



D-Z-A ASSOCIATES, INC.

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Table with 3 columns: No., Description, Date. Row 1: ISSUED FOR BID AND PERMIT, 10/16/20

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DIVISION 16 ELECTRICAL

16010 GENERAL PROVISIONS

01 EXCEPT WHERE PORTIONS OF THESE SPECIFICATIONS ARE MORE EXACTING, WORK OF THIS DIVISION SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE GENERAL SCOPE OF WORK...

02 REVIEW THE DRAWINGS AND SPECIFICATIONS OF ALL TRADES, PARTICULARLY THOSE SECTIONS DESCRIBING ELECTRICALLY OPERATED EQUIPMENT AND BECOME FAMILIAR WITH WORK CALLED UPON HEREIN TO DO AT THE CONCLUSION OF THE WORK...

03 NO EXTRA COMPENSATION WILL BE PAID FOR CONDITIONS EXISTING BEFORE THE CONTRACT IS SIGNED. THIS INCLUDES BOTH EXISTING SITE CONDITIONS AND ARCHITECTURAL CONDITIONS OF THE NEW BUILDING.

04 THE CONTRACTOR SHALL OBTAIN ALL PERMITS FOR HIS WORK UNDER THE CONTRACT, AND SHALL PAY ALL EXPENSES IN CONNECTION THEREWITH...

05 NO DEVIATION FROM DRAWING AND/OR SPECIFICATIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM ARCHITECT/ENGINEER.

06 ALL PERMIT FEES, TEMPORARY SERVICE, INSPECTION FEES AND OTHER REQUIREMENTS SHALL BE PAID AND COMPLETED BY THE ELECTRICAL CONTRACTOR...

07 THE WORK OF THIS CONTRACTOR SHALL CONSIST OF FURNISHING EVERYTHING NECESSARY FOR A COMPLETE OPERATING ELECTRICAL SYSTEM OF SHELL AND LANDLORD WORK LETTER, IN STRICT ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS...

A. FURNISHING A TEMPORARY SERVICE FOR THE USE OF ALL TRADES DURING CONSTRUCTION, AS REQUIRED BY THE GENERAL CONTRACTOR...

B. FURNISHING A COMPLETE ELECTRICAL DISTRIBUTION SYSTEM FOR LIGHT AND POWER, FROM POINT OF SERVICE THROUGH DISTRIBUTION SYSTEM TO PANELS, AND TO ALL OUTLETS, EQUIPMENT AND DEVICES AS INDICATED ON THE DRAWINGS...

C. ELECTRICAL CONNECTIONS FOR OTHER TRADES.

D. CONNECTION OF ALL MOTORS, STARTERS, CONTROLS, PILOT DEVICES OR DISCONNECTS, WHETHER FURNISHED BY THIS CONTRACTOR, OWNER, OTHER SUBCONTRACTOR OR OTHER PARTIES SUCH AS EQUIPMENT SUPPLIERS.

E. ALL ELECTRICAL WORK INCIDENTAL TO OTHER TRADES FOR A COMPLETE INSTALLATION OF THEIR ELECTRICALLY DRIVEN EQUIPMENT.

F. FURNISHING AND INSTALLING ALL CONDUCTORS AND RACEWAYS FOR ELECTRICAL EQUIPMENT.

G. FURNISHING, INSTALLING AND LAMPING OF ALL SIGHTSIGHTS, FLOODLIGHT POLES AND LIGHTING FIXTURES AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH ARCHITECTURAL DETAILS...

H. CONNECTING OF ALL AIR CONDITIONING, HEATING, PUMP, VENTILATION AND EXHAUST FAN CONTROLS SPECIFICALLY CALLED FOR ON DRAWINGS AND SPECIFICATIONS HEREIN.

I. TEMPORARY AND EMERGENCY WIRING AS REQUIRED. J. FURNISHING AND INSTALLING ALL AUXILIARY AND COMMUNICATION SYSTEMS AS INDICATED ON THE DRAWINGS...

L. FURNISH AND INSTALL TRANSFORMERS FOR ALL EQUIPMENT WHETHER FURNISHED BY THIS CONTRACTOR, THE OWNER, OR OTHER PARTIES, WHERE SUCH EQUIPMENT HAS A VOLTAGE RATING UNSUITABLE TO THE SYSTEM IN WHICH IT IS APPLIED.

M. SHOP DRAWINGS: SUBMIT AT ONE TIME. SHOP AND DETAIL DRAWINGS, FACTORY CERTIFIED PRINTS AND MATERIALS LISTS FOR THE FOLLOWING ITEMS: PANELBOARDS, SAFETY SWITCHES...

N. MANUALS AND CHARTS: FURNISH OWNER ALL OPERATING INSTRUCTIONS, MAINTENANCE INSTRUCTIONS, LITERATURE AND INFORMATION PERTAINING TO ALL EQUIPMENT.

16012 CODES AND STANDARDS 01 THE WORK PERFORMED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE...

16020 ELECTRICAL SYSTEMS SCHEDULE 01 REFER TO THE DRAWINGS FOR AIR CONDITIONING WIRING DIAGRAM, PANEL BOARD SCHEDULE, RISER DIAGRAM, EQUIPMENT SCHEDULE, ELECTRICAL SYSTEMS REQUIREMENTS, ETC.

16030 TESTS 01 PROVIDE ALL NECESSARY INSTRUMENTS AND SPECIAL APPARATUS TO CONDUCT ANY TEST THAT MAY BE REQUIRED TO INSURE THE SYSTEM IS FREE OF ALL IMPROPER GROUNDS AND SHORT CIRCUITS...

16100 BASIC METHODS AND MATERIALS 01 ELECTRICAL MATERIALS, APPLIANCES, EQUIPMENT DEVICES FOR WHICH THERE ARE UNDERWRITER'S LABORATORY STANDARD REQUIREMENTS SHALL HAVE LABELS ATTACHED TO INDICATE COMPLIANCE...

02 ALL MATERIALS SHALL BE NEW AND OF FIRST QUALITY, FREE OF DEFECTS. 03 SUBMIT MANUFACTURER'S DATA AND CATALOG CUTS ON ALL ITEMS INCLUDED IN THIS SECTION PRIOR TO COMMENCING WORK.

16110 RACEWAYS 01 ALL CONDUCTORS SHALL BE CONTAINED IN RACEWAYS. 02 ALL CONDUIT RACEWAYS IN OR BELOW FLOOR SLAB AND RUN BELOW EXTERIOR FINISHED GRADE SHALL BE P.V.C. EXCEPT FOR FLS AND RISERS WHICH SHALL BE RIGID GALVANIZED CONDUIT...

03 RIGID CONDUIT SHALL BE HOT-DIPPED GALVANIZED STEEL. 04 FLEXIBLE METALLIC CONDUIT (FMC) SHALL BE USED FOR ALL CONNECTIONS TO MOTORS AND OPERATING EQUIPMENT, BLINDS, AND IS NOT TO EXCEED DISTANCE FROM P.V.C. CONDUIT TO THE FLEXIBLE METALLIC CONDUIT SHALL BE USED IN ALL POSITIVE LOCATIONS.

05 FLEXIBLE METALLIC TUBING (FMT) SHALL BE USED FOR ALL "B" TYPES EXCEPT AS NOTED ABOVE. ALL FITTINGS SHALL BE "B" TYPES SHALL BE RUN CONCEALED IN FINISHED AREAS UNLESS NOTED. 06 WHERE CONCEALED RACEWAYS ARE ALLOWED OR INDICATED, THEY SHALL PRESENT A NEAT APPEARANCE, AND ALL RUNS BOTH TOP AND CONCEALED SHALL BE PARALLEL OR PERPENDICULAR TO THE BUILDING LINES...

16120 CONDUCTORS

01 ALL CONDUCTORS SHALL BE MINIMUM 98 % CONDUCTIVITY COPPER. 02 ALL WIRE AND CABLE SHALL HAVE INSULATION TYPE AS LISTED BELOW. 03 ALL BRANCH CIRCUIT AND FEEDER WIRING SHALL BE COLOR CODED THROUGHOUT...

04 NO WIRE SMALLER THAN #12 SHALL BE USED EXCEPT FOR CONTROL WIRING. 05 BRANCH CIRCUIT RUNS LONGER THAN 100 FEET FROM PANEL TO FIRST OUTLET SHALL BE RUN WITH #10 WIRE. 06 ALL INSULATION SHALL BE RATED FOR ROOM UNLESS OTHERWISE NOTED.

07 PARTICULAR CARE SHALL BE EXERCISED IN THE JOINING OF THE BRANCH CIRCUIT COMMON NEUTRALS. 08 CONDUCTOR TYPES: A. COMBINATION TYPE "THHN/THWN" FOR GENERAL USE. B. TYPE "THWN" FOR THE USE IN ALL SIZES #6 AND ABOVE. C. BRANCH CIRCUIT WIRE MAY BE RUN IN FIXTURE CHANNELS (FLUOR)...

10 CONDUCTORS INSTALLATION JOINTS: A. JOINTS: BRANCH CIRCUIT SPLICES SHALL UTILIZE (SCOTCH LOCKS) WIRE NUTS. B. NO JOINTS OR TAPS WILL BE ALLOWED IN FEEDER RUNS, EXCEPT IN JUNCTION OR PULL BOXES. C. ALL FEEDER SPLICES AND TERMINATION SHALL BE MADE MECHANICALLY USING COMPRESSION TYPE SLEEVES OR LUGS...

11 CONDUITS INSTALLATION METHODS: A. NO CONDUCTORS SHALL BE INSTALLED UNTIL ALL ROUGH WORK BY OTHER TRADES IS IN PLACE AND DECKS ARE IN PLACE. B. AT EACH OUTLET, A LOOP OF WIRE NOT LESS THAN 8 INCHES IN LENGTH SHALL BE LEFT FOR CONNECTION TO FIXTURES AND/OR OTHER DEVICES.

12 CONDUIT SERVICE: ELECTRICAL CONDUIT PASSING BELOW THE "DINING ROOM" TO THE EXTERIOR SHALL BE SPACED OR PLACED LOW ENOUGH IN THE CONCRETE FLOOR SLAB TO AVOID DAMAGE TO WIRE FROM SEATING INSTALLATION SEE INTERIOR DESIGN DRAWINGS.

16130 OUTLET BOXES AND DEVICES 01 ALL WIRING DEVICES SHALL BE FURNISHED IN ACCORDANCE WITH DRAWINGS. SWITCHES SHALL BE INSTALLED WITH FINISH TO MATCH DEVICE (PLAIN OR STAINLESS) AND SHALL BE USED IN RESTROOMS (WOMEN'S AND MEN'S) KITCHENS AND SWIMMING POOLS.

02 OUTLET BOXES SHALL BE GALVANIZED STEEL (FOUR INCHES SQUARE, 1-1/2 INCHES DEEP, STEEL CITY #52151) FOR GENERAL USE. LARGER BOXES SHALL BE USED WHERE REQUIRED BY PREVENT UNDER GROWING OF WIRES. CONDUIT TYPE OUTLET BOXES STEEL CITY "G" SHALL BE USED FOR MULTIPLE SWITCH ASSEMBLIES. SIZE AND DEPTH SHALL BE AS REQUIRED BY NATIONAL ELECTRIC CODE AND AS REQUIRED BY SPEC DEVICES...

03 WHERE PROPOSED WIRING IS DONE, GROUND-BINDS FS BOXES SHALL BE USED WHERE NECESSARY DUE TO THE SIZE OF THE DEVICES TO BE CONTAINED. 04 SYMBOLS ON DRAWINGS INDICATE APPROXIMATE LOCATIONS ONLY UNLESS EXACT LOCATIONS ARE SPECIFIED ON THE PLANS. VERIFY LOCATIONS WITH ARCHITECTURAL DETAILS.

05 CLEAR TRIM AND CORNERS BY A MINIMUM OF FOUR (4) INCHES WHERE POSSIBLE. 06 MOUNT ALL BOXES SO THAT COVERS AND PLATES WILL MOUNT FLUSH WITH THE WALLS AND CEILING FINISHED PANELS. 07 FURNISH AND INSTALL PLASTER RINGS WHERE REQUIRED. FURNISH SURFACE COVERS, FOR EXPOSED WORK.

08 ALL FIXTURE OUTLETS SHALL BE EQUIPPED WITH "NO-BOLT" TYPE OF FIXTURE STUDS OF SUFFICIENT SIZE TO SUPPORT THE FIXTURE AND/OR DEVICE LOADS. 09 CLOSE ALL OUTLETS DURING THE COURSE OF ROUGH CONSTRUCTION, CONCRETEING AND PLASTERING WITH KRAFT PAPER, EXCELSIOR OR SLIP-ON BLANK METAL PLATES. THE USE OF NEWSPAPER IS NOT PERMISSIBLE FOR THIS PURPOSE.

L. ALL WIRING DEVICES TO BE SPECIFICATION GRADE. N. PROVIDE GASKETS ON W.P. COVERS AND BLANK PLATES.

16134 PANELBOARDS AND MAIN DISTRIBUTION

01 PANEL CABINETS: A. CABINETS SHALL BE CONSTRUCTED OF ZINC COATED SHEET STEEL IN ACCORDANCE WITH UL AND NEMA STANDARDS FOR CABINETS, BOXES AND ASSEMBLY. B. A DIRECTORY HOLDER WITH GLASS COVER AND METAL FRAME SHALL BE FURNISHED ON THE INSIDE OF EACH DOOR. PANEL DIRECTORY'S SHALL BE TYPED, HOLDER AND FRAME SHALL BE OF SUITABLE SIZE TO PROPERLY LIST CIRCUIT DISPOSITIONS...

02 PANEL BOARDS AND CIRCUIT BREAKERS: A. INDIVIDUAL CIRCUIT BREAKERS SHALL BE CALIBRATED AT THE FACTORY, SEALED TO PREVENT TAMPERING, SIZE AND FRAME AS INDICATED ON THE DRAWINGS. B. MULTI-POLE BREAKERS SHALL BE OF THE COMMON TRIP TYPE, SIZE AND FRAME AS INDICATED ON THE DRAWINGS. C. PROVIDE SHUNT TRIP ON MAIN CIRCUIT BREAKER WHERE REQUIRED BY LOCAL CODE.

03 SAFETY SWITCHES: A. SAFETY SWITCHES SHALL BE TYPE HD, FUSIBLE OR NON-FUSIBLE AS INDICATED ON THE DRAWINGS, IN THE SIZES SHOWN. ENCLOSURES SHALL CONFORM TO LOCATION, (NEMA INTERIOR, NEMA 3R EXTERIOR). B. ALL SWITCHES SHALL BE FURNISHED WITH THE NECESSARY NUMBER OF POLES.

04 MARKING AND IDENTIFICATION: A. ALL SWITCHES, PANELBOARDS, CONTROLLERS, CONTROL PANELS, TIME SWITCHES, CONTACTORS, TELETYPE AND COMMUNICATION CABINETS SHALL BE CLEARLY AND PERMANENTLY LABELLED IN A NEAT, ORDERLY AND SYSTEMATIC MANNER. B. ALL CLEARLY DESIGNED DEVICES AND EQUIPMENT TERMINALS SHALL BE MARKED IN THE MANNER DESIGNATED ON THE DRAWINGS USING WHITE LETTERS ON IDENTIFICATION TAGS, SCHEDULED TO DOORS OR COVERS.

05 CONDUIT MARKING: ALL CONDUITS SHALL BE CLEARLY AND PERMANENTLY IDENTIFIED AS TO ELECTRICAL CHARACTERISTICS, SYSTEM DESIGNATION, SOURCE AND DESTINATION. F. CONDUCTORS SHALL BE MARKED WITH PREPRINTED ADHESIVE MARKERS AS MANUFACTURED BY W.H. BRADY CO., OR THOMAS & BETTS. G. WHERE PREPRINTED MARKERS ARE NOT AVAILABLE WITH THE PROPER DESIGNATION, 1-1/4 INCH DIAMETER PUNCHED BRASS DISCS SHALL BE USED.

16150 MOTORS AND CONTROLS

01 WIRE TO AND CONNECT ALL ELECTRICALLY OPERATED EQUIPMENT. 02 VERIFY PROPER ROTATION OF ALL ROTATING EQUIPMENT.

16190 SUPPORTING DEVICES

01 REFER TO 16110.09 FOR EXPOSED RACEWAYS. CONCEALED RACEWAYS SHALL BE SUPPORTED USING SAME METHODS AS REQUIRED FOR EXPOSED RACEWAYS, EXCEPT THAT BRANCH CIRCUIT EM IN CONCEALED LOCATIONS MAY BE SUPPORTED FROM BUILDING STRUCTURE. ELEMENTS WITH CADDY TYPE FITTINGS MANUFACTURED BY FRODO PRODUCTS CO., INC. 02 OUTLET BOXES SHALL BE SUPPORTED TO BUILDING STRUCTURE USING THREADED LEAD ANCHORS AND MACHINE BOLTS. TOGGLE BOLTS, WOOD OR SHEET METAL SCREWS, IF PLACED DIRECTLY ON WOOD OR METAL SURFACE, TWO (2) ANCHORS ARE REQUIRED FOR EACH BOX. WHEN BOXES ARE LOCATED BETWEEN STRUCTURAL SUPPORTS, USE CADDY BOX SUPPORTS. 03 ALL SUPPORTS, ANCHORS, BOLTS AND HARDWARE SHALL BE SIZED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INFORMATION FOR THE SIZE AND WEIGHT OF THE SUPPORTED OBJECTS.

16450 GROUNDING

01 REFER TO ELECTRICAL DRAWINGS AND DIAGRAMS FOR GROUNDING CONNECTIONS. 02 THE CONDUIT SYSTEM AND THE NEUTRAL CONDUCTORS SHALL BE GROUNDED. FOLLOW REQUIREMENTS OF THE NATIONAL ELECTRIC CODE - LATEST EDITION. NEUTRALS OF ALL TRANSFORMER SECONDARIES SHALL BE GROUND TO MINIMUM ONE (1) INCH COLD WATER PIPE. 03 THE GROUND CONNECTION OF THE CONDUIT SYSTEM AND THE NEUTRAL CONDUCTORS SHALL BE MADE AT THE MAIN SERVICE PANELBOARD GROUND BUS. 04 WHERE THREE (3) PHASE THREE (3) WIRE FEEDERS ARE EXTENDED TO UTILIZATION EQUIPMENT AND APPARATUS, A BONDING CONDUCTOR OF ADEQUATE SIZE, GREEN COLOR, SHALL BE USED TO GROUND THE EQUIPMENT FRAME. THE CONDUCTOR SHALL BE INSTALLED FROM GROUND BUS TO EQUIPMENT FRAME IN THE CIRCUIT RACEWAY. 05 SEE GENERAL NOTES ON DRAWINGS.

16480 FEEDER CIRCUITS

01 PROVIDE FEEDERS AS INDICATED ON THE DRAWINGS AND IN SCHEDULES.

16485 BRANCH CIRCUITS

01 PROVIDE ALL WIRING AND CONNECTIONS TO OUTLETS AND FIXTURES AS INDICATED ON DRAWINGS AND IN SCHEDULES.

16500 LIGHTING - INTERIOR

01 FURNISH AND INSTALL ALL LIGHTING FIXTURES CALLED FOR BY THE LIGHTING FIXTURE SCHEDULE ON THE SITE, EXTERIOR ELECTRICAL AND INTERIOR ELECTRICAL DESIGN DRAWINGS. 02 EACH FIXTURE SHALL BE EQUIPPED WITH ANY REQUIRED MOUNTING FRAMES, HARDWARE AND ACCESSORY INSTALLATION ITEMS, FIXTURE MOUNTING FRAMES SHALL BE COMPATIBLE WITH CEILING CONSTRUCTION. 03 EACH FIXTURE SHALL BE LAMPED WITH NEW LAMPS OF TYPE AND WATTAGE INDICATED ON THE SCHEDULE. 16510 INTERIOR LIGHTING FIXTURES 01 INSTALL AS INDICATED ON LIGHTING AND REFLECTED CEILING PLANS, DIMENSIONAL REFERENCE POINTS AND TO ARCHITECTURAL DETAILS AND ELEVATIONS. 02 ALL INTERIOR FIXTURES (WHERE APPLICABLE) SHALL HAVE 100% VIRGIN ACRYLIC PHOSPHOR DIFFUSERS, POLYESTER OR VINYL WILL NOT BE ACCEPTABLE. 03 SEE LIGHTING FIXTURE SCHEDULE AND NOTES ON ELECTRICAL DRAWINGS.

GENERAL NOTES: 1. PROVIDE AND PAY FOR ALL PERMITS AND INSPECTION FEES AS REQUIRED. 2. FURNISH ALL LABOR AND MATERIAL TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS. RECEPTACLES AND SWITCHES SHALL BE LEVITON OR AN APPROVED EQUAL. ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES. 3. GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL NEW LIGHTING FIXTURES UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS. 4. ALL ELECTRICAL WORK SHALL BE AS PER NEC 2017. TELEPHONE AND CABLE TELEVISION 1. TELEPHONE SERVICE IS PART OF THE SHELL BUILDING SCOPE.

Salem Gate Market

RETAIL 1B

CONYERS, GEORGIA

ELECTRICAL GENERAL

Date: 10/16/20 Drawn by: AK Sheet No.: E0.1 (1)

Project No.: 20.062 Rev'd by: AR

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