISHED, THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS & THE MOST STRICT METHOD GOVERN UNLESS THE ARCHITECT/ENGINEER DIRECTS OTHERWISE.
- THE ELECTRICAL CONTRACTOR SHALL CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS THAT ARE PART OF THIS PROJECT TO ENSURE THAT NO FIXTURE, OUTLET, ALARM STATION, CONTROL DEVICE, POWER WIRING DEVICE, ETC., IS OMITTED. HE/SHE SHALL CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA. IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF BUILDING EQUIPMENT. NO EXTRA CHARGES SHALL BE ACCEPTED BY OWNER AFTER BIDDING FOR SUCH EQUIPMENT AND LABOR.
- EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO INSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTING INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATIONS MUST BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.
- INSTALL ELECTRICAL DEVICES AS INDICATED IN THIS SET OF DRAWINGS. ADJUST FINAL DEVICE LOCATIONS AS REQUIRED TO ACCOMMODATE WORK. COORDINATE WITH ALL TRADES INVOLVED AND WITH ARCHITECTURAL CASEWORK AND ELEVATIONS DRAWINGS. NOTIFY THE ENGINEER AND/OR THE ARCHITECT IF ANY CONFLICTS ARE FOUND PRIOR TO BIDDING PROJECT. INSTALL CONDUIT AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES.
- ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE JOB TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS.
- CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. ALL CONDUITS SHALL RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS AND WHERE APPROVED BY THE ARCHITECT.
- FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CODE REQUIREMENTS.
- ADJACENT POWER AND DATA DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION.
- ALL RECEPTACLES, VOICE AND DATA OUTLETS SHALL BE MOUNTED PER MOUNTING HEIGHT LEGEND, UNLESS OTHERWISE NOTED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. ALL DEVICES SHALL BE NEW. REFER TO ARCHITECTURAL CASEWORK DRAWINGS AND ARCHITECTURAL ELEVATIONS FOR EXACT DEVICES MOUNTING HEIGHTS.
- REFER TO FIRE ALARM SHEET IN THIS SET OF DRAWINGS FOR FIRE ALARM SYSTEM INFORMATION.
- DETERMINE, IN ADVANCE OF PURCHASE, THAT ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLED SHALL FIT INTO THE ROOM OR SPACE ALLOCATED, AS INDICATED ON THE DRAWINGS, ALLOWING SUFFICIENT CLEARANCE FOR THE SAFE SERVICE AND/OR MAINTENANCE OF RELATED EQUIPMENT, INCLUDING THAT OF OTHER TRADES.
- ALL CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR INSTALLED. COLOR OF GROUNDING CONDUCTOR SHALL BE GREEN. SIZE OF GROUNDING CONDUCTOR SHALL BE AS REQUIRED PER CEC ARTICLE 250.122.
- ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR INSTALLED UNLESS OTHERWISE INDICATED. COLOR OF NEUTRAL CONDUCTOR SHALL BE WHITE.
- ALL CONDUCTOR SHALL BE MADE OF COPPER. MINIMUM WIRE SIZE SHALL BE #12AWG UNLESS OTHERWISE INDICATED. UTILIZE SOLID CONDUCTORS FOR WIRE GAGES UP TO #12AWG AND STRANDED CONDUCTOR FOR GAGES #10AWG AND LARGER.
- SPECIAL RECEPTACLES PLUG CONFIGURATION REQUIREMENTS SHALL BE COORDINATED WITH EQUIPMENT PLUG REQUIREMENTS PRIOR TO INSTALLATION.
- ALL FEEDER AND BRANCH CIRCUIT WIRING INSTALLED INDOORS SHALL USE THHN INSULATION (90F). ALL WIRING INSTALLED OUTDOORS SHALL USE THWN INSULATION (75F). REFER TO SPECIFICATION SHEET FOR COLOR CODED REQUIREMENTS.
- ALL POWER WIRING SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM. MINIMUM RACEWAY SIZE SHALL BE 3/4" UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL SIZE ALL CONDUITS SO AS TO NOT EXCEED 40% OF CONDUIT FILLING CAPACITY. WHEN MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN THE SAME CONDUIT AND AMBIENT TEMPERATURES ADJUSTMENT FACTORS PER ELECTRICAL CODE TABLES 310.15(B)(2)(A), 310.15(B)(3)(A) SHALL BE APPLIED.
- ALL CIRCUITS SERVING EMERGENCY EXIT SIGNS, NIGHT LIGHTS AND EXTERIOR LIGHTS SHALL UTILIZE #10 WIRE TO MINIMIZED VOLTAGE DROP UNLESS OTHERWISE INDICATED.
- ALL BREAKERS SERVING FIRE ALARM EQUIPMENT AND EXIT SIGNS SHALL HAVE LOCK-OUT DEVICE INSTALLED UNLESS OTHERWISE INDICATED.
- DISTRIBUTION PANELS AND BRANCH CIRCUIT PANELBOARDS, SHALL BE LABELED WITH PANEL NAME AND ALSO HAVE A PANEL DIRECTORY INSTALLED. UTILIZE TYPE WRITER AS A MINIMUM FOR COMPLIANCE. HAND WRITTEN CARD DIRECTORIES ARE NOT ACCEPTABLE.
- PANELBOARDS, DISCONNECT SWITCHES, ETC. SHALL BE LABEL WITH A READILY VISIBLE LABEL PER NFPA 70E, STANDARD FOR SAFETY IN THE WORKPLACE. LABEL SHALL BE CLEARLY VISIBLE TO PERSONNEL AND SHALL READ "CAUTION ARC FLASH HAZARD" ALSO LABELS SHALL INDICATE THE AVAILABLE SHORT CIRCUIT CURRENT AT EQUIPMENT, PPE, VOLTAGE, PHASES, SIZE AND COLOR OF TEXT SHALL BE PER STANDARD.
- ALL FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE DONE WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT. INSTALL GREEN GROUNDING CONDUCTOR.
- ALL FINAL BREAKERS AND CONDUCTORS SIZES SERVING MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH MECHANICAL SHOP DRAWINGS AND CONTRACTOR PRIOR TO INSTALLATION. E.C. SHALL COORDINATE WITH HVAC CONTRACTORS EXACT POINT OF CONNECTION TO THE EQUIPMENT PRIOR TO ROUGH-IN.
- ALL EQUIPMENT INSTALLED OUTSIDE SHALL BE WEATHER PROOF RATED.

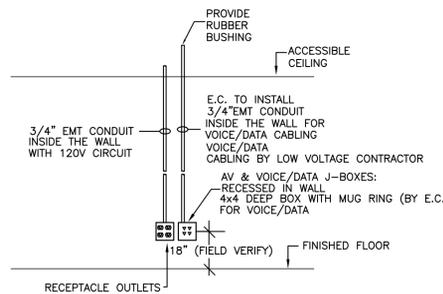
GENERAL NOTES (CONTINUE)

- REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.
- INSTALL CONDUIT FROM THE TOP OF THE BAR JOIST.
 - LABEL ALL J-BOXES COVER PLATES, RECEPTACLES COVER PLATES WITH CIRCUIT INFORMATION AND PANEL SOURCE. UTILIZE P-TOUCH LABEL OR APPROVED EQUAL.
 - ALL MOUNTING HEIGHTS OF DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS OR ARCHITECT PRIOR TO ROUGH-IN.
 - DO NOT INSTALL DEVICES IN DIFFERENT ROOMS BACK TO BACK. PROVIDE 6" SIDE BY SIDE IN BETWEEN.
 - WHEN APPLICABLE COORDINATE EXACT FURNITURE POWER REQUIREMENTS AND VOICE/DATA FEEDING CONNECTIONS AT EACH LOCATION PRIOR TO ROUGH-IN.
 - GENERAL USE RECEPTACLES SHALL BE WHITE IN COLOR WITH STEEL COVER PLATES. FINAL COLOR OF RECEPTACLES & COVER PLATES SHALL BE AS SELECTED BY THE OWNER.
 - E.C. SHALL INSTALL J-BOX AND CONDUIT FOR MECHANICAL THERMOSTATS. COORDINATE EXACT LOCATIONS WITH M.C. E.C. SHALL FURNISH AND INSTALL WIRING AND TERMINATE ALL LINE VOLTAGE THERMOSTATS.
 - FIRE PROOF ALL PENETRATIONS THRU WALLS AND FLOORS TO RE-STABLISH THE FIRE RATING OF PARTITION.
 - PROVIDE MULTI-GANG J-BOX FOR INSTALLATION OF WIRING DEVICES LOCATED AT THE SAME LOCATION UNLESS OTHERWISE INDICATED ON THE FLOOR PLANS. PROVIDE METALLIC DIVIDER PLATES BETWEEN DIFFERENT CIRCUITS IN THE SAME BOX.
 - ALL PULL BOXES AND JUNCTION BOXES SHALL BE SIZED PER ELECTRICAL CODE ARTICLE 314, TABLES 314.16 BASED IN THE AMOUNT OF CABLE AND CONDUITS ENTERING/LEAVING THE BOX.
 - VOICE/DATA/AUDIO VISUAL (AV) SYSTEMS CABLING AND EQUIPMENT SHALL BE PROVIDED BY LOW VOLTAGE CONTRACTOR. EC SHALL PROVIDE REQUIRED JUNCTION BOXES, CONDUIT, AND PULL STRUNG FOR ALL LOCATIONS.
 - FOR THE AREA OF WORK WITH DAMAGED, DETERIORATED, COMPROMISED OR MISSING FIREPROOFING CREATED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED TO FULL PROTECTIVE CAPACITY.
 - ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING CODE OR 2014 NATIONAL ELECTRICAL CODE

GAS PIPING:

- NATURAL GAS DISTRIBUTION PIPING SHALL BE SCHEDULE 40 BLACK PIPE WITH 150# MALLEABLE IRON FITTINGS.
- GAS PIPING GREATER THAN 2" INSIDE DIAMETER OR CARRYING MORE THAN 5 POUNDS(P.SIG) SHALL BE SCHEDULE 40 BLACK PIPE WITH STANDARD WELD FITTINGS.
- PIPE INSTALLED ABOVE GRADE OUTDOORS TO BE PAINTED.
- VALVES:
 - 1-1/4" AND SMALLER: BALL VALVE, BRASS OR BRONZE BODY, SCREWED CONNECTIONS, BLOW-OUT PROOF STEM, TEFLON SEALS AND U.L. LISTED FOR USE WITH NATURAL GAS. CONBRACO "APOLLO" SERIES 80-100, CRANE 9400 SERIES, MILWAUKEE BA-475, OR NIBCO T585-70-UL.
 - 1-1/2" AND LARGER: ECCENTRIC PLUG VALVE, CAST IRON BODY, 1-1/2" 2-1/2" THREADED AND 3"-4" FLANGED CONNECTIONS, BRONZE OR ELECTRO LESS NICKEL PLATED CAST IRON PLUG, CARBOXYLIC-NITRILEBUTADIENE (HYCAR) RESILIENT PLUG SEAL, CORROSION RESISTANT BEARINGS AND SEALS, CLASS 125, AND U.L. LISTED FOR USE WITH NATURAL GAS KEY PORT FIG. 425-1RS49.
- BEFORE FINAL EQUIPMENT CONNECTIONS ARE MADE, PNEUMATICALLY TEST GAS PIPING AT 15 PSIG AIR PRESSURE. THE PRESSURE TEST SHALL BE DEEMED ACCEPTABLE IF THE PIPING SYSTEM HOLDS THE PRESSURE FOR FOUR (4) HOURS. TESTING SHALL BE WITNESSED AND SIGNED BY THE OWNER.

ELECTRIC AND VOICE/DATA OUTLETS



NOTE:
 1-ADJACENT POWER AND DATA/PHONE DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED.
 2-ALL RECEPTACLE OUTLETS SHALL BE PROVIDED W/ P-TOUCH LABEL WITH CIRCUIT # AND SOURCE PANEL TAGS

ELECTRICAL SYMBOL LIST

- ⊕# DUPLEX RECEPTACLE, # INDICATES CIRCUIT
- ⊖ SIMPLEX RECEPTACLE
- C ⊖ SIMPLEX RECEPTACLE CLOCK STYLE
- GFI ⊖ DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER
- U ⊖ DUPLEX RECEPTACLE, W/2 USB PORTS
- ⊕# QUAD RECEPTACLE (# INDICATES CIRCUIT)
- ⊕# AC QUAD RECEPTACLE MOUNTED ABOVE THE COUNTER. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT
- AS ⊖ DUPLEX RECEPTACLE MOUNTED AT SWITCH HEIGHT
- ⊕# SPECIAL RECEPTACLE COORDINATE EXACT REQUIREMENTS WITH EQUIP. SERVING
- ⊕# FLUSH MOUNTED FLOOR BOX WITH DUPLEX RECEPTACLE
- ⊕# FLOOR BOX (REFER TO FLOOR PLAN FOR REQUIREMENTS: PWR, VOICE/DATA & AV)
- ⊕# POKE THRU SEE DRAWING FOR REQUIREMENTS
- ⊕# PULL BOX
- \$ TOGGLE SWITCH SPECIFICATION GRADE
- \$ D TOGGLE SWITCH WITH DIMMER
- \$ 3 3-WAY TOGGLE SWITCH
- \$ K KEYPED SWITCH
- \$ M,K MOMENTARY CONTACT SWITCH - CENTER OFF
- \$ P RED PILOT LIGHT SWITCH (ON IN THE ON POSITION)
- \$ OS WALL SWITCH OCCUPANCY SENSOR
- \$ V VOLUME SWITCH
- ⊕# CEILING MOUNTED OCCUPANCY SENSOR
- DAY LAY SENSOR
- ⊕# PHOTOCELL FOR OVERRIDE TIME CLOCK FUNCTION
- ⊕# HEAVY DUTY FUSIBLE DISCONNECT SWITCH
- ⊕# HEAVY DUTY NON-FUSIBLE DISCONNECT SWITCH
- ⊕# JUNCTION BOX
- ⊕# SINGLE POLE DISCONNECT SWITCH TOGGLE STYLE
- ⊕# CONTROL TRANSFORMER WITH DISCONNECT SWITCH
- ⊕# MOTOR WITH MOTOR RATED DISCONNECT SWITCH.
- ⊕# HOT, NEUTRAL, GROUND CONDUCTOR IN RACEWAY
- ⊕# RACEWAY STUB UP TO ABOVE ACCESSIBLE CEILING WITH END BUSHING
- ⊕# CONDUIT CONCEALED IN WALL/ABOVE THE CEILING
- ⊕# CONDUIT IN CONCRETE SLAB/UNDERGROUND
- ⊕# EXPOSED CONDUIT
- ⊕# FLEXIBLE METAL CONDUIT
- ⊕# SLEEVE WITH END BUSHINGS ACC SIZE AS INDICATED IN DRAWINGS
- ⊕# (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4" C. STUB UP VOICE OUTLET)
- ⊕# (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4" C. STUB UP VOICE/DATA OUTLET)
- ⊕# (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4" C. STUB UP AUDIO/VISUAL/DATA OUTLET)
- ⊕# (4x4 DEEP BOX WITH MUG RING AND ONE (1) 1 1/4" C. STUB UP TO ACC WITH END BUSHING)
- ⊕# FIRE ALARM REMOTE BOOSTER POWER SUPPLY
- ⊕# FIRE ALARM DOUBLE ACTION PULL STATION
- ⊕# WALL MOUNTED FIRE ALARM STROBE (DEVICE W/ A "C" IS CEILING MTD)
- ⊕# WALL MOUNTED FIRE ALARM HORN/STROBE (W/ A "C" IS CEILING MTD)
- ⊕# FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR
- ⊕# FIRE ALARM HEAT DETECTOR (SEE DRAWINGS FOR TYPE) 135FIX, 200FIX, RATE OF RISE (ROR)
- ⊕# FIRE ALARM DUCT SMOKE DETECTOR
- ⊕# FIRE ALARM DUCT DETECTOR REMOTE KEYED TEST SWITCH
- ⊕# FIRE ALARM MONITOR MODULE
- ⊕# FIRE ALARM CONTROL RELAY
- ⊕# CEILING MOUNTED SPEAKER
- ⊕# UNIVERSAL MOUNTED (CEILING/WALL) EXIT SIGN WITH CHEVRONS (SEE LIGHT FIXTURE SCHEDULE)
- ⊕# 2 x 4 SURFACE MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- ⊕# 2 x 4 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- ⊕# 2 x 2 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- ⊕# NIGHT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- ⊕# LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- ⊕# EMERGENCY LIGHT (SEE LIGHT FIXTURE SCHEDULE)
- ⊕# PANELBOARD
- ⊕# WAP WIRELESS ACCESS POINT
- ⊕# VOICE/DATA OUTLET WITH 3 JACKS CAT6
- ⊕# (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4" C. STUB UP

ABBREVIATIONS

- WP WEATHER PROOF
- WG WIRE GUARD
- AC ABOVE THE COUNTER
- C CEILING MOUNTED DEVICE
- NL NIGHT LIGHT
- CLG CEILING
- (R) RETURN DUCTWORK
- (S) SUPPLY DUCTWORK
- OHD OVERHEAD DOOR
- ACC ABOVE ACCESSIBLE CEILING
- VEL VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
- +42 DEVICE MOUNTED AT 42 INCHES AFF
- AFF ABOVE FINISH FLOOR
- TR TAMPER RESISTANT
- TG TAMPER GUARD
- EWC ELECTRICAL WATER COOLER
- WP/ IN USE METAL WHILE-IN-USE COVER WEATHER PROOF SIMILAR TO EATON WIUMH-1 SERIES
- E.C. ELECTRICAL CONTRACTOR
- M.C. MECHANICAL CONTRACTOR
- S.C. SECURITY CONTRACTOR
- AHJ AUTHORITY HAVING JURISDICTION
- HD ELECTRICAL HAND DRYER
- IWH INSTANTANEOUS ELECTRICAL WATER HEATER
- X EXISTING DEVICE TO REMAIN
- XRR EXISTING DEVICE TO BE REMOVED AND RELOCATED
- NR EXISTING DEVICE RELOCATED
- NR NEW DEVICE

ELECTRICAL DRAWING LIST

- E001 ELECTRICAL SYMBOL LIST, GENERAL NOTES AND DETAILS.
- E101 BASEMENT & 1ST FLOOR PLANS - ELECTRICAL
- E102 2ND FLOOR PLAN - ELECTRICAL
- E200 PARTIAL ELECTRICAL RISER DIAGRAM
- E300 BASEMENT LEVEL PANELS SCHEDULES
- E301 1ST FLOOR PANELS SCHEDULES
- E302 2ND FLOOR PANELS SCHEDULES.
- E400 ELECTRICAL SPECIFICATION SHEET.



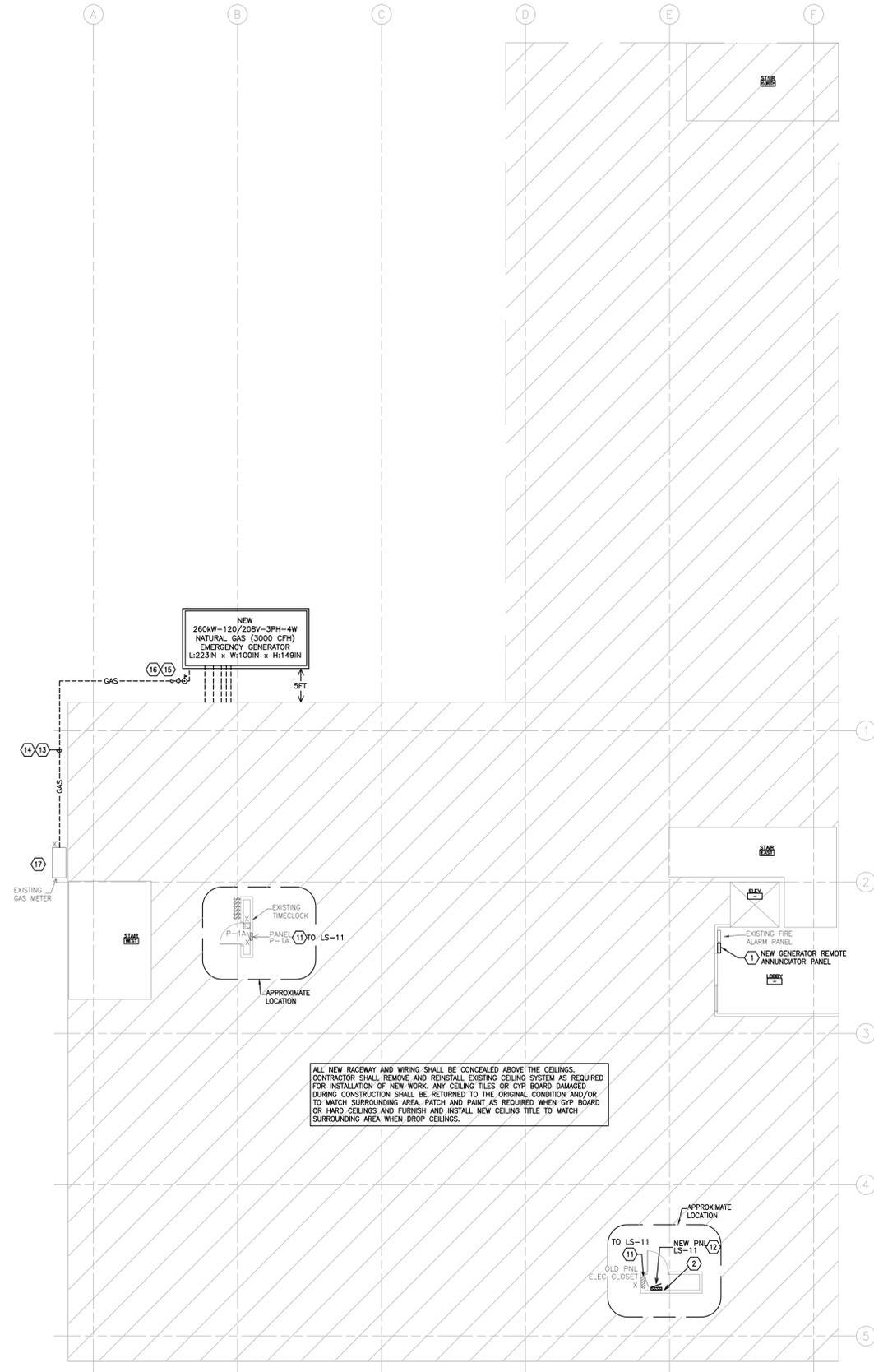
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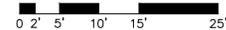
ELECTRICAL SYMBOL LIST GENERAL NOTES & DETAILS

ISSUED:
 9-23-21
 ISSUED FOR REVIEW

E001



2 PARTIAL 1ST FLOOR PLAN - ELECTRICAL
3/32" = 1'-0"

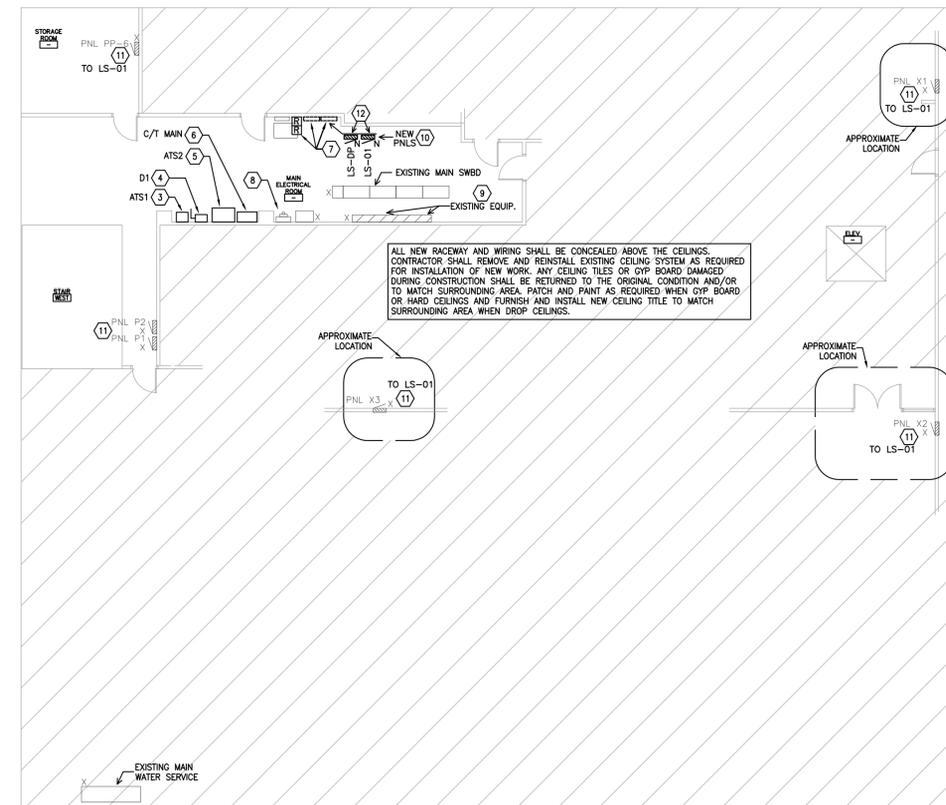


GENERAL NOTES

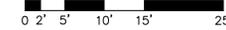
1. ALL WORK MUST COMPLY WITH NEC, NFPA, LIFE SAFETY & LOCAL APPLICABLE CODES.
2. PROVIDE ALL ADDITIONAL HARDWARE FOR MOUNTING AS REQUIRED FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM.

KEY NOTES

- 1 PROVIDE NEW REMOTE GENERATOR STATUS PANEL.
- 2 EC SHALL DEMOLISH ABANDONED TELECOMMUNICATIONS CABINET AND PLACE NEW PANEL LS-11 IN SAME LOCATION.
- 3 NEW 200A-4P-120/208V-35KAIC LIFE SAFETY LOADS AUTOMATIC TRANSFER SWITCH (ATS1).
- 4 NEW 200A-3PH-208V FUSIBLE DISCONNECT SWITCH. FUSE AT 200A OR USE THERMO-MAGNETIC BREAKER BOX WITH 42KAIC BREAKER
- 5 NEW 800A-4P-120/208V-35KAIC NON LIFE SAFETY LOADS AUTOMATIC TRANSFER SWITCH (ATS2).
- 6 NEW 800A-3PH-208V-42KAIC C/T MAIN DISCONNECT SWITCH CABINET.
- 7 DEMOLISH EXISTING ABANDONED COMPRESSOR CONTROL CABINETS, RETAIN EXISTING RELAYS LOCATED INSIDE OF CABINETS AND LOCATED IN WALL NEAR EXISTING COMPRESSOR. PROVIDE NEW SMALL CABINET FOR INSTALLATION OF ACTIVE RELAYS. DEMO ALL EXISTING ABANDONED OR NOT ACTIVE EXISTING ELECTRICAL RACEWAY AND WIRING IN THE AREA - THE IDEA IS TO CLEAR SPACE FOR INSTALLATION OF NEW HARDWARE. TURN OFF ASSOCIATED SWITCHES IN SWITCH BOARD AND LABEL SPARE.
- 8 EXISTING UTILITY METER TO REMAIN.
- 9 DEMO EXISTING UTILITY METERS AND BYPASS CONNECTIONS ONLY IF EXISTING UTILITY METERS ARE ABANDONED OR NOT DOING ANYTHING. THE GOAL IS TO HAVE ONLY ONE METER IF POSSIBLE. COORDINATE WITH COMED FOR THIS WORK.
- 10 FURNISH AND INSTALL NEW PANELS AT THIS LOCATION AFTER REMOVAL OF EXISTING ABANDONED EQUIPMENT
- 11 ELECTRICAL CONTRACTOR SHALL PICK EXISTING LIFE SAFETY LOADS LOCATED IN THIS PANEL AND RELOCATE THEM TO NEW LIFE SAFETY PANEL SERVING THIS FLOOR AND AREA (LS-01 & LS-11). FURNISH AND INSTALL NEW RACEWAY, WIRING & J-BOXES AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS TO NEW PANEL. MATCH EXISTING SIZE AND TYPE OF WIRING AND RACEWAY CURRENTLY BEING USED. ALL BREAKERS NOT SERVING ANY LOADS SHALL BE TURN OFF AND LABEL "SPARE". PROVIDE NEW PANEL CARD DIRECTORY TO REFLECT UP-TO-DATE INSTALLATIONS AND ROOM NAMES AND NUMBERS. REFER TO SHEETS E300 BASEMENT PANEL SCHEDULES AND E301 1ST FLOOR PANEL SCHEDULES FOR ADDITIONAL INFORMATION. NEW BREAKERS SHALL CORRELATE WITH EXISTING CIRCUIT RATING. ALL NEW RACEWAY AND WIRING SHALL BE CONCEALED ABOVE CEILING. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING SYSTEM AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY DAMAGE CEILING TILES OR GYP BOARD DAMAGE DURING CONSTRUCTION SHALL BE RETURNED TO THE ORIGINAL CONDITION AND TO MATCH SURROUNDING AREA. PATCH AND PAINT AS REQUIRED WHEN GYP BOARD OR HARD CEILING TYPE AND FURNISH AND INSTALL NEW CEILING TITLE TO MATCH EXISTING WHEN DROP CEILING.
- 12 FURNISH AND INSTALL NEW LIFE SAFETY PANEL. REFER TO SHEETS E200, E300 & E301 PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
- 13 FURNISH AND INSTALL NEW UNDERGROUND NATURAL GAS LINE TO POWER THE NEW EMERGENCY GENERATOR. ADJUST ROUTING AS REQUIRED TO ACCOMMODATE INSTALLATION. CONTRACTOR SHALL TRENCH, AND RETURN SITE TO EXISTING CONDITIONS AROUND SURROUNDING AREA.
- 14 3" GAS @ 7" WC (VIF), 3000 CFH @ 50' E.L. (VIF)
- 15 VENTED REGULATOR, WHEN RUNNING MEDIUM PRESSURE GAS.
- 16 INSTALL WITH GAS COCK, 6" DIRT LEG AND UNION CONNECTION.
- 17 EXISTING GAS METER. COORDINATE WITH GAS COMPANY FOR UPGRADE IF NECESSARY.



1 PARTIAL BASEMENT PLAN - ELECTRICAL
3/32" = 1'-0"



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BASEMENT & 1ST FLOOR PLANS - ELECTRICAL

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E101



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2ND FLOOR PLANS -
ELECTRICAL

ISSUED:
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E102

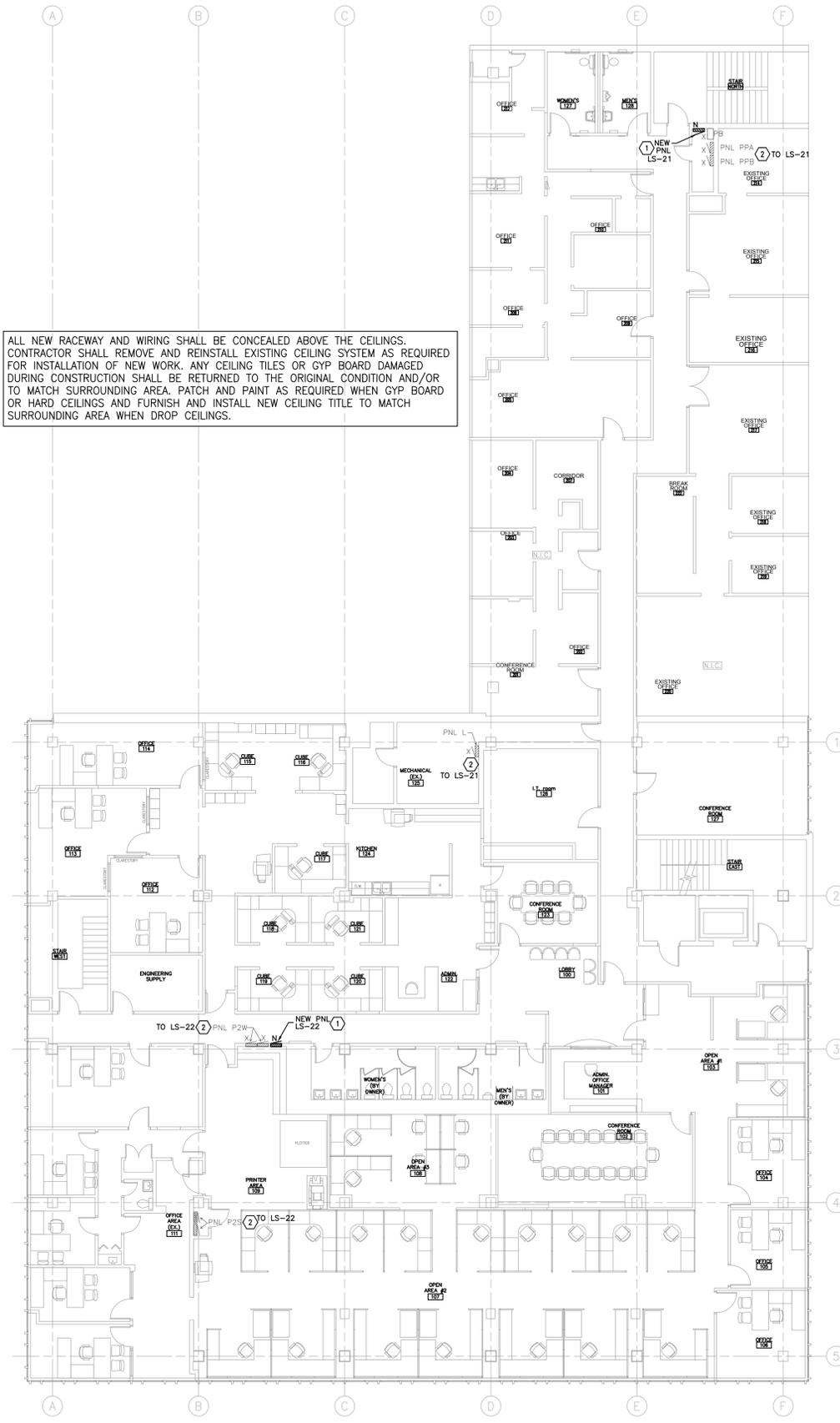
GENERAL NOTES

1. ALL WORK MUST COMPLY WITH NEC, NFPA, LIFE SAFETY & LOCAL APPLICABLE CODES.
2. PROVIDE ALL ADDITIONAL HARDWARE FOR MOUNTING AS REQUIRED FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM.

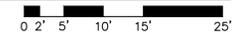
KEY NOTES

1. FURNISH AND INSTALL NEW LIFE SAFETY PANEL. REFER TO SHEETS E200 AND E302 BASEMENT PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
2. ELECTRICAL CONTRACTOR SHALL PICK EXISTING LIFE SAFETY LOADS LOCATED IN THIS PANEL AND RELOCATE THEM TO NEW LIFE SAFETY PANEL SERVING THIS FLOOR AND AREA (LS-21 & LS-22). FURNISH AND INSTALL NEW RACEWAY, WIRING & J-BOXES AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS TO NEW PANEL. MATCH EXISTING SIZE AND TYPE OF WIRING AND RACEWAY CURRENTLY BEING USED. ALL BREAKERS NOT SERVING ANY LOADS SHALL BE TURN OFF AND LABEL "SPARE". PROVIDE NEW PANEL CARD DIRECTORY TO REFLECT UP-TO-DATE INSTALLATIONS AND ROOM NAMES AND NUMBERS. REFER TO SHEETS E302 2ND FLOOR PANEL SCHEDULES FOR ADDITIONAL INFORMATION. NEW BREAKERS SHALL CORRELATE WITH EXISTING CIRCUIT RATING. ALL NEW RACEWAY AND WIRING SHALL BE CONCEALED ABOVE CEILINGS. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING SYSTEM AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY DAMAGE CEILING TILES OR GYP BOARD DAMAGE DURING CONSTRUCTION SHALL BE RETURNED TO THE ORIGINAL CONDITION AND TO MATCH SURROUNDING AREA. PATCH AND PAINT AS REQUIRED WHEN GYP BOARD OR HARD CEILINGS AND FURNISH AND INSTALL NEW CEILING TILE TO MATCH EXISTING WHEN DROP CEILINGS.

ALL NEW RACEWAY AND WIRING SHALL BE CONCEALED ABOVE THE CEILINGS. CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CEILING SYSTEM AS REQUIRED FOR INSTALLATION OF NEW WORK. ANY CEILING TILES OR GYP BOARD DAMAGED DURING CONSTRUCTION SHALL BE RETURNED TO THE ORIGINAL CONDITION AND/OR TO MATCH SURROUNDING AREA. PATCH AND PAINT AS REQUIRED WHEN GYP BOARD OR HARD CEILINGS AND FURNISH AND INSTALL NEW CEILING TITLE TO MATCH SURROUNDING AREA WHEN DROP CEILINGS.



2 2ND FLOOR PLAN - ELECTRICAL.
3/32" = 1'-0"





EMERGENCY GENERATOR
77 S. BROADWAY
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ELECTRICAL RISER
DIAGRAM

ISSUED:
9-23-21
ISSUED FOR REVIEW

E200

KEY NOTES

- NEW LIFE SAFETY LOADS ATS1
200A-120/208V-3PHASE-4POLE AUTOMATIC TRANSFER SWITCH.
- NEW NON LIFE SAFETY LOADS ATS2
800A-120/208V-3PHASE-4POLE AUTOMATIC TRANSFER SWITCH.
- EXISTING ELECTRICAL SERVICE CABLES TO BE RE-ROUTED TO NEW 800A C/T WITH MAIN BREAKER CABINET. FURNISH AND INSTALL COMPRESSION CONNECTORS FOR EXTENSION OF EXISTING CABLES TO NEW C/T MAIN CABINET. FURNISH AND INSTALL NEW RACEWAY AND WIRING AS REQUIRED.
- FURNISH AND INSTALL NEW C/T CABINET WITH MAIN BREAKER RATED AT: 800A-120/208V-3PHASE-42KAIC
- INTERCEPT EXISTING METER/CT WIRING/RACEWAY AND CONNECT TO NEW 800A C/T CABINET. EXISTING CT'S TO BE DEMOLISHED. COORDINATE THIS WORK WITH COMED.
- REMOVE EXISTING 2000A MAIN ON-OFF SWITCH HANDLE. EXISTING 2000A FUSES CAN STAY.
- CONNECT NEW NON LIFE SAFETY ATS2 OUTPUT TO EXISTING SWITCHBOARD MAIN BUS.
- ALL EXISTING SWITCHES/BUCKETS NOT SERVING ANY LOADS SHALL BE TURNED OFF AND LABEL "SPARE". CONTRACTOR SHALL UPDATE EXISTING LABELING SYSTEM WITH NEW TO REFLECT EXISTING INSTALLATIONS. DELETE ALL CONFUSING INFORMATION FROM BOARD. DELETE CONFUSING INFORMATION FROM BOARD.
- DEMO EXISTING UTILITY METERS AND BYPASS CONNECTIONS ONLY IF EXISTING UTILITY METERS ARE ABANDONED OR NOT DOING ANYTHING. THE GOLD IS TO HAVE ONLY ONE METER IF POSSIBLE. COORDINATE WITH COMED FOR THIS WORK.
- DEMO EXISTING GROUNDING ELECTRODE SYSTEM. PREPARE FOR INSTALLATION OF NEW ONE IN NEW 800A MAIN SERVICE DISCONNECT.
- NEW 200A-3PH-208V FUSIBLE DISCONNECT SWITCH. FUSE AT 200A OR THERMO-MAGNETIC BREAKER BOX WITH 42KAIC BREAKER

GEN SET NATURAL GAS:
IN A WEATHER PROOF SOUND LEVEL 3
ATTENUATING ENCLOSURE WITH MOTORIZED
GRAVITY LOUVERS.

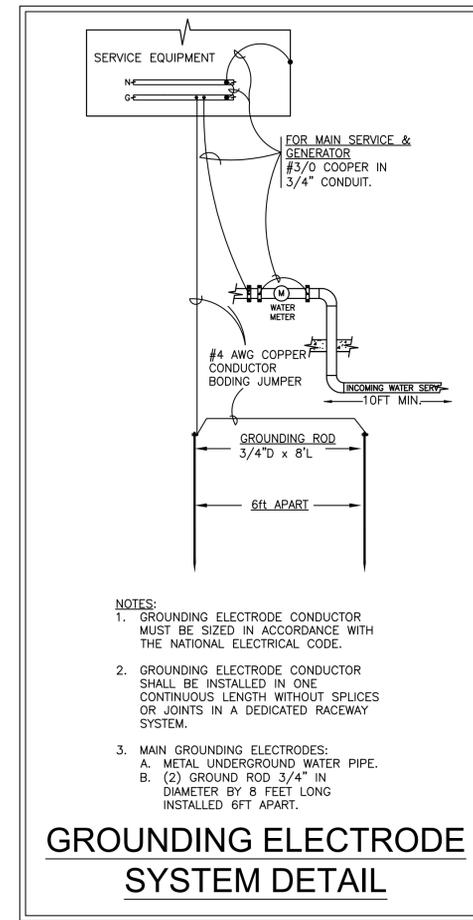
GEN SET SHALL BE ABLE TO TURN-ON THE
EMERGENCY LIGHTS IN THE BUILDING WITHIN
10sec. AFTER NORMAL POWER LOSS.

PROVIDE LIFE SAFETY LISTED EQUIPMENT AS
MANUFACTURED BY:
• DETROIT DIESEL (INTERSTATE POWER SYSTEMS)
• Robert.Alfani@istate.com; Cell Ph: 708-642-5071
• GENERAC
• CUMMINS.
• KOHLER
• CAT
OR APPROVED EQUAL

CONCRETE
PAD BY E.C.
PER GEN SET
MANUFACTURER
REQUIREMENTS

EMER. STAND BY
GEN SET
260KW
120/208V
3PH, 4W
STAND-BY
NATURAL GAS
800A-3P
100% RATED
200A-3P

GRADE LEVEL
#3/0 COOPER IN 3/4" C.
NEW GROUNDING
ELECTRODE SYSTEM.
REFER TO GROUNDING
DETAIL THIS SHEET

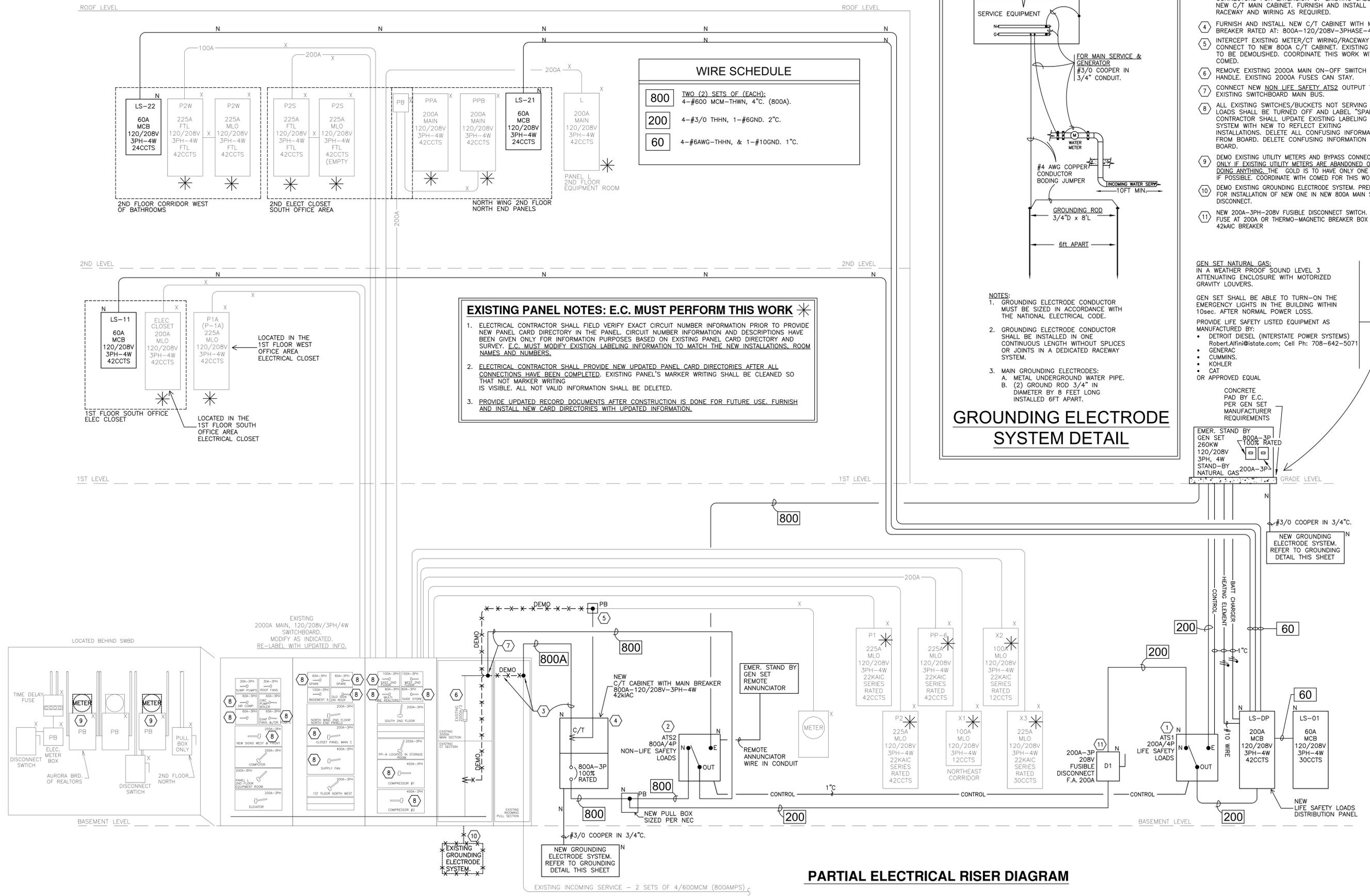


- NOTES:
- GROUNDING ELECTRODE CONDUCTOR MUST BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 - GROUNDING ELECTRODE CONDUCTOR SHALL BE INSTALLED IN ONE CONTINUOUS LENGTH WITHOUT SPLICES OR JOINTS IN A DEDICATED RACEWAY SYSTEM.
 - MAIN GROUNDING ELECTRODES:
A. METAL UNDERGROUND WATER PIPE.
B. (2) GROUND ROD 3/4" IN DIAMETER BY 8 FEET LONG INSTALLED 6FT APART.

WIRE SCHEDULE	
800	TWO (2) SETS OF (EACH): 4-#600 MCM-THWN, 4°C. (800A).
200	4-#3/0 THHN, 1-#6GND. 2°C.
60	4-#6AWG-THHN, & 1-#10GND. 1°C.

EXISTING PANEL NOTES: E.C. MUST PERFORM THIS WORK

- ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT CIRCUIT NUMBER INFORMATION PRIOR TO PROVIDE NEW PANEL CARD DIRECTORY IN THE PANEL. CIRCUIT NUMBER INFORMATION AND DESCRIPTIONS HAVE BEEN GIVEN ONLY FOR INFORMATION PURPOSES BASED ON EXISTING PANEL CARD DIRECTORY AND SURVEY. E.C. MUST MODIFY EXISTING LABELING INFORMATION TO MATCH THE NEW INSTALLATIONS, ROOM NAMES AND NUMBERS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE NEW UPDATED PANEL CARD DIRECTORIES AFTER ALL CONNECTIONS HAVE BEEN COMPLETED. EXISTING PANEL'S MARKER WRITING SHALL BE CLEANED SO THAT NOT MARKER WRITING IS VISIBLE. ALL NOT VALID INFORMATION SHALL BE DELETED.
- PROVIDE UPDATED RECORD DOCUMENTS AFTER CONSTRUCTION IS DONE FOR FUTURE USE. FURNISH AND INSTALL NEW CARD DIRECTORIES WITH UPDATED INFORMATION.



PARTIAL ELECTRICAL RISER DIAGRAM

EXISTING PANEL – P1

PANEL: P1		FRAME SIZE: 225A			VOLTAGE: 120/208V						
LOCATION: BASEMENT - MAIN ELEC RM ENTRY HALL AREA		FTL: X			PHASE: 3φ						
FEEDER: SEE RISER FOR INFORMATION		AIC: 10kAIC			WIRE: 4W						
CKT NO.	BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.	
1	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
3	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
5	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
7	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
9	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
11	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
13	20	1	CONFERENCE ROOM RECEPTACLE				CENTER CUBICAL RECEPTACLES		20	1	
15	20	1	BATHROOM LIGHTS & RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
17	20	1	BASEMENT NAC PANEL				CENTER CUBICAL RECEPTACLES		20	1	
19	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
21	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
23	20	1	NORTH CUBICAL RECEPTACLES				CENTER CUBICAL RECEPTACLES		20	1	
25	20	1	NORTH CUBICAL RECEPTACLES				WEST RECEPTION RECEPTACLES		20	1	
27	20	1	NORTH CUBICAL RECEPTACLES				WEST RECEPTION RECEPTACLES		20	1	
29	20	1	NORTH CUBICAL RECEPTACLES				FIRE ALARM PANEL		20	1	
31	20	1	NORTH CUBICAL RECEPTACLES				WEST RECEPTION RECEPTACLES		20	1	
33	20	1	NORTH CUBICAL RECEPTACLES				WEST RECEPTION RECEPTACLES		20	1	
35	20	1	NORTH CUBICAL RECEPTACLES						20	1	
37	20	1	NORTH CUBICAL RECEPTACLES						20	1	
39	20	1	NORTH CUBICAL RECEPTACLES						20	1	
41	20	1	NORTH CUBICAL RECEPTACLES						20	1	
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###			
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###	GFI BREAKER		
TOTAL AMPERAGE				###	###	###	###	###	-L.O. LOCK OUT		

EXISTING PANEL X1

PANEL: X1		FRAME SIZE: 100A			VOLTAGE: 120/208V						
LOCATION: BASEMENT LEVEL NORTH EAST CORR		MLO: X			PHASE: 3φ						
FEEDER: SEE RISER FOR INFORMATION		AIC: 10kAIC			FULL RATED						
CKT NO.	BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.	
1	20	1	N OFFICE LIGHTS				ISC COMPUTER EQUIP		20	1	
2	20	1	S OFFICE LIGHTS				BOOK KEEPING NRC		20	1	
3	20	1					BLUE -WEST RECEPT		20	1	
4	20	1	W WALL RECEPTS & CLOCK				IBM *NCR		20	1	
5	20	1	S WALL RECEPTS						20	1	
6	20	1	NW WALL RECEPTS						20	1	
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###			
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###	GFI BREAKER		
TOTAL AMPERAGE				###	###	###	###	###	-L.O. LOCK OUT		

EXISTING PANEL X2

PANEL: X1		FRAME SIZE: 100A			VOLTAGE: 120/208V						
LOCATION:		MLO: X			PHASE: 3φ						
FEEDER: SEE RISER FOR INFORMATION		AIC: 10kAIC			FULL RATED						
CKT NO.	BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.	
1	20	1	FRONT OFFICE FLR RECEPTS				SPARE		20	1	
2	20	1	CORNER OFFICE FLR RECEPTS				FLOOR RECEPTS DIRST- DIRST, PRES OFFICE		20	1	
3	20	1	RECEPTS - CLOCK -BACK ROOM				LOBBY FL RECEPTS		20	1	
4	20	1	RECEPTS - CLOCK - FRONT ROOM				LOBBY FL RECEPTS		20	1	
5	20	1	RECEPTS				RECEPTS WATER COOLER		20	1	
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###			
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###	GFI BREAKER		
TOTAL AMPERAGE				###	###	###	###	###	-L.O. LOCK OUT		

EXISTING PANEL X3

PANEL: X3		FRAME SIZE: 225A			VOLTAGE: 120/208V						
LOCATION:		MLO: X			PHASE: 3φ						
FEEDER: SEE RISER FOR INFORMATION		AIC: 10kAIC			FULL RATED						
CKT NO.	BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.	
1	20	1	BOOK VAULT LIGHTS				DINING ROOM OUTLETS		20	1	
3	20	1	OUTLETS				KITCHEN LIGHTS		20	1	
5	20	1	DIRECTOR ROOM LIGHTS				KITCHEN OUTLETS		20	1	
7	20	1	LIGHTS				MECH RM LIGHTS		20	1	
9	20	1	LIGHTS				SUPPLY ROOM MEN WASH RM JAN		20	1	
11	20	1	STORAGE AREA LIGHTS				WOMENS LOUNGE WASHROOM		20	1	
13	20	1	LIGHTS				STAIRWAY EXITS ELEV SUMP		20	1	
15	20	1	COND. FAN & BOILER LIGHTS				CORRIDOR LIGHTS		20	1	
17	20	1	KITCHEN OUTLETS				UPS ROOM OUTLETS		20	1	
19	20	1	KITCHEN OUTLETS				UPS ROOM LIGHTS		20	1	
21	20	1	DIRECTORS ROOM OUTLETS				ADDRESS GRAPH ROOM OUTLETS		20	1	
23	20	1	CORRIDOR OUTLET				ADDRESS GRAPH & STORAGE OUTLET		20	1	
25	20	1	KITCHEN - DISHWASHER				ELEVATOR SUMP		20	1	
27	20	1	KITCHEN DISPOSAL				SPARE		30	2	
29	20	1	SPARE						30	2	
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###			
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###	GFI BREAKER		
TOTAL AMPERAGE				###	###	###	###	###	-L.O. LOCK OUT		

EXISTING PANEL – P2

PANEL: P2		FRAME SIZE: 225A			VOLTAGE: 120/208V						
LOCATION: BASEMENT - MAIN ELEC RM ENTRY HALL AREA		MLO: X			PHASE: 3φ						
FEEDER: SEE RISER FOR INFORMATION		AIC: 10kAIC			WIRE: 4W						
CKT NO.	BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.	
1	20	1	SOUTH RECEPTION RECEPTACLES				WEST RECEPTION RECEPTACLES		20	1	
3	20	1	SOUTH RECEPTION RECEPTACLES				WEST RECEPTION RECEPTACLES		20	1	
5	20	1	SOUTH RECEPTION RECEPTACLES				WEST RECEPTION RECEPTACLES		20	1	
7	20	1	EAST LOBBY RECEPTACLES				SPARE		20	1	
9	20	1	EAST LOBBY RECEPTACLES				SPARE		20	1	
11	20	1	VESTIBULE RECEPTACLES				SPARE		20	1	
13	20	1	SOUTH CUBICAL RECEPTACLES				SOUTH CUBICAL RECEPTACLES		20	1	
15	20	1	SOUTH CUBICAL RECEPTACLES				SOUTH CUBICAL RECEPTACLES		20	1	
17	20	1	SOUTH CUBICAL RECEPTACLES				SOUTH CUBICAL RECEPTACLES		20	1	
19	20	1	SOUTH CUBICAL RECEPTACLES				SOUTH CUBICAL RECEPTACLES		20	1	
21	20	1	SOUTH CUBICAL RECEPTACLES				SOUTH CUBICAL RECEPTACLES		20	1	
23	20	1	SOUTH CUBICAL RECEPTACLES				SOUTH CUBICAL RECEPTACLES		20	1	
25	20	1	SOUTH RECEPTION RECEPTACLES						20	1	
27	20	1	SOUTH RECEPTION RECEPTACLES						20	1	
29	20	1	SOUTH RECEPTION RECEPTACLES						20	1	
31	20	1	WEST RECEPTION RECEPTACLES						20	1	
33	20	1	WEST RECEPTION RECEPTACLES						20	1	
35	20	1	EAST LOBBY RECEPTACLES						20	1	
37	20	1	OFFICE DOG HOUSE						20	1	
39	20	1	OFFICE DOG HOUSE						20	1	
41	20	1	OFFICE DOG HOUSE						20	1	
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###			
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###	GFI BREAKER		
TOTAL AMPERAGE				###	###	###	###	###	-L.O. LOCK OUT		

EXISTING PANEL – PP6

PANEL: PP6		FRAME SIZE: 225A			VOLTAGE: 120/208V						
LOCATION:		MLO: X			PHASE: 3φ						
FEEDER: SEE RISER FOR INFORMATION		AIC: 10kAIC			FEED THRU LUGS						
CKT NO.	BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.	
1	20	1	BLOT FARMER'S MARKER				SUMP PUMPS		40	2	
3	20	1								4	
5	20	1	OUTSIDE PHOTOCCELL							6	
7	20	1								8	
9	20	1	SW OFFICE IG RECEPT				COMPRESSOR DISCONNECT		20	2	
11	20	1	IG SW CUBE BY WINDOWS							12	
13	20	1	RECEPT DOGHOUSE EMPLOYEE AREA				BASEMENT STORAGE ROOM QUAD		20	1	
15	20	1					RECEPT 2ND FLOOR LOBBY		20	1	
17	20	1	EXIT LIGHTS NE STAIRS				RECEPT 2ND FLOOR LOBBY		20	1	
19	20	1	HEATER NE STAIRWELL				SUMP PUMP ALARM		20	1	
21	20	1	NE STAIRWELL LIGHTS				HEATER NE STAIRWELL		20	1	
23	20	1	NE STAIRWELLS LIGHTS				UNIT HEATER IN SUMP PUMP ROOM		20	1	
25	20	1	UNDER CANOPY LIGHTING				ROLL UP GATE		20	1	
27	20	1					ROLL UP GATE (PHOTOCCELL)		20	1	
29	20	1					ROLL UP GATE		20	1	
31	20	1					LIGHTING SUMP PUMP ROOM		20	1	
33	20	1	LIGHT POLES				PHOTOCCELL BYPASS		30	1	
35	20	1								36	
37	20	1					HEATER IN OUTSIDE SUMP PUMP ROOM		40	3	
39	40	2								38	
41	1	1	SPACE				SPACE			40	
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###			
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###	GFI BREAKER		
TOTAL AMPERAGE				###	###	###	###	###	-L.O. LOCK OUT		

NEW PANEL – LS-01

PANEL: LS-01		FRAME SIZE: 100A			VOLTAGE: 120/208V						
LOCATION: BASEMENT CORRIDOR		MLO: X			PHASE: 3φ						
FEEDER: SEE RISER FOR INFORMATION		AIC: 10kAIC			WIRE: 4W						
CKT NO.	BR P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.	
1	20	1	FROM PNL "X3" BOOK VAULT LIGHTS				(FROM PNL "P1") BASEMENT NAC PANEL		20	1	
3	20	1	FROM PNL "X3" DIRECTOR ROOM LIGHTS				(FROM PNL "P1") FIRE ALARM PANEL		20	1	
5	20	1	FROM PNL "X3" LIGHTS				(FROM PNL "P1") BATHROOM LIGHTS		20	1	
7	20	1	FROM PNL "X3" LIGHTS				SPARE		20	1	
9	20	1	FROM PNL "X3" STORAGE AREA LIGHTS				SPARE		20	1	
11	20	1	FROM PNL "X3" LIGHTS				SPARE		20	1	
13	20	1	FROM PNL "X3" COND.FAN BOILER LIGHTS				SPARE		20	1	
15	20	1	FROM PNL "X3" KITCHEN LIGHTS				FROM PNL "PP6" EXIT LIGHTS NE STAIRS		20	1	
17	20	1	FROM PNL "X3" MECH RM LIGHTS				FROM PNL "PP6" NE STAIRWELL LIGHTS		20	1	
19	20	1	FROM PNL "X3" CORRIDOR LIGHTS				FROM PNL "PP6" NE STAIRWELL LIGHTS		20	1	
21	20	1	FROM PNL "X3" UPS ROOM LIGHTS				FROM PNL "X3" SUPPLY RM MEN WASH RM (JAN)		20	1	
23	20	1	FROM PNL "X3" SUPPLY RM MEN WASH RM (JAN)				(FROM PNL "PP6") UNDER CANOPY LIGHTING		20	1	
25	20	1	FROM PNL "X3" WOMENS LOUNGE WASHROOM				SPARE		20	1	
27	20	1	FROM PNL "X3" STAIRWAY EXITS				FROM PNL "X1" S OFFICE LIGHTS		20	1	
29	20	1	SPARE				FROM PNL "X1" S OFFICE LIGHTS		20	1	
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###			
TOTAL CONNECTED LOADS (VA)				###	###	###	###	###	GFI BREAKER		
TOTAL AMPERAGE				###	###	###	###	###	-L.O. LOCK OUT		

KEY NOTES

- 1 TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-01". PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRING SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
- 2 PROVIDE NEW PANEL CARD DIRECTORY WITH UPDATED INFORMATION. ALL EMPTY BREAKERS OR SERVING ABANDONED LOADS SHALL BE TURN OFF AND LABEL "SPARE"

NEW LIFE SAFETY DIST PANEL – LS-DP

PANEL: LS-DP		FRAME SIZE: 200A			VOLTAGE: 120/208V		
LOCATION: BASEMENT		MCB X			PHASE: 3φ		
FEEDER: SEE RISER FOR INFORMATION		AIC: 65kAIC			FEED THRU LUGS		
CKT NO.	BR P	FAULT C.B.	CIRCUIT				



EMERGENCY GENERATOR
77 S. BROADWAY
AURORA, IL 60505

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1ST FLOOR
PANELS SCHEDULES

ISSUED:
9-23-21
ISSUED FOR REVIEW

E301

② EXISTING P-1A ②

PANEL: P1A (P-1A)		FRAME SIZE: 225A		VOLTAGE: 120/208V					
LOCATION: 1ST FLOOR OFFICE - WEST ELEC CLOSET		M.L.O.: X		PHASE: 3φ					
FEEDER: SEE RISER FOR INFORMATION		A.I.C.: 10KAIC FULL RATED		WIRE: 4W					
CKT NO.	BR P FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.
1	20 1	LOBBY LIGHT EM				ELEVATOR LIGHTS	1	20 1	2
3	20 1	LOBBY LIGHT				ELEVATOR SMOKE		20 1	4
5	20 1	COPY SOUTH				NORTHSIDE LIGHTS EM	1	20 1	6
7	20 1	COPY SOUTH				CONFERENCE RM LIGHTS	1	20 1	8
9	20 1	COUNTER BY SOUTH COPY				REFRIDGE		20 1	10
11	20 1	COUNTER BY SOUTH COPY				REFRIDGE		20 1	12
13	20 1	CONFERENCE ROOM				MICROWAVE		20 1	14
15	20 1	BATHROOM LIGHT1				MICROWAVE		20 1	16
17	20 1					DISHWASHER		20 1	18
19	20 1	IT ROOM LIGHTS				COUNTERTOP		20 1	20
21	20 1	SIGN & TIMECLOCK				LIGHTS LOBBY	1	20 1	22
23	20 1	LIGHT STAIR				LIGTS LOBBY	1	20 1	24
25	20 1					LIGHTS LOBBY	1	20 1	26
27	20 1	NORTH WALL				IT ROOM		20 1	28
29	20 1	NORTH WALL				IT ROOM		20 1	30
31	20 1	NORTH WALL				IT ROOM		20 1	32
33	20 1	NORTH WALL						20 1	34
35	20 1	NORTH WALL						20 1	36
37	20 1							20 1	38
39	20 1	BATHS				LOBBY COLUMB RECEPTION - COFFEE POT		20 1	40
41	- 1							- 1	42
TOTAL CONNECTED LOADS (VA)			###	###	###	###	###	GFI BREAKER	
TOTAL CONNECTED LOADS (VA)			####	####	####	####	####	-L.O. LOCK OUT	
TOTAL AMPERAGE									

② EXISTING OLD PANEL IN CLOSET ②

PANEL: P1		FRAME SIZE: 200A		VOLTAGE: 120/208V					
LOCATION: 1ST FLOOR OFFICE AREA SOUTH ELEC CLOSET		M.L.O.: X		PHASE: 3φ					
FEEDER: SEE RISER FOR INFORMATION		A.I.C.: 10KAIC FULL RATED		WIRE: 4W					
CKT NO.	BR P FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.
41	20 1	LITES(DIRST)				LITES (NEUS)	1	20 1	42
1	20 1	LITES(DIRST)				LITES OFFICE 1	1	20 1	21
2	20 1	LITES (NEUS)				LITES OFFICE 1	1	20 1	22
3	20 1	LITES SW				LITES OFFICE 2	1	20 1	23
4	20 1	EXIT + NITE LITES				LITES OFFICE 2	1	20 1	24
5	20 1	LITES LOBBY				LITES OFFICE 3	1	20 1	25
6	20 1	LITES LOBBY				LITES OFFICE 4	1	20 1	26
7	20 1					LITES OFFICE 5	1	20 1	27
8	20 1	BAD BREAKER				LITES OFFICE 6	1	20 1	28
9	20 1	LITES LOBBY				LITES OFFICE 7	1	20 1	29
10	20 1	ATM				RECEPTS		20 1	30
11	20 1	RECEPTS FOR ATM				LITES OFFICE 2	1	20 1	31
12	20 1	NIGHT DEPOSITORY				LITES OFFICE 4	1	20 1	32
13	20 1	SOFFIT LIGHTS				LITES OFFICE 6	1	20 1	33
14	20 1	TIME CLOCK						20 1	34
15	20 1					BATHROOM 2ND FLOOR		20 1	35
16	20 1	LITES ENTRY						20 1	36
17	20 1	SPARE				COPY MACH		20 1	37
18	20 1	EAST STAIRS						20 1	38
19	20 1	SPARE				EXH FAN ON ROOF		20 1	39
20	20 1	SPARE				TIME CLOCK FEED FOR 2 ATM LIGHT & 2 BLDNG		20 1	40
TOTAL CONNECTED LOADS (VA)			###	###	###	###	###	GFI BREAKER	
TOTAL CONNECTED LOADS (VA)			####	####	####	####	####	-L.O. LOCK OUT	
TOTAL AMPERAGE									

NEW PANEL LIFE SAFETY LOADS - LS-11

PANEL: LS-11		FRAME SIZE: 100A		VOLTAGE: 120/208V					
LOCATION: 1ST FLR OFFICE AREA SOUTH ELEC CLOSET		M.L.O.: X		PHASE: 3φ					
FEEDER: SEE RISER FOR INFORMATION		A.I.C.: 10KAIC		WIRE: 4W					
CKT NO.	BR P FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR P	CKT NO.
1	20 1	FROM PNL "P-1A" LOBBY LIGHT EM				FROM PNL "CLOSET" LITES (DIRST)		20 1	2
3	20 1	FROM PNL "P-1A" LOBBY LIGHT				FROM PNL "CLOSET" LITES SW		20 1	4
5	20 1	FROM PNL "P-1A" BATHROOM LIGHT				FROM PNL "CLOSET" LITES LOBBY		20 1	6
7	20 1	FROM PNL "P-1A" IT ROOM LIGHTS				FROM PNL "CLOSET" LITES		20 1	8
9	20 1	FROM PNL "P-1A" LIGHT STAIR				FROM PNL "CLOSET" LITES OFFICE 1		20 1	10
11	20 1	FROM PNL "P-1A" ELEVATOR LIGHTS				FROM PNL "CLOSET" LITES OFFICE 2		20 1	12
13	20 1	FROM PNL "P-1A" NORTHSIDE LIGHTS EM				FROM PNL "CLOSET" LITES OFFICE 3		20 1	14
15	20 1	FROM PNL "P-1A" CONFERENCE RM LIGHTS				FROM PNL "CLOSET" LITES OFFICE 4		20 1	16
17	20 1	FROM PNL "P-1A" LIGHTS LOBBY				FROM PNL "CLOSET" LITES OFFICE 5		20 1	18
19	20 1	FROM PNL "P-1A" LIGHTS LOBBY				FROM PNL "CLOSET" LITES OFFICE 6		20 1	20
21	20 1	FROM PNL "P-1A" LIGHTS LOBBY				FROM PNL "CLOSET" LITES OFFICE 7		20 1	22
23	20 1	FROM PNL "CLOSET" LITES STAIRS				FROM PNL "CLOSET" LITES (NEUS)		20 1	24
25	20 1	FROM PNL "CLOSET" SOFFIT LIGHTS				FROM PNL "CLOSET" EXIT + NITE LITES		20 1	26
27	20 1	SPARE				FROM PNL "CLOSET" LITES LOBBY		20 1	28
29	20 1	SPARE				FROM PNL "CLOSET" LITES ENTRY		20 1	30
31	20 1	SPARE				SPARE		20 1	20
33	20 1	SPARE				SPARE		20 1	22
35	1	SPACE				SPACE		1	24
37	1	SPACE				SPACE		1	26
39	1	SPACE				SPACE		1	40
41	1	SPACE				SPACE		1	42
TOTAL CONNECTED LOADS (VA)			###	###	###	###	###	GFI BREAKER	
TOTAL CONNECTED LOADS (VA)			####	####	####	####	####	-L.O. LOCK OUT	
TOTAL AMPERAGE									

KEY NOTES

- TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-11". PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRING SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
- PROVIDE NEW PANEL CARD DIRECTORY WITH UPDATED INFORMATION. ALL EMPTY BREAKERS OR SERVING ABANDONED LOADS SHALL BE TURN OFF AND LABEL "SPARE"



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2ND FLOOR
PANEL SCHEDULES

ISSUED:
9-23-21
ISSUED FOR REVIEW

E302

EXISTING PANEL - 2ND FL WEST

Table for Existing Panel P2W, 225A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.

EXISTING PANEL - 2ND FL WEST

Table for Existing Panel P2W, 225A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.

KEY NOTES

- 1 TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-21", PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRING SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
2 TRANSFER EXISTING LOAD FROM THIS PANEL TO NEW LIFE SAFETY PANEL "LS-22", PROVIDE ALL REQUIRED WIRING AND CONDUIT AS REQUIRED FOR RELOCATION OF EXISTING CIRCUITS. NEW RACEWAY AND WIRING SHALL MATCH EXISTING SIZE AND TYPE CURRENTLY BEING USED. TURN OFF EMPTY BREAKERS AFTER RELOCATION OF LOAD TO NEW LIFE SAFETY PANEL AND LABEL "SPARE"
3 PROVIDE NEW PANEL CARD DIRECTORY WITH UPDATED INFORMATION. ALL EMPTY BREAKERS OR SERVING ABANDONED LOADS SHALL BE TURN OFF AND LABEL "SPARE"

NEW PANEL LIFE SAFETY LOADS - LS-21

Table for New Panel Life Safety Loads LS-21, 100A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.

NEW PANEL LIFE SAFETY LOADS - LS-22

Table for New Panel Life Safety Loads LS-22, 100A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.

EXISTING PANEL PPA-NORTH WING 2ND FLOOR

Table for Existing Panel PPA, 225A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.

EXISTING PANEL PPA-NORTH WING 2ND FLOOR

Table for Existing Panel PPA, 225A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.

EXISTING PANEL - 2ND FL SOUTH

Table for Existing Panel P2S, 225A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.

EXISTING PANEL L

Table for Existing Panel L, 225A, 120/208V. Columns include Ckt No., Fault C.B., Circuit Description, Phase A, B, C, and Wire-4W. Includes total connected loads and amperage.



A. GENERAL REQUIREMENTS:

1. SCOPE OF WORK:
 - a. FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DRAWINGS. THE INSTALLATION SHALL BE COMPLETE IN EVERY DETAIL ESSENTIAL TO PROPER AND SATISFACTORY OPERATION, READY FOR USE AND IN CONDITION FOR SERVICE WHEN DELIVERED TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS EXCEPT AS OTHERWISE SPECIFIED HEREIN.
 - b. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.
2. APPROVALS:
 - a. OBTAIN APPROVALS FROM INSPECTION AUTHORITIES FOR ELECTRICAL INSTALLATIONS REQUIRING SPECIFIC APPROVAL. PRINTS OF THE ELECTRICAL DRAWINGS, FOR THIS PURPOSE, WILL BE FURNISHED UPON REQUEST. REQUIRED WIRING DIAGRAMS SHALL BE PROVIDED AND SUBMITTED FOR APPROVAL BY THE CONTRACTOR. COPIES OF THE FINAL APPROVALS SHALL BE OBTAINED BEFORE COMMENCEMENT OF RELATED WORK.
3. CODES AND STANDARDS:
 - a. THE WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, MUNICIPAL, AND NATIONAL CODES. WHERE THE CONSTRUCTION DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE CONSTRUCTION DOCUMENTS SHALL GOVERN. HOWEVER, THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.
 - b. MATERIALS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO LOCAL CODE AND STANDARDS, THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), UNDERWRITER'S LABORATORIES (UL), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND ALL LAWS AND ORDINANCES OF LOCAL, STATE AND FEDERAL GOVERNING AGENCIES.
4. FEES:
 - a. ALL PERMIT FEES SHALL BE PAID BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED INSURANCE, INSPECTIONS, APPLICATIONS, PERMITS, LICENSES, ETC. RELATING TO THE ELECTRICAL WORK.
5. CONTRACTOR'S LIABILITY:
 - a. THE CONTRACTOR SHALL AGREE THAT THE OWNER, THE ARCHITECT AND THE ENGINEER SHALL NOT IN ANY FORM OR MANNER BE ANSWERABLE, OR ACCOUNTABLE FOR ANY VIOLATION OF ORDINANCES OR REGULATIONS OF ANY AUTHORITY, LOCAL UTILITIES, INSURANCE COMPANIES AND GOVERNMENT AGENCIES HAVING JURISDICTION, OR FOR ANY ACCIDENTS, INJURY, LOSS OR DAMAGE TO ANY PERSON OR PERSONS AND THEIR PROPERTIES ARISING FROM NEGLIGENCE OR CARELESSNESS ON THE PART OF THE CONTRACTOR (NOR ANYONE IN HIS EMPLOY), ANY OF HIS SUBCONTRACTORS, OR ANY OTHER PARTIES OR AGENTS TO THIS CONTRACT.
 - b. THE CONTRACTOR SHALL AGREE TO MAKE GOOD TO SAID OWNER, ARCHITECT, AND ENGINEER ANY LOSS, DAMAGE OR EXPENSE SO INCURRED, TOGETHER WITH REASONABLE ATTORNEY'S FEES.
 - c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND COMPLYING WITH BOTH THE DRAWINGS AND SPECIFICATIONS. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, OR CODES, THE REFERENCE WHICH PROVIDES THE MORE COMPLETE OR HIGHER STANDARD SHALL PREVAIL.
 - d. THE CONTRACTOR SHALL CHECK ALL DRAWINGS FURNISHED TO THEM IMMEDIATELY UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE OWNER OF ANY DISCREPANCIES. FIGURES MARKED ON DRAWINGS SHALL IN GENERAL BE FOLLOWED IN PREFERENCE TO SCALE MEASUREMENTS. LARGE SCALE DRAWINGS SHALL IN GENERAL GOVERN SMALL SCALE DRAWINGS. THE CONTRACTOR SHALL COMPARE ALL DRAWINGS AND VERIFY THE FIGURES BEFORE LAYING OUT THE WORK AND WILL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.
6. EXAMINATION OF DRAWINGS AND SITE:
 - a. THE ELECTRICAL CONTRACTOR SHALL OBTAIN A COMPLETE SET OF ARCHITECTURAL AND ENGINEERING DOCUMENTS AND COORDINATE WITH MECHANICAL, PLUMBING, ARCHITECTURAL, CIVIL AND OTHER TRADES FOR EXACT DIMENSIONS, CLEARANCES, ROUGH-IN LOCATIONS, AND OTHER ADDITIONAL SCOPE OF WORK THAT MAY NOT BE SHOWN ON THE ELECTRICAL PLANS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE POWER TO OTHER TRADES EQUIPMENT HARDWARE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONTROLS, FIRE, MOTORIZED DOORS, DAMPERS, POLE LIGHTS, AND OTHER SYSTEMS. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL PLANS, THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SAFETY DISCONNECT SWITCHES TO MECHANICAL EQUIPMENT AND TRANSFORMERS UNLESS OTHERWISE INDICATED.
 - b. BY THE ACT OF HAVING SUBMITTED A BID, THE CONTRACTOR SHALL DEEM TO HAVE MADE SUCH AN EXAMINATION AND SHALL HAVE ACCEPTED THE PREVAILING CONDITIONS. NO SUBSEQUENT ALLOWANCE WILL BE MADE TO CONTRACTOR BECAUSE OF HIS NEGLIGENCE IN COMPLYING WITH THE FOREGOING.
7. GUARANTEE:
 - a. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE COVERING ALL OF THE EQUIPMENT AND INSTALLATION FURNISHED UNDER THE CONTRACT AGAINST FAILURE FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT. THE CONTRACTOR SHALL ASSUME THE LIABILITY OF ALL EQUIPMENT AND INSTALLATION COVERED IN THIS CONTRACT, INCLUDING ALL COSTS OF LABOR, MATERIALS AND EQUIPMENT RENTALS REQUIRED.
 - b. ANY ADDITIONAL COSTS INCURRED IN THE REPAIR AND RECONSTRUCTION OF ALL OTHER INSTALLATIONS NOT PART OF THIS CONTRACT BUT WHICH MIGHT BE DAMAGED BY THE EQUIPMENT GUARANTEED OR AFFECTED BY THE REPAIR WORK COVERED UNDER THE GUARANTEE, SHALL BE PART OF THIS GUARANTEE.
8. INTERPRETATION OF THE DOCUMENTS:
 - a. CAREFULLY COMPARE THE DRAWINGS AND SPECIFICATIONS, CHECKING MEASUREMENTS AND CONDITIONS UNDER WHICH THIS INSTALLATION IS TO BE MADE. FOR CLARIFICATION BETWEEN VARIOUS DRAWINGS, BETWEEN DRAWINGS OR SPECIFICATION, OR BETWEEN SECTIONS OF THE SPECIFICATION, THE MATTER SHALL BE REFERRED TO THE ENGINEER BEFORE ANY WORK IS EXECUTED. THE CONTRACTOR SHALL STATE IN THEIR PROPOSAL ANY EXCEPTIONS NECESSARY TO MAKE THIS A COMPLETE, READY TO USE INSTALLATION. IF NOT STATED IN THE PROPOSAL, IT WILL NOT BE CONSIDERED EXTRA.
 - b. OMISSIONS FROM THE DRAWINGS, SPECIFICATION NOTES, OR DETAILS OF WORK WHICH ARE NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED DETAILS OF THE WORK BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.
9. ELECTRICAL DRAWINGS:
 - a. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL DOORS, WALLS, FURNITURE, EQUIPMENT, ETC. THE LOCATION OF RACEWAY SYSTEM COMPONENTS IS SCHEMATIC. THE EXACT LOCATION OF RACEWAY SYSTEM COMPONENTS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL CONFIRM THE DIMENSIONS OF THE ACTUAL EQUIPMENT TO BE SUPPLIED FOR THIS PROJECT, AND VERIFY CLEARANCES AND ROUGH-INS PRIOR TO STARTING WORK.
10. SHOP DRAWINGS AND SUBMITTALS:
 - a. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHOP DRAWING SUBMITTALS WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO: PRODUCT DATA AND EQUIPMENT SPECIFICATIONS SHEETS, SCHEMATIC DIAGRAMS, WIRING DIAGRAMS, SIZES, MOUNTING DETAILS (WITH REQUIRED ELEVATIONS), TECHNICAL DESCRIPTIONS OF COMPONENTS, TEST REPORTS, CERTIFICATES, OPERATING AND MAINTENANCE MANUALS, AND PROPER CALCULATIONS TO ENSURE SPECIFIED PERFORMANCE OF THE SYSTEMS. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO APPROVAL OF THE SUBMITTALS AND SHOP DRAWINGS.
 - b. SUBMIT COMPLETE SHOP DRAWINGS FOR MANUFACTURED EQUIPMENT: CLEARLY MARK SUBMISSIONS FOR LIGHTING FIXTURES WITH THE TYPE ASSIGNED TO EACH FIXTURE IN THE FIXTURES SCHEDULE. INCLUDE SELECTION OF INTENDED PART. INCLUDE LAMPS AND BALLASTS.
 - c. PROVIDE SUFFICIENT INFORMATION AND DATA REQUIRED TO REASONABLY DETERMINE PROPER COMPLIANCE WITH THE SPECIFICATIONS.
 - d. IN ADDITION, THE CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF MATERIALS PROPOSED, GIVING THE MANUFACTURER'S NAME, CATALOG NUMBER, OR OTHER MEANS OF IDENTIFICATION TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS.
9. REVIEW OF SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY, AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS, NOR SHALL IT BE CONSIDERED AS RELIEVING THE CONTRACTOR OF BASIC RESPONSIBILITY UNDER THE CONTRACT. SHOP DRAWINGS SHALL BE SUBMITTED ON, BUT NOT BE LIMITED TO THE FOLLOWING SYSTEMS: LIGHT FIXTURES AND ALL ASSOCIATED FIXTURES HARDWARE INCLUDING LAMPS, WIRING DEVICES, COVER PLATES, ELECTRICAL GEAR, PANELS, BREAKERS, DISCONNECTS, BUSS DAVA/VOICE AND CABLING (WHEN INCLUDED IN THE PROJECT), CABLE (WHEN INDICATED), FIRE ALARM DEVICES, AUTOMATIC TRANSFER SWITCHES, GENERATOR, ETC.

B. MATERIAL AND EQUIPMENT:

1. GENERAL:
 - a. PROPOSALS SHALL BE BASED UPON THE FURNISHING OF ALL MATERIALS AND EQUIPMENT AS SPECIFIED, WHICH IN EVERY CASE SHALL BE NEW AND OF THE BEST GRADE AND QUALITY AVAILABLE. EQUIPMENT AND MATERIALS SHALL BE WITHOUT DEFECT AND SHALL NOT BE USED FOR TEMPORARY OR TEMPORARY PURPOSES, WITHOUT THE ENGINEER'S PRIOR WRITTEN AUTHORIZATION.
 - b. ALL ITEMS OF EQUIPMENT OF ONE TYPE, EXCEPT CONDUIT, CONDUIT FITTINGS, OUTLET BOXES, WIRE AND CABLE SHALL BE THE PRODUCT OF ONE MANUFACTURER THROUGHOUT UNLESS OTHERWISE INDICATED OR ACCEPTED BY THE ENGINEER.
2. RACEWAYS:
 - a. THE CONTRACTOR SHALL PROVIDE ALL CONDUITS SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO LIGHTING, RECEPTACLES, HEATING, AIR CONDITIONS, PLUMBING EQUIPMENT, VOICE/DATA/CATV/AV OUTLETS AND ELECTRICAL EQUIPMENT IN GENERAL.
 - b. ALL PANEL AND SERVICE FEEDERS SHALL BE IN RIGID GALVANIZED STEEL CONDUIT (RGSC) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE UL LABELED. EMT SHALL BE ACCEPTABLE FOR BRANCH CIRCUITS RUN ABOVE SUSPENDED CEILING OR CONCEALED IN INTERIOR PARTITIONS. EMT CONNECTORS SHALL BE COMPRESSION TYPE UNLESS OTHERWISE INDICATED. SET SCREW FITTINGS ARE NOT PERMITTED. CONDUIT UNDER SLAB OR LOCATED IN THE EXTERIOR OF THE BUILDING SHALL BE RGSC.
 - c. MINIMUM SIZES OF CONDUIT SHALL BE 3/4" FOR INDIVIDUAL LIGHTING FIXTURE CONNECTION OR TO INDIVIDUAL LIGHT SWITCHES AND FOR ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED. IF HVAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE MINIMUM OF 1/2" SIZE, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL IN/UNDER FLOOR SLAB CONDUIT SHALL BE A MINIMUM OF 1" SIZE UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
 - d. SUPPORT ALL CONDUIT, INCLUDING SEISMIC AND SWAY BRACING.
 - e. GENERALLY, ALL CONDUIT SHALL BE CONCEALED EXCEPT FOR UNFINISHED AREAS, SUCH AS EQUIPMENT ROOMS. EXPOSED CONDUIT SHALL BE ALLOWED ONLY AS NOTED ON PLAN AND AS APPROVED BY THE OWNER'S CONSTRUCTION MANAGER. PAINTING OF CONDUITS WILL BE BY GENERAL CONTRACTOR ONLY.
 - f. FLEXIBLE METAL CONDUIT SHALL BE ACCEPTABLE FOR THE FOLLOWING APPLICATIONS AND SHALL NOT EXCEED 6 FEET IN LENGTH. INSTALL GREEN GROUNDING CONDUCTOR
 - FINAL CONNECTIONS TO VIBRATING EQUIPMENT SUCH AS MOTORS, TRANSFORMERS, ETC SHALL BE MADE WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC).
 - FINAL INTER-CONNECTIONS BETWEEN LIGHT FIXTURES.
 - FINAL CONNECTIONS WHERE RIGID CONDUIT IS NOT PRACTICAL.
1. PROVIDE POLY PULL-STRIING IN ALL EMPTY CONDUITS.
- m. HOME RUNS AND MAIN CONDUIT RUNS ARE TO BE HELD TIGHT TO STRUCTURE ABOVE OR AS REQUIRED TO ALLOW PROPER CLEARANCE OF CEILING AND OTHER TRADES WORK. RACEWAYS SHALL BE SECURELY SUPPORTED BY APPROVED STRUCTURAL METHODS AT FIVE FOOT (5') INTERVALS.
- n. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO COLUMN LINES.
- o. ALL CONDUITS MUST BE SIZED PER CODE.
- p. WHERE RACEWAY IS SUBJECT TO MECHANICAL INJURY OR CORROSION UTILIZE RGSC OR INTERMEDIATE METAL CONDUIT (IMC), FITTINGS SHALL BE THREADED.
- q. PROVIDE PULL BOXES IN RUNS OVER 100 FEET, WHEN MORE THAN THE EQUIVALENT OF THREE (3) 90° BENDS ARE USED, AND AS SHOWN ON DRAWINGS.

3. ELECTRICAL BOXES:
 - a. UNLESS OTHERWISE NOTED, OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL, KNOCKOUT TYPE, WITH SUITABLE PLASTER RINGS AND COVER PLATES.
 - b. UNSEAL KNOCKOUT HOLES SHALL REMAIN CLOSED AND THOSE OPENED BY ERROR SHALL BE CLOSED WITH SNAP-IN BLANKS.
 - c. OUTLET BOXES SHALL NOT BE SMALLER THAN REQUIRED BY CODE FOR THE NUMBER AND SIZE OF WIRES TO BE INSTALLED.
 - d. BOXES IN COVE AND LOCATED ABOVE SUSPENDED CEILING SHALL BE PLENUM RATED.
 - e. FLOOR BOXES: PROVIDE SYSTEMS PER DRAWINGS.
1. PROVIDE JUNCTION BOXES, PULL BOXES, CABLE SUPPORTS, AND WIREWAYS AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS. COVERS SHALL BE ACCESSIBLE. SMALL JUNCTION BOXES SHALL BE SIMILAR TO OUTLET BOXES.
- g. JUNCTION BOXES AND COVERS SHALL BE FABRICATED FROM GALVANIZED NEC GAGE SHEET STEEL. OUTLET BOXES TO BE OF THE HOT-DIPPED GALVANIZED, PRESSED STEEL, KNOCKOUT TYPE. BOXES SHALL GENERALLY BE 4 INCHES SQUARE, 1-1/2" DEEP MINIMUM, EXCEPT WHERE NOTED OTHERWISE.
- h. PULL BOXES, CABLE SUPPORT BOXES, AND LARGE JUNCTION BOXES FOR INDOOR USE SHALL BE MADE OF CODE GAUGE STEEL. COVERS SHALL BE HELD IN PLACE WITH STAINLESS STEEL SCREWS. PAINT INTERIOR AND EXTERIOR SURFACES WITH RUST-INHIBITIVE PAINT.
- e. BOXES SHALL BE AS MANUFACTURED BY: APPLETON, GARVIN, RACO (HUBBELL) & STEEL CITY.

4. SLEEVES:
 - a. THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH IT'S RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR.
 - b. UNLESS OTHERWISE NOTED, ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, 3/4" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THE FIRE RATING OF THE FLOOR OR WALL CONFORM TO UL ASSEMBLY RATING OF FLOOR OR WALL.
 - c. SLEEVES IN BEARINGS AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT BLACK STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILING, OR FOR CONCEALED VERTICAL CONDUIT.
 - d. SLEEVES SHALL HAVE PLASTIC END BUSHES INSTALLED WHEN THEY ARE USE FOR THE INSTALLATION OF OPEN CABLING.
5. WIRING:
 - a. CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SHALL BE COPPER AND THE AWG SIZE AND TYPE AS SHOWN ON DRAWINGS MINIMUM WIRE SIZE SHALL BE #12 UNLESS OTHERWISE INDICATED IN THE DRAWINGS. THE CONDUCTORS SHALL HAVE 600 VOLT INSULATION, TYPE THHW OR THHN.
 - b. CONDUCTORS SHALL BE STRANDED FOR SIZES #10AWG AND LARGER.
 - c. ALUMINUM CONDUCTORS ARE NOT PERMITTED.
 - d. ALL WIRING SHALL BE IN RACEWAY.
 - e. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #10 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCKTIGHT" FOR #8 AWG AND LARGER. EQUALS BY BUCHANAN OR IDEAL ARE ACCEPTABLE.
 - f. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:
 - 120/208 VOLT SYSTEM
 - NEUTRAL - WHITE
 - PHASE A OR L1 - BLACK
 - PHASE B OR L2 - RED
 - PHASE C OR L3 - BLUE
 - GROUND - GREEN
6. WIRING DEVICES:
 - a. THIS CONTRACTOR SHALL FURNISH AND INSTALL SWITCHES AND RECEPTACLES AS SHOWN ON THE DRAWINGS AND AS NECESSARY FOR A COMPLETE INSTALLATION.

C. INSTALLATION (VERIFY WITH G.C./MEANS AND METHODS SHOULD BE APPROVED BY GC AND ARCHITECT):

1. CUTTING AND PATCHING:
 - a. ALL CUTTING, DRILLING, PATCHING, ETC. NECESSARY FOR INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT SHALL BE DONE BY THIS CONTRACTOR.
 - b. ALL DISTURBED CONSTRUCTION AND FINISHED SHALL BE RETURNED TO ITS ORIGINAL STATE. HOLES IN CONCRETE WALLS AND FLOORS SHALL BE CORE DRILLED AND SLEEVED. NO CUTTING OF STRUCTURAL MEMBERS WILL BE ALLOWED.
2. INSTALLATION OF WORK:
 - a. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE SAFETY OF THE OWNERS EMPLOYEES, BUILDING EMPLOYEES AND GUESTS, AS WELL AS THEIR OWN FORCES, BY ADEQUATELY PROTECTING ANY EXPOSED LIVE CONDUCTORS OR DEVICES THROUGHOUT THE COURSE OF THIS WORK.
 - b. WIRE SHALL BE INSTALLED CONTINUOUS BETWEEN DEVICES, WITH SPLICES LOCATED ONLY IN JUNCTION BOXES, PULL BOXES, OUTLET BOXES OR IN CABINETS. CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO REACH THE FARTHEST TERMINAL IN PANELS. A MINIMUM OF 6" LOOPS SHALL REMAIN WHERE CONNECTIONS OR TAPS ARE TO BE MADE IN BRANCH CIRCUIT WIRING.
 - c. CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT LOCATION OF ALL EQUIPMENT AND IN CASE ANY OUTLETS DO NOT COME IN CORRECT LOCATION, HE SHALL MOVE SAME, DO NECESSARY CUTTING AND PATCHING.
 - d. OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF OUTLETS WITHIN 10'-0" RADIUS BEFORE WORK IS INSTALLED WITHOUT EXTRA COST.
 - e. CHECK WITH HVAC CONTRACTOR AS TO LOCATION OF UNITS, DUCTS AND GRILLES AND PLUMBING CONTRACTOR AS TO LOCATION OF PIPING BEFORE INSTALLING THE WORK.
 - f. CONTRACTOR SHALL CONSULT WITH THE ARCHITECT AND REVIEW THE PLANS TO VERIFY THE EXACT LOCATIONS OF ALL OUTLETS ARE ABOVE COUNTERS WHERE CABINET WORK OCCURS, AND VERIFY THAT SWITCHES ARE AT THE CORRECT SIDE OF DOOR SWINGS.
 - d. THE CONTRACTOR SHALL CONSULT WITH THE EQUIPMENT SUPPLIERS FOR THE CORRECT SIZES OF ALL OUTLETS IN SUFFICIENT TIME BEFORE WALL CONSTRUCTION.
 - e. FAILURE OF THE CONTRACTOR TO COMPLY WITH ALL OF THE ABOVE SHALL MAKE HIM/HER RESPONSIBLE FOR ANY RELOCATIONS AT HIS EXPENSE DUE TO CONFLICT WITH OTHER EQUIPMENT.
3. GROUNDING:
 - a. CONTRACTOR SHALL INSTALL ENTIRE CONDUIT SYSTEM, INCLUDING BOXES, CABINETS, PANELS, ETC. SO AS TO INSURE PROPER GROUND CONTINUITY THROUGHOUT THE SYSTEM WHICH INCLUDES BUT IS NOT LIMITED TO: PROVIDE COMPLETE WIRE GROUNDING CONDUCTOR SYSTEM, #12 AWG MINIMUM, SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPED EDITION OF THE CODE.
 - b. ALL DEVICES SHALL BE BONDED TO THE CONDUIT SYSTEM. USE A BONDING JUMPER BETWEEN THE OUTLET BOX AND THE DEVICE GROUNDING TERMINAL. METAL-TO-METAL JUST CONTACT BETWEEN THE DEVICES YOKE AND THE OUTLET BOX IS NOT SUFFICIENT AND IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES. ALL JUNCTION BOXES, OUTLET BOXES AND PULL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM. ALL FLEXIBLE CONDUIT, SHALL BE GROUNDED WITH GREEN GROUNDING CONDUCTOR.
 - c. ALL ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE TO BE GROUNDED. CONDUIT SYSTEM IS TO BE ELECTRICALLY CONTINUOUS. ALL LOCK NUTS MUST CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES. WHERE ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE ISOLATED FROM THE CONDUIT SYSTEM, USE BONDING JUMPERS WITH APPROVED CLAMPS. ALL GROUND CLAMPS SHALL BE "PEN-UNION" OR EQUAL, SIMILAR TO "GPL" TYPE.
 - d. THE COMPLETE ELECTRICAL INSTALLATION SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODE. EQUIPMENT GROUNDING SYSTEM CABLE SHALL BE COPPER.
 - e. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS AND ENCLOSURES WITHIN THE BUILDING.
 - f. ACCESSIBLE GROUNDING CONNECTIONS SHALL BE BOLTED OR CLAMP TYPE UNLESS OTHERWISE INDICATED. SOLDERED CONNECTIONS WILL NOT BE PERMITTED IN THE GROUNDING SYSTEM.
4. FIRE STOPPING (MEANS AND METHODS- SHOULD BE APPROVED BY G.C. AND ARCHITECT)
 - a. ALL PENETRATIONS IN WALL, FLOOR OR CEILINGS SHALL BE SUITABLY CLOSED UP SUBJ SEALED WITH A FIRE STOPPING COMPOUND LISTED IN THE MOST RECENT FACTORY RESEARCH. FIRE STOPPING PRODUCTS SHALL BE MANUFACTURED BY 3M CO.
5. ELECTRICAL CONNECTIONS
 - a. ALL WIRE CONNECTIONS SHALL BE MADE BY MEANS OF SOLDERLESS CONNECTORS.
 - b. JOINT AND SPLICES SHALL BE COVERED WITH 3M ELECTRICAL TAPE TO 150% OF INSULATION VALUE.
 - c. NO SPLICES SHALL BE MADE IN THE CONDUCTOR EXCEPT AT OUTLET BOXES, JUNCTION BOXES, OR IN SPLICE BOXES.
6. EQUIPMENT CONNECTIONS
 - f. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS AND FOR ALL OWNER FURNISHED EQUIPMENT. PROVIDE A FLEXIBLE LIQUID TIGHT CONNECTIO TO ALL VIBRATION PRODUCING EQUIPMENT.
 - g. THE CONTRACTOR SHALL MAKE POWER CONNECTIONS TO ALL MOTORS AND EQUIPMENT FURNISHED BY OTHERS. SEE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS, AND DRAWING NOTES FOR ADDITIONAL INFORMATION
 - h. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
1. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.
- j. ALL DEVICES INSTALLED OUTSIDE OR IN DAMP LOCATIONS SHALL BE APPROVED WEATHERPROOF RATED.
- k. THE CONTRACTOR SHALL INSTALL ALL CONDUITS AND WIRES WITH A MINIMUM NUMBER OF BENDS AND IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE. AVOID OBSTRUCTIONS, PRESERVE HEAD ROOM, KEEP OPENINGS AND PASSAGEWAYS CLEAR AND MEET ALL STRUCTURAL CODE REQUIREMENTS.
- l. BRANCH CIRCUITS TO RECEPTACLES, LIGHTING AND MISC. SMALL LOADS (20 AMP CIRCUITS), UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE 2-#12, 1-#12G, 3/4" C.
- m. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, WIRE AND CABLE FURNISHED TO HIM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL INSTALLATION DRAWINGS AND WIRING DIAGRAMS FROM THE EQUIPMENT MANUFACTURER. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
- n. CONTRACTOR SHALL MAKE FINAL CONNECTIONS AND TERMINATIONS TO THE OWNER, MECHANICAL, AND PLUMBING CONTRACTOR'S FURNISHED EQUIPMENT.

7. MISCELLANEOUS SUPPORTING MEMBERS
 - a. THE INSTALLATION OF ANGLES CHANNELS, AND OTHER MISCELLANEOUS STEEL, BOLTS, RODS, ETC. REQUIRED TO SUPPORT LIGHT FIXTURE, CONDUIT, RACEWAY, LADDER TRAY, OR OTHER ELECTRICAL EQUIPMENT OR DEVICES SHALL BE COORDINATED WITH THE G.C.
8. SPECIAL SYSTEMS:
 - a. VOICE/DATA/VIDEO TV SYSTEMS: UNDER THIS SET OF ELECTRICAL DRAWINGS CONTRACTOR SHALL INSTALL CONDUITS AND J-BOXES. G.C. IS RESPONSIBLE FOR COORDINATION BETWEEN ALL SUB CONTRACTORS AND IS ULTIMATELY RESPONSIBLE FOR ACCURATELY DICTATING THE SCOPE BETWEEN SUB CONTRACTS.
- b. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE G.C. TO PROVIDE LOW VOLTAGE CABLING, APPROPRIATE TAGS BACK TO MAIN DEMARC AREA.
9. GENERAL INSTALLATION NOTES
 - a. THE CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO ANY STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT OR STRUCTURAL ENGINEER.
 - b. THE CONTRACTOR SHALL PROVIDE SUPPORT FOR ALL FIXTURES AND ELECTRICAL EQUIPMENT TO COMPLY WITH BUILDING CODE AND ALL LOCAL ORDINANCES.
 - c. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS, WIRES, BOXES, SWITCHES, LIGHT FIXTURES (WITH LAMPS), RECEPTACLES, SERVICE DEVICES, SWITCHBOARDS AND PANELBOARDS (WHEN INDICATED AS NEW) REQUIRED FOR A COMPLETE INSTALLATION AND OPERATIONAL ELECTRICAL SYSTEM.
 - d. PROVIDE A EXTERNAL MANUAL DISCONNECTING MEANS AT ALL MOTORS OR PACKAGED MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE. SOME UNITS ARE PROVIDED BY MECHANICAL CONTRACTOR A PART OF A MECHANICAL PACKAGE.
 - e. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING THROUGH FIRE RATED SEPARATIONS, THROUGH STOP FIRE SEALING OF CONDUITS SHALL BE MADE WITH 3M CP25W+ CAULK ACCORDING TO UL APPLICATION.
 - f. LOCATIONS SHOWN ON THE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS TAKE PRECEDENCE OVER THOSE SHOWN ON THE ELECTRICAL DRAWINGS. REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR THE EXACT LOCATIONS, RATINGS, TYPE CONNECTIONS, WIRING DIAGRAMS AND AUXILIARY DEVICES.
 - g. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRE AND CONNECTIONS FOR LINE VOLTAGE LIGHTING CONTROLS AND LOW VOLTAGE LIGHTING CONTROL, UNLESS NOTED OTHERWISE ON DRAWINGS. THE CONTRACTOR SHALL MAKE ALL POWER CONNECTIONS TO HVAC EQUIPMENT INCLUDING 120 VOLT POWER CONTROL, MONITORING, AND SIGNALING EQUIPMENT FURNISHED BY OTHER DISCIPLINES. COORDINATE WITH OTHER DISCIPLINES FOR REQUIREMENTS.
 - h. THE CONTRACTOR SHALL RECEIVE, STORE AND INSTALL ALL ELECTRICAL ITEMS FURNISHED BY THE OWNER.
 - i. REFER TO THE REFLECTED CEILING PLAN AND THE ARCHITECTURAL FLOOR PLANS FOR THE EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND DEVICES.
 - j. RECEPTACLES SHALL HAVE PRINTED LABELS WITH THE PANEL AND CIRCUIT NUMBER PLACED ON THE COVER. THE LABEL SHALL BE RED WITH BLACK LETTERS FOR EMERGENCY RECEPTACLES, AND WHITE WITH BLACK LETTERS FOR NORMAL RECEPTACLES.
 - k. THE CONTRACTOR SHALL PROVIDE A SET OF AS-BUILT DRAWINGS SHOWING THE LOCATIONS OF ALL UNDERGROUND CONDUITS, INDICATE ALL CHANGES MADE DURING CONSTRUCTION, AND ANY DEVIATIONS FROM THE ELECTRICAL DRAWINGS.
 - l. PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.
 - m. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, THE ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND INFORMATION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE ELECTRICAL WORK INTERFACES WITH OTHER TRADES.
 - n. THIS CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF/HERSELF WITH CONSTRUCTION CONDITIONS. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY, ON THIS CONDITION, IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.
 - o. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS TO DETERMINE WHERE NEW WALLS AND CEILINGS ARE TO BE INSTALLED AND SHALL MAKE USE OF THESE AREAS TO CONCEAL CONDUIT. THE CONTRACTOR SHALL USE SURFACE RACEWAYS SUCH AS WIREMOLD WHERE NECESSARY (ONLY WHERE INDICATED OR AS DIRECTED).
10. TEMPORARY LIGHTING, POWER, FIRE, AND SAFETY
 - a. E.C. TO PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED IN AREAS UNDERGOING WORK DURING CONSTRUCTION.
 - b. E.C. SHALL COMPLY WITH NFPA 241 FOR SAFEGUARDING DURING CONSTRUCTION AND ALTERATION OPERATIONS.
11. BALANCING OF LOADS
 - a. UPON CONNECTING ALL CIRCUITS TO PANELS, THE CONTRACTOR SHALL BALANCE THE LOAD IN AMPERES TO +/- 20% BETWEEN PHASES FOR EACH PANEL OR PER OWNERS SATISFACTION.
12. TESTING AND INSPECTION:
 - a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY TEST THE ENTIRE ELECTRICAL SYSTEM FOR GROUNDS, SHORTS AND PROPER GROUNDING RESISTANCE. A MAXIMUM OF 25 OHMS RESISTANCE FROM NEUTRAL CONDUCTOR AND CONDUIT TO EARTH GROUND SHALL BE PERMITTED. ONLY A GROUND RESISTANCE MEASURING METER OF APPROVED TYPE SHALL BE USED. A COMMON OHM METER IS NOT ACCEPTABLE.
 - b. THE ELECTRICAL CONTRACTOR SHALL SEE THAT LOCAL INSPECTION AUTHORITIES ARE NOTIFIED WHEN INSPECTIONS ARE REQUIRED BY CODE AND SHALL GIVE ALL NECESSARY ASSISTANCE TO THE INSPECTOR WHEN HE IS MAKING AN INSPECTION.
 - c. THE ELECTRICAL CONTRACTOR WILL SATISFY ALL REGULATIONS HAVING JURISDICTION ON THIS PROJECT.
 - d. THE ENTIRE WIRING SYSTEM SHALL BE TESTED FOR SHORT CIRCUITS, GROUNDS AND INSULATION RESISTANCE BETWEEN CONDUCTORS AND TO GROUND.