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SAVANNAH BEE ATLANTA

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**ELECTRICAL SPECS**

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**E400**

**ELECTRICAL SPECIFICATIONS**

**DIVISION 18050 - BASIC MATERIALS AND METHODS**

**1.0 NAMEPLATES**

1.1 GENERAL: FURNISH AND MOUNT ON EACH PANEL BOARD/SWITCHBOARD (INCLUDING BRANCH SWITCHES), LARGE JUNCTION BOX, SAFETY SWITCH, TARIER, REMOTE CONTROL, PUSHBUTTION STATION, AND ALL SIMILAR CONTROLS A NAMEPLATE DESCRIPTIVE OF THE EQUIPMENT OR EQUIPMENT CONTROLLED.  
 1.2 PROVIDE BLACK AND WHITE NAMEPLATES CONSTRUCTED FROM LAMINATED PHENOLIC WITH A WHITE CENTER CORE. LETTERS SHALL BE ENGRAVED IN THE PHENOLIC TO FORM WHITE LETTERS 3/8" HIGH. FASTEN THE NAMEPLATES WITH SCREWS AND ADHESIVE FASTENER.

**2.0 MOUNTING ACCESSORIES**

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

**3.0 EXECUTION**

3.1 THE ELECTRICAL WORK FOR CONSTRUCTION PURPOSES SHALL CONFORM TO ALL FEDERAL (OSHA) STATE. ALL SPECIFIC SAFETY REQUIREMENTS AND THE CURRENT EDITION OF THE NEC.

3.2 CHECK THE HVAC AND PLUMBING SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS AND INCLUDE THE SAME IN THE CONTRACT COST.

3.3 EQUIPMENT CONNECTIONS, STARTERS, DISCONNECT SWITCHES, CONTROL TRANSFORMERS AND PUSHBUTTION STATIONS FOR THE EQUIPMENT FURNISHED BY THE OWNER OR UNDER A SEPARATE CONTRACT SHALL BE INSTALLED AND CONNECTED UNDER THIS DIVISION, AS INDICATED ON THE CONTRACT DRAWINGS.

3.4 ALL CUTTING, PATCHING, EXCAVATING, BACK FILLING AND CONCRETE WORK RELATED TO THIS CONTRACT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. THIS CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF PROVIDING THE SLEEVES, CHASES AND OPENINGS NECESSARY FOR THE ELECTRICAL INSTALLATION AND FOR THEIR REPAIR IN AN ACCEPTABLE MANNER, AS DETERMINED BY THE ARCHITECT. ALL HOLES SHALL BE CORE DRILLED. PROVIDE FIRE STOP IN ALL OPENINGS CREATED THROUGH FIRE-RATED WALLS, FLOORS, OR CEILINGS.

3.5 THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL REQUIRED ACCESS PANELS NECESSARY FOR HIS WORK. COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.

**4.0 MATERIALS AND WORKMANSHIP**

4.1 ALL WORK SHALL BE INSTALLED IN A PRACTICAL WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE SEVERAL TRADES NECESSARY.  
 4.2 ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND SHALL BE THE BEST OF THEIR SEVERAL KINDS UNLESS SPECIFIED OR INDICATED ON THE DRAWINGS TO THE CONTRARY.

4.3 DURING EACH PHASE AND AT THE COMPLETION OF THE CONSTRUCTION, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS CAUSED BY HIS WORK. HE SHALL LEAVE THE AREA OF OPERATION BROOM CLEAN.

4.4 ALL ELECTRICAL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OR ETL LABEL.

4.5 THIS CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIAL (LAMP EXCEPTED) FOR A PERIOD OF ONE YEAR FROM THE DATE OF BUILDING OPENING AND LEAVES WORK IN PERFECT ORDER AT THE COMPLETION. SHOULD DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD, THE CONTRACTOR SHALL UPON NOTICE OF THE SAME, REMEDY THE DEFECTS AND MAKE ALL DAMAGES TO OTHER WORK OR FINISHINGS CAUSED BY THE REPAIRS CORRECTED AT HIS EXPENSE TO THE CONDITION BEFORE SUCH DAMAGE.

**5.0 SCOPE OF WORK**

5.1 THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, STORAGE, UNPACKING AND PLACEMENT; TO INCLUDE BUT NOT BE LIMITED TO, THE FOLLOWING ITEM:

5.1a EMERGENCY LIGHTING AND POWER

5.1b COMPLETE POWER AND LIGHTING DISTRIBUTION SYSTEM INCLUDING ALL TRANSFORMERS AND FEEDERS

5.1c COMPLETE BRANCH CIRCUIT WIRING SYSTEM

5.1d COMPLETE POWER WIRING FOR ALL AIR CONDITIONING EQUIPMENT, PLUMBING SYSTEM, HEATING EQUIPMENT, VENTILATING AND EXHAUST EQUIPMENT

5.1e COMPLETE LIGHTING FIXTURE INSTALLATION, INCLUDING ALL INCANDESCENT, FLUORESCENT AND HID LAMPS.

5.1f COMPLETE COMMUNICATIONS CONDUIT AND WIRING SYSTEMS INCLUDING PANELS, JACKS, ETC., AS SPECIFIED ON THE DRAWINGS AND EQUIPPED TENANT.

5.1g TEMPORARY ELECTRICAL POWER AND LIGHTING AS REQUIRED FOR CONSTRUCTION

5.1h TESTING OF ALL BRANCH CIRCUIT WIRING AFTER INSTALLATION.

5.1i EXIT LIGHTS

5.1j WIRING DEVICES AND ROOM SCHEDULES

5.1k LIGHTING CONTROL SYSTEMS

5.1l GROUNDING OF THE ELECTRICAL SYSTEM

5.1m WIRE SUPERVISORY ALARM SYSTEM

5.1n TELEPHONE AND ELECTRIC SERVICES

5.1o SOUND SYSTEM COMPONENTS, CONDUIT SYSTEM & WIRING

5.1p COMPLETE CONDUIT SYSTEM FOR SECURITY DEVICES, INCLUDING FULL STRUNG.

**DIVISION 18060 - GROUNDING AND BONDING**

**1.0 GROUNDING AND BONDING**

1.1 GROUND ALL EQUIPMENT PER N.E.C.

1.2 GROUND ALL DRY TYPE TRANSFORMERS AS PER DRAWINGS AND N.E.C.

1.3 ALL CONDUITS SHALL CONTAIN A CODE-SIZED GROUND WIRE SIZE PER N.E.C. IN ADDITION TO THE CONDUCTORS SHOWN ON THE PLANS. WHERE CIRCUIT CONDUCTORS ARE INCREASED IN SIZE FOR VOLTAGE DROP, THE GROUND WIRE SIZE SHALL BE INCREASED PROPORTIONATELY.

1.4 WHERE AN ISOLATED, INSULATED GROUND IS REQUIRED A SEPARATE GREEN GROUND SHALL BE RUN FROM THE PANEL GROUND BUS TO THE ISOLATED GROUND CONNECTION OF THE DEVICE SERVED. IN NO CASE SHALL THE SYSTEM GROUND (WIRE AND ASSOCIATED OUTLET BOXES, CONDUIT AND BUILDING STEEL) BE ALLOWED TO CONTACT THE ISOLATED GROUND (GREEN WIRE AND DEVICE GROUND).

**DIVISION 16120 - WIRE AND CABLE**

**1.0 WIRE AND CABLE**

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

	120/208	277/480
PHASE A	BLACK	BROWN
PHASE B	RED	ORANGE
PHASE C	BLUE	YELLOW
NEUTRAL	WHITE	GREY
GROUND	GREEN	GREEN

1.1a #12 AND #10 CONDUCTORS SHALL HAVE CONTINUOUS INSULATION COLOR, AS LISTED ABOVE.

1.1b CONDUCTORS LARGER THAN ABOVE, WHICH DO NOT HAVE CONTINUOUS INSULATION COLOR SHALL BE COLOR CODED BY APPLICATION OF AT LEAST TWO LAPS OF COLORED TAPE ON EACH CONDUCTOR AT ALL POINTS OF ACCESS INCLUDING JUNCTION BOXES. COLOR TAPE SHALL BE THE EQUAL OF 3M PRODUCTS SCOTCH 435.

1.1c CONDUCTORS SHALL BE SOFT ANNEALED COPPER INSULATED FOR 600 VOLTS UNLESS SPECIFICALLY INDICATED OTHERWISE. ALUMINUM CONDUCTORS ARE NOT ALLOWED ON THIS PROJECT.

1.2 INSULATION TYPE SHALL BE TYPE THW FOR WIRE SIZES #8 AWG AND LARGER AND THHN OR THWN FOR #10 AWG AND SMALLER. THHN SHALL NOT BE USED IN WET OR DAMP LOCATIONS.

1.3 PROVIDE WIRE AND RACEWAY SYSTEM AS DESCRIBED HEREIN AND AS INDICATED ON THE DRAWINGS. METAL-CLAD (M.C.), ARMORED CABLE (AC) AND NON-METALLIC SHEATHED CABLE (NMC) SHALL NOT BE PERMITTED UNLESS SPECIFICALLY INDICATED AND APPROVED PRIOR TO BIDDING.

1.4 PROVIDE MINIMUM #12 CONDUCTORS, UNLESS OTHERWISE INDICATED.

1.5a CONTROL CONDUCTORS SHALL BE #14 MINIMUM FOR N.E.C. CLASS 1 AND #16 FOR N.E.C. CLASS 2.

1.5b CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED.

1.5c CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID.

1.7 INSTALL ALL WIRING IN CONDUIT.

1.8 CONNECT #10 AND SMALLER WIRES WITH CONSTANT PRESSURE EXPANDING SPRING TYPE CONNECTORS, "SCOTCHLOK" BY 3M OR EQUITABLE BUCHANAN.

1.9 CONNECT #8 AND LARGER WIRES WITH COMPRESSION CONNECTORS OR SPLICES AS MANUFACTURED BY BIRKLEY OR IAS.

1.10 INSULATE SPLICING CONNECTIONS TO AT LEAST 75% OF THE WIRE SIZE FOR #2 AND LARGER CONDUCTORS. INSULATION USE PRE-STRETCHED TAPPING CONDUIT FOR ALL WIRE SIZES. SUPPORT FOR #2 AND LARGER CONDUCTORS.

1.11 PULL CONDUCTORS USING CONGNITIVE METHODS AND EQUIPMENT INCLUDING AT LEAST 6" WIRE AT ALL JUNCTION BOXES FOR CONNECTIONS.

1.11a CLEAN OUT EACH CONDUIT SYSTEM BEFORE PULLING WIRE.

1.12 FORM AND RE-ALL WIRING IN PANEL BOARD.

1.13 THERE SHALL BE NO WIRE NUT JOINTS OR SPLICES MADE INSIDE SWITCHBOARDS/PANEL BOARDS.

1.14 ALL WIRE SIZES (AND CONDUITS) SHALL BE INCREASED FROM THOSE SPECIFIED TO PREVENT EXCESSIVE VOLTAGE DROP. BRANCH CIRCUITS SHALL BE INSTALLED WITH WIRES OF SUFFICIENT SIZE SO THAT VOLTAGE DROP BETWEEN THE PANEL AND THE LOADS DOES NOT EXCEED LIMIT OF 3%.

1.15 WIRE SIZES SHALL BE BASED ON THE 60°C AMPACITIES FOR WIRE SIZES NO. 14-1 AWG AND 75°C AMPACITIES FOR WIRE SIZES #10 AWG AND LARGER.

1.16 CIRCUITS MAY BE MULTI-PLEXED IN CONDUIT PROVIDED WIRE IS PROPERLY DERATED AND CONDUIT SIZED PER CODE. UNDER NO CIRCUMSTANCES SHALL MORE THAN (5) CURRENT CARRYING CONDUCTORS BE RUN IN A SINGLE CONDUIT.

1.17 PROVIDE WIRE AND RACEWAY SYSTEMS AS DESCRIBED HEREIN AND INDICATED ON DRAWINGS. METAL-CLAD (M.C.), ARMORED CABLE (AC), AND NON-METALLIC SHEATHED CABLE (NMC) SHALL NOT BE PERMITTED, UNLESS NOTED SPECIFICALLY OTHERWISE AND APPROVED PRIOR TO BIDDING.

**DIVISION 16130 - RACEWAYS AND BOXES**

**1.0 RACEWAYS**

1.1 ALL WIRE SHALL BE RUN IN ACCORDANCE WITH CODE IN CORROSION RESISTANT, RIGID, THREADED METAL CONDUIT OR ELECTRICAL METALLIC TUBING (EMT) UNLESS OTHERWISE SPECIFICALLY STATED HEREIN.

1.1a CONDUIT IN EXTERIOR WALLS, BELOW FLOOR SLAB, OR UNDERGROUND SHALL BE RIGID THREADED GALVANIZED HEAVY WALL TYPE.

1.1b CARLON PVC TYPE 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN LBU SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.

1.1c CONDUIT RUN EXPOSED TO THE WEATHER SHALL BE HEAVY WALL METAL THREADED TYPE.

1.2 CONDUIT SIZE SHALL BE 3/4" MINIMUM.

1.3 CONDUIT SHALL BE SECURELY FASTENED IN PLACE.

1.4 ALL CONDUIT SHALL BE CONCEALED IN WALLS, FLOOR AND CEILINGS WHEREVER POSSIBLE. EXPOSED CONDUIT IN FINISHED AREAS WILL NOT BE PERMITTED. EXPOSED CONDUIT WILL BE PERMITTED IN UNFINISHED AREAS WITH THE SPECIFIC APPROVAL OF THE ARCHITECT.

1.5 USE FLEXIBLE CONDUIT FOR THE CONNECTION TO RECESSED OR SEMI-RECESSED LIGHTING FIXTURES (6" LENGTH MAXIMUM). USE LIQUID TIGHT METAL CONDUIT FOR ALL CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SUBJECT TO VIBRATION AND IN AREAS SUBJECT TO MOISTURE.

1.6 USE WATER-TIGHT JOINTS WITH BURIED AND CONCRETE ENCASED CONDUIT. ALL BURIED CONDUIT OUTSIDE OF BUILDINGS SHALL HAVE A MINIMUM OF 24" OF COVER. METAL CONDUITS BURIED IN EARTH SHALL BE PAINTED (TWO COATS) WITH HEAVY ASPHALTUM PAINT.

1.7 SUPPORT RUNS OF CONDUIT AS DETAILED IN THE APPROPRIATE TABLE OF THE NATIONAL ELECTRICAL CODE (NEC).

1.8 INSTALL EXPOSED RUNS OF CONDUIT AND CONDUIT ABOVE LAY IN CEILING PARALLEL OR PERPENDICULAR TO THE WALLS. STRUCTURAL MEMBERS OF INTERSECTIONS OF VERTICAL PLANES AND CEILINGS PROVIDE RIGHT ANGLE TURNS USING RINGS OR SYMMETRICAL BENDS. SUPPORT CONDUITS WITHIN 1" OF ALL CHANGES IN DIRECTION.

1.9 IF A CONDUIT IS SUSPENDED, IT SHALL BE SUPPORTED ON TRAPEZE HANGERS WHICH USE "ALL-THREAD" RODS FROM THE STRUCTURAL STEEL. THE USE OF CBIING SUPPORT WIRE OR SIMILAR MATERIAL WILL NOT BE ACCEPTED.

1.10 INSTALL EMPTY CONDUIT FOR FUTURE USE AS INDICATED ON THE DRAWINGS. CONDUIT SHALL BE COMPLETE WITH JELINE OR FULL-ROPE JUNCTION/OUTLET BOXES, TIE RINGS AND APPROPRIATE COVER PLATES.

1.11 PROVIDE FITCH POCKETS WHERE CONDUITS PENETRATE THE ROOF.

1.12 THREAD LUBRICATION/SEALANT IS REQUIRED ON OUTDOOR AND UNDERGROUND THREADED METAL JOINTS.

1.13 INSTALL FIRE SEAL FITTINGS WHERE CONDUITS PENETRATE CONCRETE FLOOR SLABS OR MASONRY WALLS.

1.14 HORIZONTAL PORTION OF CONDUIT EXPOSED ON THE ROOF AND FEEDING EQUIPMENT SHALL NOT BE MORE THAN 3'-0" UNLESS THE WRITTEN APPROVAL FROM ARCHITECT OR ENGINEER IS OBTAINED.

**2.0 PULL AND JUNCTION BOXES**

2.1 INSTALL PULL AND JUNCTION BOXES WHERE SHOWN ON THE DRAWINGS. LOCATIONS EQUIPMENT SHALL NOT BE MORE THAN 5'-0" UNLESS THE WRITTEN APPROVAL FROM ARCHITECT OR ENGINEER IS OBTAINED.

2.2 PROVIDE CONCRETE BOXES FOR THE FOLLOWING WORK UNLESS OTHERWISE INDICATED ON THE DRAWINGS. FURNISH STEEL BOXES AND COVER WITH THE COVER ATTACHED TO THE FRAME WITH HEXAGON HEAD BOLTS OR BRONZE CAP SCREWS. 3/8" IN DIA. PROVIDE A RUBBER GASKET FOR SEAL BETWEEN THE COVER AND THE FRAME. PAINT THE COVER WITH TWO COATS OF HEAVY ASPHALTUM.

2.3 PROVIDE CAST IRON HOT DIPPED GALVANIZED INSIDE AND OUTSIDE WHERE FURNISH WEATHERPROOF COVER WHEN INSTALLED OUTSIDE.

2.4 PROVIDE CAST IRON HOT DIPPED GALVANIZED INSIDE AND OUTSIDE WHERE FURNISH WEATHERPROOF COVER WHEN INSTALLED OUTSIDE.

**3.0 CONDUIT**

3.1 USE RIGID STEEL OR ZINC COATED OR CADMIUM PLATED FOR CONCEALED

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3.31 USE RIGID STEEL OR ZINC COATED OR CADMIUM PLATED FOR CONCEALED

1.6 RECEPTACLES REQUIRING AMPERAGES, VOLTAGES OR CONFIGURATIONS DIFFERENT FROM THE DUPLEX CONVENIENCE RECEPTACLES ABOVE SHALL BE AS INDICATED ON THE DRAWINGS.

1.7 PROVIDE OTHER RECEPTACLES OF A QUALITY MATERIAL AND WORKMANSHIP EQUAL TO THAT SPECIFIED FOR DUPLEX CONVENIENCE RECEPTACLES ABOVE SHALL BE AS INDICATED ON THE DRAWINGS.

1.8 PROVIDE EQUAL OR DEVICE PLATES FOR OUTLET BOXES AS FOLLOWS UNLESS OTHERWISE NOTED:

1.8a FINISHED AREAS: THERMOPLASTIC-COLOR TO MATCH DEVICE.

1.8b UNFINISHED AREAS: ZINC COATED SHEET METAL, ALUMINUM, FOR CAST METAL AS APPROPRIATE FOR THE TYPE OF BOX.

1.8c EXTERIOR AREAS: COPPER FREE ALUMINUM WITH GRAY POWDER EPOXY FINISH, GASKET, WEATHERPROOF, CRUISE HINDS "WIRE" FOR DUPLEX RECEPTACLES AND WELLS FOR SINGLE RECEPTACLES OR EQUAL.

1.8d TELEPHONE, COMMUNICATIONS, AND SIGNAL OUTLET PLATES SHALL MATCH THOSE USED FOR RECEPTACLES AND SWITCHES. ALL OUTLET AND/OR JUNCTION BOXES SHALL BE COMPLETE WITH A COVER PLATE BY THIS CONTRACTOR.

1.8e WHERE DEVICES ARE GANGED, THEY SHALL BE INSTALLED UNDER A COMMON COVER PLATE.

1.9 LOCATE THE SWITCHES APPROXIMATELY 4'-0" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS); UNLESS OTHERWISE INDICATED. THE LONG DIMENSION OF THE SWITCH SHALL BE VERTICAL.

1.10 LOCATE RECEPTACLES APPROXIMATELY 1'-6" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS); UNLESS NOTED OTHERWISE THE LONG DIMENSION OF RECEPTACLES SHALL BE VERTICAL.

**DIVISION 16410 - SAFETY SWITCHES**

**1.0 SAFETY SWITCHES**

1.1 SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY DUTY TYPE (TYPE HD) WITH QUICK-MANUAL CIRCUIT-BREAK MECHANISM AND HANDLE WITH LOCKABLE OPERATING HANDLE.

1.2 SAFETY SWITCHES SHALL BE RATED TO HANDLE OF ADD VOLTS AS APPLICABLE. THEY SHALL BE RATED TO HANDLE CURRENTS AS SPECIFIED ON THE DRAWINGS.

1.3 SAFETY SWITCHES SHALL BE SINGLE THROW UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

1.4 ENCLOSURES SHALL BE NEMA 1 INDOORS AND NEMA 3E OUTDOORS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

1.5 MANUFACTURER SHALL BE SQUARE D, SIEMENS OR CUTLER-HAMMER.

1.7 MOUNT THE SAFETY SWITCHES SECURELY BETWEEN 3' X 6' LEVELS ABOVE THE FLOOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

1.8 MOUNT THE SAFETY SWITCHES SECURELY BETWEEN 3' X 6' LEVELS ABOVE THE FLOOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

1.9 SWITCHES ON BLOCK WALLS SHALL BE MOUNTED ON A 3/4" PLYWOOD BACKBOARD, WHERE LOCATED INDOORS.

**DIVISION 16420 - MOTOR STARTERS**

**1.0 MOTOR STARTERS**

1.1 PROVIDE MOTOR STARTERS (MAGNETIC OR FUSED COMBINATION) AND CONTROL EQUIPMENT WHERE SHOWN. STARTERS SHALL BE PROVIDED WITH 120 VOLT COILS, 3 OVERLOADS, CONTROL TRANSFORMER WITH FUSED 120 VOLT SECONDARY CIRCUIT, CIRCUIT BREAKER AND FUSED ALARM CONTACTS, HAND-OFF-AUTO SELECTOR SWITCH AND RUNNING FLCT LIGHT UNLESS OTHERWISE NOTED. WIRE THRU CONTROL DEVICES FURNISHED BY OTHER TRADES. SPACE MOTOR DRIVEN EQUIPMENT IS FURNISHED BY OTHER TRADES. THE CONTROL INDICATED ON THE DRAWINGS SHALL BE CONSIDERED AS FOR BIDDING PURPOSES ONLY. WIRE TO CONFORM TO THE ACTUAL EQUIPMENT SUPPLIED AND INSTALLED BY THE OTHER TRADES. ALL FUSES SHALL BE DUAL ELEMENT TYPE. PROVIDE BLOWN FUSE INDICATOR LAMPS IN COVER.

1.2 STARTERS SHALL BE SQUARE D, SIEMENS OR CUTLER-HAMMER.

1.3 THE EXACT NUMBER OF NORMALLY OPEN AND NORMALLY CLOSED AUXILIARY CONTACTS IN EACH STARTER SHALL BE DETERMINED BY THE TEMPERATURE CONTROL AND/OR FIRE ALARM CONTRACTOR.

1.4 COORDINATE ALL EQUIPMENT INDICATED ON THE ELECTRICAL DRAWINGS WITH MECHANICAL EQUIPMENT SCHEDULES AND SPECIFICATIONS AND PROVIDE MOTOR STARTERS FOR ALL EQUIPMENT INDICATED AS BEING INTERLOCKED OR STARTED FROM A REMOTE LOCATION.

1.5 STARTERS SUPPLIED AS AN INTEGRAL PART OF EQUIPMENT SHALL BE FURNISHED UNDER THE DIVISION PROVIDING THE EQUIPMENT. WIRING AND DISCONNECT SHALL BE BY THE CONTRACTOR. ALL OTHER STARTERS AND AUXILIARY CONTROL EQUIPMENT SHALL BE SUPPLIED AND WIRED BY THIS CONTRACTOR UNLESS OTHERWISE NOTED.

**DIVISION 16442 - DISTRIBUTION AND PANELBOARDS**

**1.0 LIGHTING CONTROL SYSTEM**

1.1 GENERAL INTRODUCTION: THE WORK COVERED IN THIS SECTION IS SUBJECT TO ALL THE REQUIREMENTS IN THE GENERAL CONDITIONS OF THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE ALL OF THE WORK IN THIS SECTION WITH ALL OF THE TRADES COVERED IN OTHER SECTIONS OF THE SPECIFICATION TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.

1.2 DESCRIPTION OF THE WORK: