ELECTRICAL SPECIFICATIONS

PART 1 GENERAL

1. FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION AND INCIDENTALS TO COMPLETE IN EVERY DETAIL, AND LEAVE IN WORKING ORDER ITEMS SHOWN ON THE CONTRACT DOCUMENTS.

2. INSTALLATION AND COORDINATION OF HIS WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN COORDINATION.

3. LAYOUT SHOWN IN DRAWINGS IS BASED ON A PARTICULAR MAKE OF EQUIPMENT. CONTRACTOR SHALL PROVIDE SIX SUBMITTAL SETS OF INDICATED PRODUCTS SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING WORK. PANEL SCHEDULES SHALL BE REJECTED WITHOUT DIMENSIONED LAYOUT OF ELECTRICAL ROOM(S). IF ANOTHER MAKE OF EQUIPMENT IS DESIRED, THESE SUBMITTALS SHALL ALSO SHOW ALL REQUIRED MODIFICATIONS AND CHANGES, INCLUDING THOSE INVOLVING CONTRACTOR MUST RECEIVE APPROVED SUBMITTAL COPY, SIGNED BY ENGINEER BEFORE PROCEEDING WITH ANY MODIFICATIONS. WORK INSTALLED USING UNAPPROVED SUBSTITUTIONS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

4. CONTRACTOR SHALL VISIT THE SITE AND FULLY INFORM HIMSELF CONCERNING ALL CONDITIONS AFFECTING SCOPE OF WORK. FAILURE TO DO SO SHALL NOT RELIEVE CONTRACTOR OF ANY RESPONSIBILITY IN THE PERFORMANCE OF HIS WORK. ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE BY CRAFTSMEN SKILLED IN THIS PARTICULAR WORK.

5. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCE, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITIONS OF THE FOLLOWING:

GEORGIA BUILDING CODE AMENDMENTS
NFPA-70- NATIONAL ELECTRICAL CODE
NFPA-72- PROTECTIVE SIGNALING SYSTEMS
NFPA-101- LIFE SAFETY CODE
INTERNATIONAL BUILDING CODE

6. CONTRACTOR SHALL MAINTAIN LIGHTING AND POWER AND SHALL PROVIDE MATERIALS NECESSARY FOR TEMPORARY LIGHTS AND POWER. POWER CONSUMPTION WILL BE PAID FOR BY THE CONTRACTOR.

7. OBTAIN PERMITS AND CERTIFICATES OF APPROVAL FROM ALL AUTHORITIES HAVING JURISDICTION OVER THE INSTALLATION AND PAY ALL FEES REQUIRED.

PART 2 PRODUCTS

1. CONDUIT

A. PROVIDE A COMPLETE CONDUIT SYSTEM WITH ASSOCIATED COUPLINGS, CONNECTORS, AND FITTINGS.

B. CONDUIT SHALL BE AS MANUFACTURED BY ALLIED, WHEATLAND OR REPUBLIC FOR GALVANIZED RIGID/EMT AND ANACONDA, ALFLEX OR INTERNATIONAL FOR FLEXIBLE STEEL CONDUIT.

C. FOR EMT PROVIDE STEEL SET SCREW TYPE COUPLINGS, CONNECTORS, AND FITTINGS WITH NYLON INSULATED THROATS AND CASE HARDENED LOCKNUTS.

D. RIGID NONMETALLIC (PVC) CONDUIT: CARLON SCHEDULE 40, HEAVY WALL OR APPROVED EQUAL.

E. RUN CONCEALED CONDUITS IN AS DIRECT LINE AS POSSIBLE BETWEEN OUTLETS. RUN EXPOSED CONDUITS AT RIGHT ANGLES WITH BUILDING STRUCTURE.

F. MAINTAIN INTEGRITY OF FIRE PARTITIONS AND FLOOR SLABS WHERE CONDUITS PASS THROUGH SLEEVES FROM ONE AREA TO ANOTHER WITH U.L. LISTED FIRE AND SMOKE STOP FITTINGS.

G. COMPLETE ALL CONDUIT SYSTEMS BEFORE INSTALLING CONDUCTORS.

H. INSTALL COPPER, GROUND WIRE IN ALL FLEXIBLE CONDUIT.

I. ALLOW SUFFICIENT SLACK IN FLEXIBLE CONDUIT TO REDUCE VIBRATION EFFECT. USE LIQUIT-TIGHT FLEXIBLE CONDUIT FOR FINAL CONNECTION TO MOTORS AND WHERE SUBJECTED TO DAMP AND WET LOCATION.

J. SUPPORT CONDUIT WITH APPROVED STRAPS AND HANGERS AT INTERVALS REQUIRED BY N.E.C.

K. USE ELECTRICAL METALLIC TUBING WHERE DRAWINGS CALL FOR CONDUIT TO BE CONCEALED IN WALLS OR ABOVE CEILINGS.

L. USE GALVANIZED RIGID WHERE CONDUITS ARE RUN EXPOSED ABOVE FINISHED FLOOR OR GRADE.

M. USE PVC SCHEDULE 40 WHERE RUN IN SLAB (ON FIRST FLOOR ONLY) AND BELOW GRADE WITH TRANSITION BEING MADE TO GALVANIZED RIGID BEFORE TURNING UP OUT OF SLAB OR GRADE.

N. MINIMUM CONDUIT SIZE SHALL BE 1/2".

2. WIRE AND CABLE

A. PROVIDE A COMPLETE SYSTEM OF CONDUCTORS FOR LIGHTING AND POWER SYSTEMS THROUGHOUT THE PROJECT.

B. ALL CONDUCTORS SHALL BE 98 PERCENT CONDUCTIVITY COPPER WITH 600 VOLT MINIMUM INSULATION. 75 DEGREE C INSULATION MINIMUM.

C. ALL CONDUCTORS NO. 8 AND SMALLER SHALL HAVE TYPE THHN OR THWN INSULATION AND SHALL BE SOLID UNLESS NOTED OTHERWISE ON PLANS.

D. ALL CONDUCTORS NO. 6 AND LARGER SHALL HAVE TYPE THHN OR THWN INSULATION AND SHALL BE STRANDED UNLESS NOTED OTHERWISE ON PLANS.

E. CONDUCTORS SHALL BE AS MANUFACTURED BY ANACONDA, GENERAL CABLE, HABIRSHAW, OKONITE, ROME, TRIANGLE, ROMEX, OR SOUTHWIRE UNLESS NOTED OTHERWISE.

F. MAKE ALL SPLICES OR CONNECTIONS ONLY AT OUTLET OR JUNCTION BOXES.

G. USE ONLY APPROVED (SOAPSTONE) OR OTHER LUBRICANT WHERE REQUIRED.

H. USE APPROVED SCOTCHLOCK OR T&B CONNECTORS FOR INTENDED APPLICATION WHERE CONNECTORS ARE REQUIRED.

I. CONDUCTORS ARE TO BE COLOR CODED WITH A DIFFERENT COLOR FOR EACH PHASE, NEUTRAL, AND GROUND AS FOLLOWS:
120/208V CIRCUITS; PHASE A, B, AND C; BLACK, RED, AND BLUE RESPECTIVELY. NEUTRAL, WHITE. GROUND, GREEN.

J. NONMETALLIC SHEATHED CABLE SHALL BE SUBSTITUTED AS ALLOWED BY LOCAL CODE.

3. OUTLET AND JUNCTION BOXES

A. PROVIDE EACH FIXTURE, SWITCH, RECEPTACLE, AND OTHER DEVICE WITH A GALVANIZED STEEL OUTLET BOX OF APPROPRIATE SIZE AND DEPTH FOR ITS PARTICULAR LOCATION AND PROVIDE PULL AND JUNCTION BOXES WHERE REQUIRED.

B. CEILING OUTLET BOXES SHALL BE 4" OCTAGON AND WALL BOXES TO BE 4" SQUARE WITH RAISED PLASTER RINGS OR DEVICE RINGS. PROVIDE FIXTURE STUDS IN CENTER OF BOXES USED FOR SUPPORT OF FIXTURES.

C. OUTLET AND JUNCTION BOXES SHALL BE AS MANUFACTURED BY NATIONAL, APPLETON, GENERAL ELECTRIC, RACO, OR STEEL CITY.

D. INSTALL PULL BOXES IN ALL CIRCUITS OR FEEDERS OVER 100 FEET LONG.

E. OUTLET BOXES SHALL BE SECURELY ANCHORED, SET TRUE AND PLUMB AND NO PART OF BOX OR COVER SHALL EXTEND BEYOND FINISHED WALL OR CEILING. FLUSH MOUNTED BOXES SHALL BE SET TO WITHIN 1/8" OF FINISHED WALL AND A PLASTER RING USED TO MAKE COVER FLUSH WITH WALL. PLASTER RING NOT REQUIRED FOR EXPOSED LOCATIONS.

F. OUTLET BOXES SHALL NOT BE LOCATED ON OPPOSITE SIDES OF THE SAME FIRE OR SMOKE RATED WALL WITHIN THE SAME STUD COMPARTMENT. BOXES SHALL BE OFFSET AS REQUIRED TO PREVENT THIS AND TO MAINTAIN WALL RATINGS.

4. WIRING DEVICES AND PLATES

A. PROVIDE SUBMITTALS.

B. PROVIDE SWITCHES, RECEPTACLES, AND OTHER WIRING DEVICES AS INDICATED ON DRAWINGS.

C. PROVIDE IVORY DEVICE PLATES ON ALL WIRING DEVICES. UNLESS DIRECTED OTHERWISE BY OWNER. FIELD COORDINATE DEVICE AND DEVICE PLATE COLOR TO MATCH WALL COVERINGS AS DIRECTED BY OWNER.

D. SWITCHES (LEVITON NO. USED; P&S, LUTRON OR HUBBLE ACCEPTABLE).

1) 20AMP, 120/277V, AC:

CSB1-201 SINGLE POLE
CSB4-201 THREE WAY

E. RECEPTACLES:

1) 20-AMP, 125 V, AC:
BR20-I DUPLEX TYPE
6899I GFI

F. MISCELLANEOUS DEVICES:

1) MANUAL MOTOR STARTER: BRYANT NO. 10004 OR SQUARE D, CLASS 2150.

G. MOUNT ALL SWITCHES 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.

H. MOUNT ALL RECEPTACLES 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE OR OTHERWISE REQUIRED TO MATCH EXISTING DEVICES IN SAME ROOM.

I. CHECK ARCHITECTURAL DRAWINGS FOR SPECIAL MOUNTING CONDITIONS FOR CASEWORK AND IN SPECIAL AREAS

J. INSTALL DEVICE PLATES IN FULL CONTACT WITH WALL.

5. PANELBOARDS

A. PROVIDE SUBMITTALS SHOWING CIRCUIT BREAKER SIZES, AIC RATINGS , BUS AND NEUTRAL SIZES. PROVIDE ROOM DIMENSIONS IF APPLICABLE.

B. PANELBOARDS SHALL BE OF THE CIRCUIT BREAKER TYPE AS MANUFACTURED BY SQUARE 'D', SIEMENS, GENERAL ELECTRIC, CUTLER-HAMMER OR APPROVED EQUAL.

C. PANELBOARDS SHALL BE RATED FOR 120/208 VOLT 3 PHASE, 4 WIRE AS INDICATED ON SCHEDULE.

D. ALL PANELBOARDS SHALL HAVE ISOLATED NEUTRAL BUS.

E. ALL PANELS SHALL HAVE SEPARATE GROUND BUS CONNECTED WITH A GREEN GROUNDING CONDUCTOR BACK TO THE SOURCE OF ITS PARTICULAR FEED.

F. ALL PANELBOARDS SHALL HAVE TYPED DIRECTORY CARDS EXCEPT THAT POWER PANELS WILL BE ENGRAVED PHENOLIC NAMEPLATES ATTACHED TO THE INDIVIDUAL BREAKERS INDICATING THE PANELBOARD OR DEVICE BEING SERVED.

G. INSTALL FLUSH MOUNTED PANELBOARDS WHERE INDICATED SO THAT THE PANEL BOX WILL BE FLUSH WITH THE WALL SURFACE AND THE PANELBOARD FRONT WILL BE IN FULL CONTACT WITH THE WALL. STUB OUT INTO CEILING SPACE A MINIMUM OF ONE 3/4" EMPTY CONDUIT PER EACH 3 POLES OF SPARES OR SPACES.

H. SURFACE MOUNTED PANELBOARDS SHALL BE FIRMLY ATTACHED TO THE WALL ON WHICH IT IS BEING MOUNTED.

I. ALL PANELBOARDS SHALL HAVE A COPPER BUS.

6. SAFETY SWITCHES

A. PROVIDE SUBMITTALS

B. SAFETY SWITCHES SHALL BE AS MANUFACTURED BY SQUARE D, SIEMENS, GENERAL ELECTRIC, CUTLER-HAMMER OR APPROVED EQUAL.

C. SAFETY SWITCHES SHALL BE OF THE HEAVY DUTY TYPE WITH ARC SHIELDS AND GROUND LUG AND SHALL BE RATED FOR THE VOLTAGE OF THE SYSTEM TO WHICH IT IS BEING USED.

D. PROVIDE NEMA I ENCLOSURES FOR INTERIOR APPLICATIONS AND NEMA 3R FOR EXTERIOR APPLICATIONS OR IN WET LOCATIONS.

E. FUSES FOR SAFETY SWITCHES SHALL BE AS MANUFACTURED BY BUSSMAN OR LITTLEFUSE AND SHALL BE DUAL ELEMENT FUSETRONS FOR MOTORS AND "LOW PEAK" FOR OTHER LOADS.

7. SERVICE ENTRANCE AND GROUNDING

A. ALL CURRENT CONSUMING DEVICES SHALL HAVE A GROUND WIRE INSTALLED IN THE SAME CONDUIT AS THE PHASE CONDUCTORS FROM THE PANEL TO THE DEVICE. THIS APPLIES TO RECEPTACLES, MOTORS, ETC.

B. SERVICE ENTRANCE RACEWAYS, CONDUCTORS, TRENCHING, BACKFILL, ETC. SHALL BE INSTALLED AS INDICATED ON DRAWINGS AND PER NEC AND LOCAL CODE REQUIREMENTS INCLUDING LOCAL UTILITY COMPANY INSTALLATION SPECIFICATIONS.

C. ALL GROUND WIRE SHALL BE COPPER WITH A GREEN INSULATION OR IF A GREEN INSULATION IS NOT AVAILABLE, THEN GREEN IDENTIFYING TAPE WILL BE INSTALLED AT BOTH TERMINATION POINTS.

D. ALL MATERIALS SHALL BE AS SPECIFIED ON DRAWINGS OR AS SPECIFIED BY LOCAL UTILITY COMPANY FOR SERVICE EQUIPMENT INSTALLATIONS.

E. PROVIDE GROUND WIRES THROUGHOUT DISTRIBUTION SYSTEM AND TO ALL UTILIZATION EQUIPMENT, SUCH AS RECEPTACLES, MOTORS, AND OTHER REQUIREMENT LOCATIONS PER NATIONAL ELECTRICAL CODE ARTICLE 250.

F. PROVIDE SERVICE INSTALLATION PER DRAWINGS. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATION AND POINT OF SERVICE INSTALLATION WITH UTILITY COMPANY INCLUDING PROVIDING FINAL BROKEN DOWN LISTING OF LOADS FOR UTILITY COMPANY USE IN DETERMINING SERVICE EQUIPMENT SIZES AND TYPES.

8. LIGHTING FIXTURES

A. PROVIDE SUBMITTALS

B. PROVIDE LIGHTING FIXTURES AS INDICATED ON LIGHTING FIXTURE SCHEDULE ON DRAWINGS. EQUAL TO BE BY LITHONIA, BENJAMIN-DAYBRITE, HUBBELL, METALUX OR LIGHTOLIER.

C. FLUORESCENT BALLASTS SHALL BE ELECTRONIC AS MANUFACTURED BY ADVANCE, MOTOROLA OR MAGNETEC.

D. FLUORESCENT LAMPS SHALL BE RAPID START COOL WHITE UNLESS NOTED OTHERWISE.

E. LED FIXTURES SHALL BE 4000K MINIMUM.

F. HID LAMPS SHALL BE RATED AT VOLTAGE INDICATED ON DRAWINGS. HID FIXTURES SHALL BE FURNISHED WITH REGULATING, HPF BALLASTS AND WHERE RECESSED, SHALL HAVE INTEGRAL THERMAL PROTECTION.

G. LAMPS SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA, OR PHILIPS.

H. TIME SWITCHES OR PHOTOCELLS SHALL BE TORK, INTERMATIC OR PARAGON OF TYPES SHOWN ON DRAWINGS.

I. JOINTS AND FIXTURE WIRING SHALL BE MADE USING WIRE NUTS, PREINSULATED SCOTCH LOCKS OR OTHER APPROVED MECHANICAL MEANS OF CONNECTION.

J. COORDINATE FIXTURE LOCATIONS TO CLEAR DIFFUSERS, DUCTWORK, PIPING, ETC.

K. COORDINATE FIXTURE TYPES WITH CEILING TYPES BEING INSTALLED.

L. ADJUST FIXTURES TO LIGHT INTENDED AREA WHERE ADJUSTABLE.

9. TELEPHONE/DATA RACEWAY SYSTEM

A. PROVIDE CONDUIT STUB UP AS INDICATED ON THE DRAWINGS AT EACH DEVICE.

B. TERMINATE CONDUITS ABOVE DROPPED CEILING USING NYLON INSULATED BUSHINGS.

C. OUTLET BOXES SHALL BE 411/16" SQUARE BOXES WITH PLASTER RING AND COVER AS REQUIRED BY TELEPHONE VENDOR.

D. PROVIDE SERVICE CONDUITS, OUTLET CONDUITS, BACK BOXES, COVER PLATES, JUNCTION BOXES, AND TERMINAL BOARDS OR CABINETS AS REQUIRED BY DRAWINGS AND TELEPHONE/ DATA VENDOR.

E. LEAVE NYLON PULLSTRING IN ALL EMPTY CONDUITS.

F. PROVIDE METALLIC CONDUIT SLEEVES WHEREVER CABLES PASS THROUGH FIRE OR SMOKE RATED WALL ASSEMBLIES.

G. OWNER VENDOR TO PROVIDE CABLE, PULL CABLE AND MAKE TERMINATIONS.

H. SERVICE ENTRANCE CONDUITS AND FIREPROOF 4 x 4' x 3/4" TERMINAL BOARDS SHALL BE FURNISHED AS SHOWN ON DRAWINGS. CONTRACTOR SHALL FIELD COORDINATE ACTUAL LOCATION OF TERMINATION WITH LOCAL UTILITY PRIOR TO ROUGH-IN. GROUND WITH BARE #6 AWG THROUGH GROUND BUSHINGS.

PART 3 EXECUTION

1) CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS, MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1)YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED.

2) UPON COMPLETION OF PROJECT, ALL EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITIONS WITH ALL DAMAGE RESTORED TO ACCEPTABLE CONDITION. ALL EQUIPMENT SHALL BE INSPECTED AND THOROUGHLY CLEANED, READY FOR USE. AT COMPLETIONS OF JOB, ALL MISCELLANEOUS TOOLS , SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR

3. WHERE CONDUITS ARE TO PASS THROUGH WALLS, FLOORS, ETC. SLEEVES SHALL BE PROVIDED PRIOR TO WALL CONSTRUCTION. SLEEVES SHALL BE OF RIGID METAL. WHERE SLEEVES PENETRATE EXTERIOR SURFACES, VOIDS SHALL BE SEALED WATER TIGHT. WHERE SLEEVES PASS THROUGH RATED PARTITIONS, SLEEVE PACKING SHALL BE OF U.L. LISTED FIRE SAFE TYPE.

4. CONTRACTOR SHALL SUBMIT THREE SETS (3) OF INSTRUCTION BOOKS, INCLUDING INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS, PAMPHLETS OR PROCEDURES AND ALL EQUIPMENT WARRANTIES OBTAINED FROM EACH MANUFACTURER OF EQUIPMENT.

5. CONTRACTOR SHALL MAINTAIN ONE SET OF BLUE LINES AT THE CONSTRUCTION SITE. THESE BLUE LINES SHALL BE MARKED FOR CHANGES AND SHALL BE USED FOR AS-BUILT DRAWINGS. TURN DRAWINGS OVER TO THE OWNER AT THE COMPLETION OF THE PROJECT.

6. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED FOR EXACT SIZES OR LOCATIONS.

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09/11/2026
GEORGIA REGISTERED No. PE034794 PROFESSIONAL ENGINEER KENT BRANHAM

REVISIONS

#	DATE

A NEW
EMS
FACILITY
FOR:

OCONEE
COUNTY

WATKINSVILLE,
GEORGIA

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TITLE: ELECTRICAL SPECIFICATIONS

JOB #: 2502

DATE: 09.11.26

SHEET #

E6