

ELECTRICAL SPECIFICATIONS

- THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS SHALL BE CONSIDERED AS PART OF THIS SPECIFICATION.
- ALL WORK TO BE IN ACCORDANCE WITH THE RULES AND REGULATION OF THE LOCAL AUTHORITIES HAVING JURISDICTION AND THE MOST RECENT EDITION OF NATIONAL ELECTRICAL CODE.
- FURNISH ALL MATERIALS, EQUIPMENT, LABOR, & SERVICES REQUIRED FOR THE INSTALLATION OF ALL ELECTRICAL WORK & AS REQUIRED TO PROVIDE A COMPLETE & OPERABLE ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS.
MATERIALS SHALL BE NEW WITH MANUFACTURERS NAME PRINTED THEREON & UNDERWRITERS LABORATORY LISTED. THE SELECTION OF MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE DRAWINGS AND/OR SPECIFICATIONS.
- SUBMIT MATERIALS LISTS AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE OWNERS REPRESENTATIVE FOR REVIEW. SUBMITTALS SHALL BE IN ACCORDANCE WITH GENERAL CONDITIONS AND SHALL BEAR THE STAMP OF THE ELECTRICAL CONTRACTOR SHOWING THAT HE HAS REVIEWED AND APPROVED THEM. LACK OF SUCH CONTRACTORS APPROVAL WILL BE CAUSE FOR REJECTION WITHOUT REVIEW BY THE OWNER.
CONTRACTOR SHALL GUARANTEE WORK INSTALLED UNDER THE CONTRACT TO BE FREE FROM DEFECTIVE WORKMANSHIP & MATERIALS, USUAL WEAR EXCEPTED, & SHOULD ANY SUCH DEFECT DEVELOP WITHIN A PERIOD OF ONE YEAR ACCEPTANCE OF THE BUILDING BY THE YEAR, THIS CONTRACTOR SHALL REPAIR AND OR REPLACE ANY DEFECTIVE ITEMS & DAMAGE RESULTING FROM FAILURE OF THESE ITEMS, AT NO EXPENSE TO THE OWNER.
INCIDENTAL ITEMS NOT INDICATED ON THE DRAWINGS, NOR MENTIONED IN THE SPECIFICATIONS, THAT CAN BE LEGITIMATELY & REASONABLY BE INFERRED TO BELONG TO THE WORK DESCRIBED OR BE NECESSARY IN GOOD PRACTICE TO PROVIDE A COMPLETE SYSTEM, SHALL BE FURNISHED & INSTALLED AS THOUGH ITEMIZED HERE IN EVERY DETAIL.
NOTIFY ARCHITECT IMMEDIATELY OF POSSIBLE CONFLICTS WITH STRUCTURE, MECHANICAL, OR OTHER FEATURES, WHERE JOB CONDITIONS REQUIRE REASONABLE CHANGES IN LOCATIONS ARRANGEMENT OF INDICATED EQUIPMENT, CONDUIT, OUTLETS, OR WIRING. CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT COST TO OWNER.
CONTRACTOR SHALL FILE PLANS WITH AND OBTAIN APPROVALS FROM MUNICIPAL AGENCIES. ALL PERMITS AND CERTIFICATES OF INSPECTION SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.
PERTINENT CERTIFICATES SHALL BE DELIVERED TO THE OWNERS REPRESENTATIVE, PRIOR TO FINAL BILLING.
ANY FEES ASSOCIATED WITH CONSTRUCTION AND INSPECTION SHALL BE BORNE BY THE CONTRACTOR IN ORDER TO DELIVER TO THE OWNER A FINISHED BUILDING, READY FOR OCCUPANCY AND 100% OPERATION.
CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS.
HE SHALL CAREFULLY EXAMINE THE EXISTING CONDITIONS AND LIMITATIONS THEREOF. HE SHALL ASCERTAIN CONDITIONS UNDER WHICH THE WORK MUST BE PERFORMED, INCLUDING THE HANDLING OF MATERIALS, SECURITY AND LIMITING FIELD DIMENSIONS. FURTHER, THIS CONTRACTOR SHALL PROVIDE FIELD VERIFICATION OF LOCATION OF POINTS OF CONNECTION TO LANDLORDS ELECTRICAL AND TELEPHONE EQUIPMENT AND DISTANCE FROM LEASED SPACE.
ANY DISCREPANCIES WITH THE CONSTRUCTION DOCUMENTS DISCOVERED AS A RESULT OF THE AFORESAID FIELD SURVEY, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE, PRIOR TO COMMENCING ANY WORK. ANY ADDITIONAL COSTS RESULTING FROM CONTRACTORS FAILURE TO DO SO SHALL BE HIS RESPONSIBILITY AND SHALL BE BORNE BY HIM.
ANY DEVIATION FROM PLANS WITHOUT PRIOR APPROVAL OF THE ARCHITECT SHALL BE CAUSE FOR THE REJECTION OF MATERIALS AND/OR METHODS, AND ANY COST INCURRED TO CORRECT SUCH DEVIATION TO THE SATISFACTION OF THE A/E SHALL BE BORNE BY THE CONTRACTOR.
THE SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL, FOR MATERIALS AND LABOR, BECAUSE OF DIFFICULTIES ENCOUNTERED, WILL NOT BE RECOGNIZED IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE.
ANY COSTS INCURRED DUE TO LACK OF COOPERATION AMONG THE TRADES SHALL BE BORNE BY THE CONTRACTOR.
CONTRACTOR SHALL SUBMIT 6 COPIES OF SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR APPROVAL FOR ALL EQUIPMENT AND DEVICES INSTALLED. THERE WILL BE NO DRAW UNTIL SHOP DRWGS. HAVE BEEN SUBMITTED & REVIEWED BY ARCH/ENGR.
THE EQUIPMENT ROUGHINGS AS SHOWN ARE ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, IN SOME INSTANCES, THE OWNER OR SUPPLIER MAY SUBSTITUTE OR THE EQUIPMENT MAY VARY FROM WHAT IS SHOWN. THEREFORE, THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS WITH THE OWNER PRIOR TO CONSTRUCTION. FAILURE OF THE CONTRACTOR TO VERIFY THESE DIMENSIONS SHALL PLACE THE RESPONSIBILITY FOR ANY SUB-SEQUENT RELOCATION DIRECTLY UPON THE CONTRACTOR.
PLAN & INSTALL WORK IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM, & KEEP OPENINGS & PASSAGEWAYS CLEAR.
ELECTRICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN HIS WORK AS THE JOB PROGRESSES, AN ACCURATE RECORD OF ALL WORK AS ACTUALLY INSTALLED.
UPON COMPLETION OF THE WORK AND BEFORE FINAL PAYMENT IS AUTHORIZED, SHALL TURN OVER TO THE OWNERS REPRESENTATIVE A RECORD SET OF PRINTS SHOWING THESE CHANGES.
THIS CONTRACTOR SHALL DO ALL CUTTING, CHASING, OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK HEREIN SPECIFIED.
ALL OPENINGS THROUGH STRUCTURALLY SUPPORTED SLABS MUST BE COREBORED, SLEEVED, GROUTED, SEALED AND MADE WATERPROOF. SLEEVES MUST EXTEND AT LEAST 2" AFF.
ALL SLEEVES, OPENINGS, ETC. THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED AFTER CONDUIT INSTALLATION TO RETAIN FIRE RATING.
ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIR.
HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL, SUCH AS CHANNELS, RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE SECURED TO THE BUILDING STRUCTURE, NOT TO PIPING OR DUCTWORK.
ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE RUN IN STRAIGHT LINES, PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES AND SEPARATED AT LEAST 3" FROM WATER LINES WHEREVER THEY RUN ALONG SIDE OR ACROSS SUCH LINES.
EVERY PART OF THE INSTALLATION SHALL BE TESTED, OPERATED AND LEFT IN PERFECT WORKING ORDER.
TEST ALL WIRES AND CABLES INSTALLED UNDER THIS CONTRACT WITH A 1,000 VOLT MEGGER. AFTER ANY READINGS ARE LOWER THAN REQUIRED BY GOOD PRACTICE OR APPLICABLE CODES, PROMPTLY REPLACE THE MATERIALS OR EQUIPMENT INVOLVED.
SHOULD TESTING REVEAL ANY OTHER DEFECTS, PROMPTLY CORRECT SUCH DEFECTS AND RE-RUN TESTS UNTIL THE ENTIRE INSTALLATION IS SATISFACTORY IN ALL RESPECTS.
ALL ITEMS IN THE NOTES, SCHEDULES AND LEGENDS MUST NECESSARILY APPEAR ON THESE DRAWINGS.
TWO COPIES OF OPERATION AND MAINTENANCE MANUALS FOR THE EQUIPMENT HEREIN INSTALLED SHALL BE GIVEN TO THE OWNER PRIOR TO ACCEPTANCE OF THE WORK.
CONTRACTOR IS TO GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR AFTER THE DATE OF ACCEPTANCE OF THE PROJECT BY THE OWNER. THIS UNDERSTANDING IS BY HIS ACCEPTANCE OF THE CONTRACT THAT THIS CONTRACTOR WILL MAKE GOOD ANY AND ALL WORK WHICH IN ANY MANNER HAS BECOME DEFECTIVE AS TO THE QUALITY OF MATERIALS AND WORKMANSHIP FOR ANY REASON OTHER THAN ORDINARY WEAR AND TEAR.
THE SAME PERIOD, ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PREMISES CAUSED BY HIS WORK OR WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.
THE CONTRACTOR, BEFORE FINAL ACCEPTANCE BY THE OWNER WILL BE GRANTED, SHALL CLEAN ALL LIGHTING FIXTURES, DEVICE PLATES, SERVICE FITTINGS AND OTHERS FURNISHED UNDER THIS CONTRACT. HE SHALL INSURE THAT ALL DISCONNECTS ARE IN PLACE WITH COMPLETED OR REVISED SCHEDULES AND ALL IDENTIFICATIONS AND MARKINGS OF EQUIPMENT, CABLES AND OTHER ITEMS ARE COMPLETED.

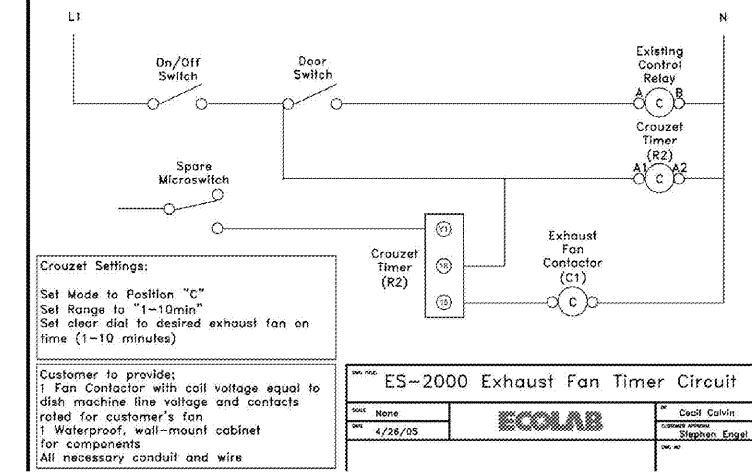
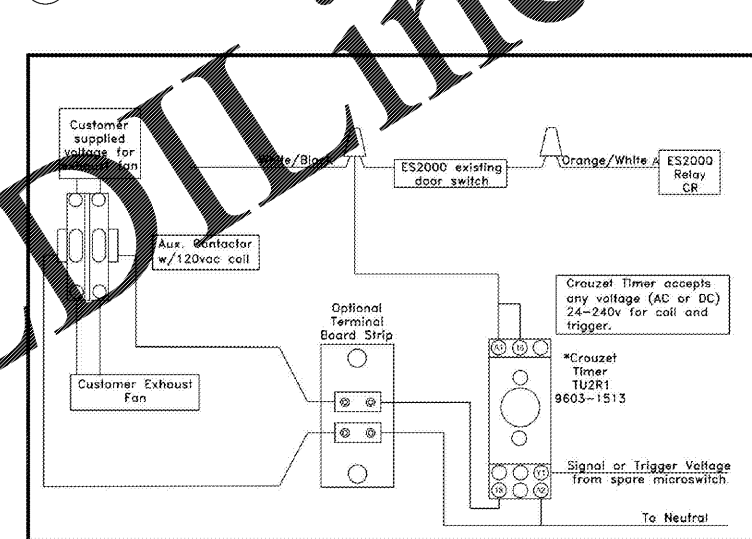
ELECTRICAL SPECIFICATIONS

- THIS CONTRACTOR SHALL COORDINATE SEQUENCE OF WORK WITH ALL OTHER TRADES. CONTRACTOR SHALL VERIFY VOLTAGE OF MECHANICAL EQUIPMENT AND FLUORESCENT FIXTURE BALLASTS, PRIOR COMMENCING ANY WORK.
NO REMOVALS SHALL BE MADE WITHOUT OWNERS APPROVAL. ALL EXISTING EQUIPMENT, MATERIALS, ETC. THAT ARE NOT TO BE REUSED SHALL BE REMOVED COMPLETELY AND DISPOSED OF BY THIS CONTRACTOR.
IT SHALL BE THIS CONTRACTORS RESPONSIBILITY, PRIOR TO ANY INDIVIDUAL CIRCUITS INSTALLATION, TO VERIFY WITH ALL OTHER TRADES CONCERNED THAT THE CIRCUIT WITH DEVICES AS DRAWN IS ADEQUATE IN SIZE AND MAKE-UP FOR THE MECHANICAL AND/OR KITCHEN EQUIPMENT TO BE INSTALLED. IF ANY CONFLICT IN VOLTAGE, PHASE OR LOAD IS ENCOUNTERED WHICH WOULD ALTER THE CIRCUIT SIZE, THIS CONTRACTOR SHALL NOTIFY THE ENGINEER OR OWNER IMMEDIATELY. FAILURE TO DO SO SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT CIRCUIT CHANGE DIRECTLY UPON THE CONTRACTOR.
REFER TO THE MECHANICAL DRAWINGS FOR THE LOCATION OF THERMOSTATS, UNITS AND OTHER SPECIAL EQUIPMENT. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ALL CONDUITS, JUNCTION BOXES AND DISCONNECT SWITCHES, THERMOSTAT AND CONTROL WIRING.
THIS CONTRACTOR SHALL MAKE ARRANGEMENTS FOR TEMPORARY POWER AND SHALL PAY THE COST FOR THE UTILITY CONNECTION AND SHALL BE RESPONSIBLE FOR THE PROPER MAINTENANCE OF THE TEMPORARY WORK AND FOR THE REMOVAL OF SAME.
CONTRACTOR SHALL PAY ALL UTILITY CHARGES IN CONNECTION WITH THE TEMPORARY POWER.
CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL POWER EQUIPMENT USED ON THE PREMISES DURING CONSTRUCTION.
GENERAL SCOPE OF WORK
CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, SUPPLIES, EQUIPMENT AND FEES REQUIRED TO COMPLETELY INSTALL, TEST AND PLACE THE HEREIN SPECIFIED EQUIPMENT, COMPONENTS, CONTROLS, AND SYSTEMS IN SERVICE.
COMPLETE POWER AND LIGHTING DISTRIBUTION SYSTEMS INCLUDING ALL PANELS AND COMPLETE BRANCH CIRCUIT WIRING SYSTEM.
TEMPORARY ELECTRICAL SERVICE AS REQUIRED FOR CONSTRUCTION.
COMPLETE LIGHTING FIXTURE INSTALLATION.
COMPLETE UTILITY MOTOR WIRING SYSTEM (EXCEPT AS NOTED).
COMPLETE TELEPHONE CONDUIT SYSTEM INCLUDING CONDUIT FROM POINT OF CONNECTION TO UTILITY COMPANY SERVICE AND ALL TERMINAL DEVICES, BOXES, CONDUIT, PLATES, ETC.
PROVISIONS FOR FIRE ALARM SYSTEM AS REQUIRED BY CODE.
WIRING AND FINAL CONNECTION TO ALL SIGNS AND GRAPHICS.
TESTING OF ALL CABLES AND CIRCUIT WIRING AFTER INSTALLATION.
TESTING OF ALL ELECTRICAL EQUIPMENT.
WARRANTY OF ALL WORK FOR A PERIOD OF ONE YEAR FROM DATE OF PROJECT CLOSE-OUT.
ELECTRICAL SERVICE
PROVIDE ELECTRICAL AS INDICATED ON THE DRAWING.
ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE LANDLORD OR THE POWER COMPANY SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
CLOSELY COORDINATE ENTIRE INSTALLATION WITH THE POWER COMPANY.
CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE LOCAL UTILITY FOR INSTALLATION OF METERING.
THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE AVAILABLE SHORT CIRCUIT CURRENT AT THE SUPPLY TERMINALS FROM THE POWER COMPANY &/OR MALLS SHOPPING CENTER POWER SOURCE. THE SERVICE EQUIPMENT SHALL MEET OR EXCEED THIS RATING PER N.E.C.
FULL LOAD CURRENTS ARE BASED ON SPECIFIED EQUIP. DATA. CONTRACTOR SHALL VERIFY NAMEPLATE FLA OF EQUIP. SUPPLIER TO MATE ACCORDINGLY PER EQUIP. SUPPLIERS RECOMMENDATIONS.
CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE LOCAL TELEPHONE UTILITY COMPANY FOR TELEPHONE SERVICE TO THE SPACE, CONDUIT SYSTEM FOR TELEPHONE DISTRIBUTION TO THE LEASED PREMISES SHALL BE PROVIDED WHERE REQUIRED FOR UTILITY COMPANY WIRES.
COORDINATE INSTALLATION OF TELEPHONE WORK AND INSTALL ALL CONDUIT FOR TELEPHONE SYSTEM.
OUTLET BOXES SHALL BE 4" SQUARE MINIMUM WITH SINGLE DEVICE COVER AND TELEPHONE PLATE.
PROVIDE INTERIOR TYPE 4-D PLYWOOD 24" X 24" TO SERVE AS TELEPHONE TERMINAL BOARD.
THIS CONTRACTOR SHALL PROVIDE, INSTALL AND CONNECT A COMPLETE SYSTEM OF GROUNDING FOR ALL EQUIPMENT AND STRUCTURES. A GOOD MECHANICAL AND ELECTRICAL CONNECTION SHALL BE MADE WITH PROPER GROUNDING CONNECTORS.
ELECTRICAL SYSTEM AND EQUIPMENT GROUNDS SHALL COMPLY WITH ALL LOCAL, STATE AND NEC CODES AND REGULATIONS.
PANELS, CONDUIT SYSTEMS, MOTOR, LIGHTING FIXTURES AND OTHER EQUIPMENT THAT ARE A PART OF THIS INSTALLATION SHALL BE SEPARATELY GROUNDED BOTH MECHANICALLY AND ELECTRICALLY IN ACCORDANCE WITH ALL CODES.
MAIN GROUNDING SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 250, TABLE 250-64 OF THE NATIONAL ELECTRICAL CODE. PROVIDE CONDUIT TO PROTECT GROUND WIRE FROM DAMAGE TO AN AREA 6 FT. ABOVE FLOOR.
ALL JOINTS AND CONNECTIONS OF THE CONDUIT SYSTEM TIGHT TO MAINTAIN CONTINUITY OF MECHANICAL AND ELECTRICAL GROUND THROUGHOUT ENTIRE SYSTEM.
GROUND ALL 3 WIRE RECEPTACLES TO THE OUTLET BOXES.
GROUND NEUTRAL FROM THE TRANSFORMER CONNECTED TO WATER LINE.
GROUND CONDUCTOR SHALL BE SUPPLIED IN ALL NON-METALLIC CONDUIT.
IF REQUIRED, PROVIDE DRY-TYPE TRANSFORMER WHICH SHALL BE ENCLOSED, VENTILATED TYPE WITH KVIA AND VOLTAGE RATINGS AS CALLED FOR ON THE DRAWING AS MANUFACTURED BY SQUARE-D OR EQUAL.
TRANSFORMER SHALL HAVE A MINIMUM OF 150 DEGREE, CLASS H INSULATION AND A MINIMUM OF (4) 2-1/2" TAPS BELOW AND (2) 2-1/2" TAPS ABOVE RATED PRIMARY VOLTAGE.
SOUND LEVEL SHALL BE LOW AND INSTALLATION SHALL INCLUDE VIBRATION DAMPENING MOUNTS AND FLEXIBLE STEEL CONDUIT FOR PRIMARY AND SECONDARY.
LIGHTING FIXTURES
THE CONTRACTOR SHALL PROVIDE A NEW LIGHTING FIXTURE OF THE TYPE SPECIFIED FOR EACH LIGHTING OUTLET SHOWN WITH COMPLETE LAMPS OR TUBES. ALL FIXTURES SHALL BE HUNG AND MOUNTED IN PLACE, PROPERLY WIRED, TESTED AND LEFT READY FOR OPERATION.
CONTRACTOR SHALL VERIFY LOCATION OF ALL PARKING LOT LIGHTS, MONUMENT SIGNS, AND PYLON SIGNS ON INDIVIDUAL SITE PLAN.
PANELBOARDS AND BREAKERS SHALL BE BY SQUARE-D OR EQUAL.
PANEL SHALL BE CIRCUITED SP THAT THE LOAD IS DISTRIBUTED EVENLY ACROSS ALL THREE PHASES.
ALL PANELBOARDS AND EMERGENCY LIGHTING DISCONNECT SWITCHES SHALL BE LABELED WITH RESPECT TO THEIR TITLE, VOLTAGE AND PHASE. I.E. PANEL #1 120/208/3. LABEL SHALL BE PHENOLIC SHALL BE PERMANENTLY FIXED TO THE EQUIPMENT.

ELECTRICAL SPECIFICATIONS

- LIGHTING PANELBOARD SHALL BE 3-PHASE, 4-WIRE DISTRIBUTED PHASE TYPE W/ SOLID NEUTRAL GROUND LUG, GROUND BUS AND ALL BREAKERS SHALL BE BOLTED TYPE, THERMAL MAGNETIC WITH ALL TWO OR THREE POLE BREAKERS HAVING COMMON TRIP.
CIRCUIT BREAKERS SHALL BE RATED FOR MINIMUM 10,000 AMP SYMMETRICAL SHORT CIRCUIT AT 120/208V.
CIRCUIT BREAKERS SERVING LIGHTING CIRCUITS SHALL BE RATED FOR SWITCH SERVICE.
WIRING DEVICES
WALL SWITCHES, SINGLE POLE, DOUBLE POLE, AND THREE WAY SHALL BE GENERAL DUTY, FLUSH, TOGGLE SWITCHES. SPECIFICATION GRADE, 20A, 120/277V, WITH SCREW TERMINALS. MANUFACTURERS SHALL BE HUBBELL, BRYANT, PASS & SEYMORE, OR LEVITON.
GENERAL DUTY DUPLEX RECEPTACLES SHALL BE 2-POLE, 3-WIRE GROUNDING TYPE, SPECIFICATION GRADE, 20A, 125V, NEMA 5-20R UNLESS OTHERWISE INDICATED. MANUFACTURERS SHALL BE HUBBELL, BRYANT, PASS & SEYMORE, OR LEVITON.
GROUND FAULT INTERRUPTER RECEPTACLE SHALL BE GENERAL DUTY, DUPLEX RECEPTACLES, GROUND FAULT CIRCUIT INTERRUPTER, DOWNSTREAM RECEPTACLES ON A SINGLE CIRCUIT, GROUNDING TYPE UL-RATED CLASS A, GROUP 1, 20A, 120V, 60 HZ WITH SOLID-STATE GROUND FAULT SENSING AND SIGNALING, WITH 5 MILLIAMPERES GROUND-FAULT TRIP LEVEL. IN NEMA 5-15R CONFIGURATION. MANUFACTURERS SHALL BE HUBBELL, BRYANT, PASS & SEYMORE, OR LEVITON.
DUPLEX ISOLATED GROUND TYPE RECEPTACLE SHALL BE 2-POLE, 4-WIRE, 15A STRAIGHT BLADE DEVICE WITH SEPARATE ISOLATED GROUND AND BUILDING GROUND CONNECTIONS, IN NEMA 5-15R CONFIGURATION, AS MANUFACTURED BY HUBBELL IG-5862.
WIRING DEVICE ACCESSORIES INCLUDING ALL WALL PLATES SHALL BE PROVIDED AT EACH DEVICE. WALL PLATES SHALL BE SAME COLOR AS DEVICE AND MANUFACTURED AS A COMPANION TO THE DEVICE.
ANY ELECTRICAL OUTLETS WITHIN 6 FEET OF A SINK SHALL BE GFI PROTECTED. PROVIDE EITHER INDIVIDUAL GFI DEVICES OR GFI CIRCUIT BREAKERS, UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OR SCHEDULES.
PROVIDE A 120 VOLT RECEPTACLE WITHIN 25 FEET OF ALL HVAC EQUIPMENT ON THE ROOF.
ALL EXTERIOR RECEPTACLES AND DEVICES SHALL BE WEATHERPROOF.
ELECTRICAL DEVICES, DISCONNECT SWITCHES, ETC. SHALL BE SUPPORTED INDEPENDENT OF & ISOLATED FROM EQUIP. VIBRATIONS.
PROVIDE SAFETY AND DISCONNECT SWITCHES, FUSED OR NON-FUSED AS REQUIRED BY CODE OR SHOWN ON DRAWINGS. SWITCHES SHALL BE SQUARE-D, GENERAL ELECTRICAL, OR EQUAL.
FURNISH AND INSTALL DUAL ELEMENT CURRENT LIMITING FUSES OF TYPE AND AMPACITY DESIGNED TO PROTECT SYSTEMS AGAINST AVAILABLE SHORT CIRCUIT FAULT CURRENT.
COORDINATE ALL EQUIP. CONNECTIONS W/ EQUIP. SUPPLIER PRIOR TO ROUGH-IN. PROVIDE ADDITIONAL DISCONNECT SWITCHES & CONTROLS, IF OVERCURRENT PROTECTION OR CONTROLS ARE NOT INTEGRAL W/ UNITS.
ALL ELECTRICAL EQUIP. ON ROOF OR OUTSIDE THE BLDG. SHALL BE IN NEMA-3R OR 4 ENCLOSURE.
ALL EQUIP. SHALL BE FUSE SIZED PER MANUF. RECOMMENDATIONS & APPROVAL.
ALL VIBRATING EQUIP. CONN. SHALL BE SEAL TYPE FLEX. CONNECTOR.
ALL EXTERIOR CONDUIT FOR WIRING SHOULD BE MINIMIZED BY ROUTING IN CEILING. EXTERIOR CONDUIT WILL BE ACCEPTED, UNLESS OTHERWISE NOTED.
STARTERS AND RELATED WIRING SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR. OVERLOAD UNITS SHALL BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS. SUCH ITEMS AS ARE NORMALLY SUPPLIED WITH STARTERS INSTALLED ON VACUUM CLEANERS, ETC. AT POINT OF MANUFACTURE, ALL STARTERS SHALL BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR WILL MOUNT ALL SUCH STARTERS, AS DIRECTED, FURNISHING ALL MOUNTING STRUCTURES WHERE NECESSARY.
NOTE EQUIPMENT ON ROOF OR GROUND SHALL HAVE A DISCONNECT SWITCH AT EACH PIECE OF EQUIPMENT. FURNISHED DISCONNECTS AS REQUIRED BY N.E.C.
FULL LOAD CURRENTS ARE BASED ON SPECIFIED EQUIP. DATA. CONTRACTOR SHALL VERIFY NAMEPLATE FLA OF EQUIP. SUPPLIER TO MATE ACCORDINGLY PER EQUIP. SUPPLIERS RECOMMENDATIONS.
CONDUITS SHALL BE STANDARD STEEL, RIGID, IMC OR EMT (THIN WALL) ACCORDING TO LOCAL CODE.
ALL CONDUIT J-BOXES SHOWN SHALL BE CONCEALED WHEN POSSIBLE. WHEN NOT POSSIBLE, CONDUIT & J-BOXES MAY BE SURFACE MOUNTED W/ PERMISSION OF THE ARCHITECT.
INSULATE ALL CONDUIT PASSING THROUGH WALK-IN COOLER, FILL AROUND CONDUIT WITH DUCT-IN SEAL WHERE IT PASSES THROUGH COOLER WALL OR CEILING.
PAINTING OF ELECTRICAL CONDUITS, ETC., IF REQUIRED, WILL BE BY THE GENERAL CONTRACTOR.
RACEWAYS SHALL BE SURFACE METAL TYPE OF THE SIZE AND CHANNEL REQUIRED FOR SERVICE, CONSTRUCTED OF GALVANIZED STEEL WITH SNAP-ON COVERS, WITH 1/8" MOUNTING SCREW KNOCKOUTS IN BASE APPROXIMATELY 8" O.C. PROVIDE FITTINGS INDICATED WHICH MATCH AND MATE WITH RACEWAY. FINISH WITH MANUFACTURERS STANDARD PRIME COATING SUITABLE FOR PAINTING.
OUTLET BOXES AND COVERS SHALL BE ONE PIECE, GALVANIZED STEEL. JUNCTION BOXES, PULL BOXES AND COVERS SHALL BE GALVANIZED STEEL, COE GAUGE AND SIZE.
ALL FEEDERS & BRANCH CIRCUITS SHALL BE THIN/W/IN (90° Q). DESIGN IS BASED ON COPPER CONDUCTORS & ALL BRANCH CIRCUIT WIRING SHALL BE COPPER. ALL WIRING SHALL BE IN CONDUIT OR MC TYPE.
ALL WIRE AND CABLE SHALL BE NEW AND SHALL BE BROUGHT TO THE SITE IN UNBROKEN PACKAGES.
ADDITIONAL CONDUCTOR SPECIFICATIONS:
#10 AND SMALLER - SOLID WITH SINGLE BRAID.
#8 AND LARGER - STRANDED WITH AT LEAST DOUBLE BRAID.
MINIMUM WIRE SIZE SHALL BE #12 (#14 MAY BE USED FOR CONTROLS).
WIRES SHALL BE COLOR CODED IN KEEPING WITH NEC STANDARDS.
PROVIDE IMC FOR FEEDER CONDUIT WHERE INSTALLED ABOVE GRADE. FITTINGS SHALL BE STEEL, THREADED, SET SCREW TYPE W/ INSULATED THROATS. FURNISH EMT CONDUIT OF BX OR MC FOR INTERIOR WIRING NOT SUBJECT TO PHYSICAL DAMAGE. MIN CONDUIT SIZE SHALL BE 1/2 UNLESS SPECIFICALLY NOTED OTHERWISE. CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE & SHALL RUN PARALLEL OR PERPENDICULAR TO BLDG. WALLS OR CEILING. PVC SCHEDULE 40 CONDUIT MAY BE USED FOR UTILITY FEEDERS WHERE BURIED UNDERGROUND. SEE ADDITIONAL NOTES ON ELECTRICAL SERVICE SCHEMATIC.
A SEPARATE GREEN INSULATED EQUIP. GROUNDED CONDUCTOR (BOND) SHALL BE INSTALLED EVERY W/ IN RACEWAY.
WIRING SHOWN IN THE PANEL SCHEDULE IS THE MINIMUM REQUIRED. RUNS IN EXCESS OF 60'-0" (ONE-WAY) SHALL BE SIZED PER THE N.E.C. MAXIMUM 2% V.D.
TEST ELECTRICAL SYSTEM FOR SHORT CIRCUITS & MEGGAR TEST FEEDERS & BRANCH CIRCUIT WIRING. INSURE LOW IMPEDANCE GROUND PATH SYSTEM.
FINALLY, IT IS THE INTENT THAT THE FOREGOING WORK SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE WORK SHALL BE FURNISHED.
THE LOCATION OF THE RECEPTACLES AND FIXTURES SHOWN ON THE DRAWING IS APPROXIMATE AND THE OWNER SHALL HAVE THE RIGHT TO RELOCATE ANY DEVICES BEFORE THEY ARE INSTALLED WITHOUT ANY ADDITIONAL COSTS.

1 RECEPTACLE GROUND LOCATION DETAIL
SCALE: NTS



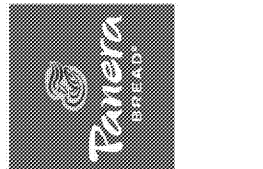
2 DISHWASHER WIRING INTERCONNECTION DIAGRAM
SCALE: NTS

SCHEDULE: ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	J-BOX	JUNCTION BOX
A	AMPERE	KW	KILOWATT
AWG	AMERICAN WIRE GAUGE	NIC	NOT IN CONTRACT
CB	CIRCUIT BREAKER	PNL	PANEL
ELEC	ELECTRICAL	SPECS	SPECIFICATIONS
EXIST	EXISTING	SW	SWITCH
EQUIP	EQUIPMENT	TEL	TELEPHONE
FA	FIRE ALARM	TYP	TYPICAL
VIF	VERIFY IN FIELD	V	VOLT
G.GND	GROUND	W	WIRE
GFI	GROUND FAULT INTERRUPTER	WP	WEATHERPROOF
HP	HORSEPOWER	PH	PHASE
IG	ISOLATED GROUND	XFMR	TRANSFORMER

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NO.	DESCRIPTION	DATE

ELECTRICAL SPECIFICATIONS, NOTES AND DETAILS
Project Number: _____ Sheet Number: _____
449-18
Drawn: CJS
Checked: NJD
Issue Date: _____
E109
100/118
DPM: DM: CPM:
BS: DM: ME: