

ELECTRICAL SPECIFICATIONS

DIVISION 16 - ELECTRICAL

SECTION A: GENERAL ELECTRICAL REQUIREMENTS

1. THESE PLANS AND SPECIFICATIONS APPLY TO THE NEW RANGER STATION AT CLAYSTONE PARK FOR MACON-BIBB COUNTY, GEORGIA. THE WORK DESCRIBED BY THESE PLANS AND SPECIFICATIONS APPLY TO THE INDICATED PROJECT AND MAY NOT BE MODIFIED OR REVISED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

2. ALL WORK SHALL BE PERFORMED BY LICENSED ELECTRICAL CONTRACTOR WITH MINIMUM OF TWO YEARS OF EXPERIENCE. LIST OF PREVIOUS JOBS AND REFERENCES SHALL BE MADE AVAILABLE UPON REQUEST. CONTRACTOR SHALL PROVIDE ADEQUATE INSURANCE FOR PERSONNEL AND SHALL REPAIR ANY DAMAGE OCCURRING AS THE RESULT OF THIS PROJECT SITE AND RELATED PROPERTY.

3. ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL MANNER IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE, LIFE SAFETY CODE NFPA 70, ADA CODE, GA ACCESSIBILITY CODE, AND CODE OF GEORGIA ENERGY CODE AND ALL OTHER APPLICABLE CODES AND ORDINANCES.

4. ALL PERMITS AND FEES SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.

5. ALL EQUIPMENT, MATERIAL, AND DEVICES SHALL BE LISTED OR RECOGNIZED BY UNDERWRITER'S LABORATORY OR ELECTRICAL TESTING LABORATORY AND USED AND INSTALLED IN ACCORDANCE WITH ITS LISTING.

6. ALL WORK PERFORMED SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE FINAL COMPLETION DATE EXCEPT FOR FUSES AND LAMPS IN LIGHT FIXTURES. UPON NOTIFICATION OF A PROBLEM, THE CONTRACTOR SHALL INVESTIGATE THE PROBLEM WITHIN 48 HOURS UNLESS A DIFFERENT TIME PERIOD IS AGREED TO. THE CONTRACTOR SHALL INVESTIGATE, REPAIR OR REPLACE ALL FAULTY EQUIPMENT WITHIN A REASONABLE TIME PERIOD WITHOUT CHARGE TO THE OWNER.

7. THE TERM "PROVIDE" SHALL BE UNDERSTOOD TO MEAN OBTAIN THE ITEM DESCRIBED, INSTALL IT IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND MANUFACTURER'S RECOMMENDATIONS.

8. ALL PENETRATIONS MADE IN FIRE RATED BUILDING PORTIONS SHALL BE SEALED WITH A LISTED RESISTANT MATERIAL SUITABLE FOR THE APPLICATION.

9. ALL INSTALLATIONS OF ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO INSTALLATION.

10. PLANS ARE DIAGRAMMATIC AND SHOW THE LOCATION OF THE EQUIPMENT, RACEWAY AND FITTINGS, AND ARE NOT TO BE SCALED. ALL DIMENSIONS SHALL BE VERIFIED AT THE BUILDING SITE.

11. CONTRACTOR SHALL VERIFY AND COORDINATE ALL EQUIPMENT AND DEVICE LOCATIONS WITH OWNER'S PROJECT MANAGER PRIOR TO INSTALLATION.

12. EQUIPMENT BREAKER AND WIRING REQUIREMENTS: THE CONTRACTOR SHALL SUBMIT FOR REVIEW A TABULATED SHEET OF BREAKER AND WIRING REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT REQUIRING POWER AS SPECIFIED IN DIVISION 15. REQUIREMENTS SHALL BE IDENTIFIED BY HORSEPOWER OR KW, OPERATING AMPERAGE, REQUIRED VOLTAGE AND PHASE REQUIREMENTS, AND MANUFACTURER'S SUGGESTED CIRCUIT PROTECTION DEVICE SIZE AND MINIMUM CIRCUIT AMPACITY SIZE. WHERE THE ELECTRICAL REQUIREMENTS SUBMITTED FOR MECHANICAL EQUIPMENT DIFFERS FROM THE BRANCH CIRCUITRY SHOWN ON THE ELECTRICAL DRAWINGS (WHEN USING THE BASIS OF DESIGN UNIT LISTED IN THE MECHANICAL SCHEDULES/SPECIFICATIONS OR A SIMILAR UNIT OF THE SAME SIZE FROM LISTED ALTERNATE MANUFACTURERS), THE CONTRACTOR SHALL MAKE THE NECESSARY ADJUSTMENTS TO THE BRANCH CIRCUITRY PER THE CURRENT NEC AT NO ADDITIONAL COST TO THE OWNER. WHEN CHANGES ARE MADE TO POWER REQUIREMENTS FOR EQUIPMENT, ARCHITECT/ENGINEER APPROVED VALUE ENGINEERING CHANGES TO EQUIPMENT, THE COST MUST BE INCLUDED IN THE VALUE ENGINEERING OVERALL CHANGE ORDER COST. COSTS DUE TO ADJUSTMENTS IN BRANCH CIRCUITRY TO EQUIPMENT DUE TO VALUE ENGINEERING CHANGES WILL NOT BE ALLOWED AFTER THE OVERALL VALUE ENGINEERING CHANGE ORDER HAS BEEN APPROVED. IN ALL CASES, BREAKER AND WIRING REQUIREMENTS FOR MECHANICAL EQUIPMENT MUST BE PROVIDED TO THE ENGINEER BEFORE OR AT THE SAME TIME AS THE SHOP DRAWINGS OR THE ELECTRICAL DISTRIBUTION GEAR OR EQUIPMENT. IN NO CASE SHALL THE ELECTRICAL DISTRIBUTION GEAR OR EQUIPMENT BE ORDERED OR BRANCH CIRCUITRY ROUGHED IN PRIOR TO ENGINEER REVIEW AND COMMENT ON THIS DOCUMENT. ANY EQUIPMENT ORDERED OR BRANCH CIRCUITRY ROUGHED IN ON THE JOBSITE WITHOUT THIS REVIEW AND COMMENT WILL BE TOTALLY AT THE CONTRACTORS RISK.

SECTION B: BASIC MATERIALS

1. ALL CONDUCTORS USED FOR 600 VOLTS OR LESS SHALL BE HIGH GRADE COPPER CONDUCTORS WITH 75 DEGREE C, THHN OR THWN THERMOPLASTIC INSULATION. ALL CONDUCTORS SHALL BE MADE IN THE USA. ALL CONDUCTORS ROUTED IN UNDERGROUND CONDUIT SHALL BE RATED FOR WET LOCATIONS.

2. ALL INTERIOR 120/208 VOLT, 20 AMP POWER AND LIGHTING WIRING SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING OR "MC" CABLE (IF NOT EXPOSED) FOR ALL INTERIOR CIRCUITS UNLESS OTHERWISE NOTED. IF "MC" CABLE IS USED, HUMERUS SHALL BE IN 3/4" IN. EMT. POWER CIRCUITS FOR HVAC EQUIPMENT SHALL BE IN 3/4" ELECTRICAL METALLIC CONDUIT MINIMUM. ALL CONDUIT SHALL BE SUPPORTED FROM BUILDING STRUCTURE. IT SHALL NOT BE SUPPORTED FROM DUCTWORK, PIPING, CEILING GRID OR CEILING GRID SUPPORTS, OR ANY OTHER NON-STRUCTURAL ITEM. CONDUIT SHALL BE SURFACED WITH THE NEC. CONDUIT IN EXPOSED STRUCTURE AREAS SHALL BE EMT, GALVANIZED RIGID STEEL CONDUIT SHALL BE USED IN AREAS WHERE IT WILL BE EXPOSED TO PHYSICAL DAMAGE.

3. CONDUIT UNDERGROUND SHALL BE SCHEDULE 40 PVC. IF MORE THAN ONE CONDUIT IS PROVIDED IN A SINGLE TRENCH, THE CONDUIT SHALL BE RACKED WITH SPACERS EVERY FOUR FEET TO MAINTAIN A MINIMUM SPACING BETWEEN CONDUIT OF TWO INCHES. BACKFILL USED FOR UNDERGROUND INSTALLATIONS SHALL BE FREE OF FOREIGN MATTER, WHERE EXPOSED TO WEATHER, CONDUIT SHALL BE GALVANIZED RIGID STEEL OR INTERMEDIATE METALLIC CONDUIT. THE CONDUIT SHALL BE TERMINATED WITH LISTED FITTINGS AND ALL CONDUIT ENDS SHALL BE BEAMED AND SMOOTH. ALL CONDUIT ENDS IN BOXES SHALL BE PROVIDED WITH INSULATED BUSHINGS.

4. A #12 INSULATED COPPER GROUND CONDUCTOR SHALL BE INCLUDED IN ALL BRANCH CIRCUITS RATED 20 AMPERES. ALL OTHER CIRCUITS AND FEEDERS WILL BE PROVIDED WITH AN INSULATED COPPER CONDUCTOR SIZED AS NOTED OR IN ACCORDANCE WITH THE NEC, WHICHEVER IS GREATER.

5. THE MINIMUM SIZE OF ALL CONDUCTORS NOT OTHERWISE INDICATED IS #12 AND THE MINIMUM SIZE OF ALL CONDUIT UNLESS OTHERWISE INDICATED IS 1/2 IN.

6. ALL JUNCTION BOXES SHALL BE PROVIDED WITH COVERS AND ALL UNUSED OPENINGS SHALL BE PLUGGED. ALL JUNCTION BOXES SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE. COVERS OF BOXES SHALL BE LABELED WITH THE CIRCUIT NUMBER WITH A BLACK PERMANENT MARKER IN 3/4 IN. HIGH LETTERS (LEGIBLE HANDWRITTEN LETTERING IS ACCEPTABLE).

7. ALL OUTLET BOXES SHALL BE SQUARE METAL BOXES. PROVIDE PLASTER RINGS FOR ALL OUTLET BOXES CONTAINING DEVICES TO PROVIDE A FIRM MOUNTING SUPPORT FOR THE DEVICE.

8. ALL CONVENIENCE RECEPTACLES SHALL BE SPECIFICATION GRADE 20 AMP RECEPTACLES, OWNER TO SELECT COLOR.

9. ALL LIGHT SWITCHES SHALL BE SPECIFICATION GRADE 20 AMP TOGGLE SWITCHES FULL LOAD RATED FOR TUNGSTEN-HALOGEN LAMPS, OWNER TO SELECT COLOR.

10. PROVIDE FACEPLATES FOR ALL RECEPTACLES AND SWITCHES. COORDINATE SIZE AND COLOR WITH OWNER'S PROJECT MANAGER.

11. PROVIDE BETWEEN 12 AND 24 INCHES OF LIQUID TIGHT FLEXIBLE CONDUIT BETWEEN RIGID CONDUIT AND ANY EQUIPMENT CONTAINING MOTORS. THE FLEXIBLE CONDUIT SHALL BE SUPPORTED TO PREVENT THE CONDUIT FROM RESTING ON BRICK AND OR CONCRETE PAD.

12. PROVIDE WEATHERPROOF RECEPTACLE WITHIN 25 FEET OF EACH SPECIFIC EXTERIOR EQUIPMENT. THIS RECEPTACLE SHALL BE MOUNTED HORIZONTALLY ON METAL HINGED "IN USE" COVER MOUNTED TO OPERATE. THIS COVER SHALL BE A RECEPTACLE. THIS RECEPTACLE SHALL BE MOUNTED ON A CONCRETE OR METAL BOX.

13. WHEN OUTLETS OR BOXES ARE INDICATED ON OPPOSITE SIDES OF THE SAME WALL, THE CONTRACTOR SHALL ADD A PLASTER RING TO OFFSET THE OUTLETS WITH A WALL STUD PROVIDING SEPARATION.

SECTION C: DISTRIBUTION EQUIPMENT

1. CONTRACTOR SHALL PROVIDE CONDUCTORS AND CONDUIT FOR ALL FEEDERS IN ACCORDANCE WITH THE PLANS.

2. SEPARATELY MOUNTED CIRCUIT BREAKERS SHALL BE MOUNTED IN NEMA TYPE 1 ENCLOSURES IN INDOOR APPLICATIONS AND IN NEMA 3R ENCLOSURES IN EXTERIOR OR WET LOCATIONS. ALL CIRCUIT BREAKER ENCLOSURES SHALL BE PROVIDED WITH HINGED COVERS AND PROVISIONS FOR PADLOCKING THE COVERS.

3. ALL EQUIPMENT CONTAINING MOTORS SHALL BE PROVIDED WITH A DISCONNECTING MEANS WITHIN TEN FEET OF THE UNIT UNLESS OTHERWISE NOTED. THIS DISCONNECTING MEANS SHALL BE A NON-FUSED SWITCH OR TOGGLE STARTER SIZED TO MATCH THE EQUIPMENT. PROVIDE OTHER DEVICES AS NOTED ON THE PLANS. PROVIDE NEMA TYPE 1 ENCLOSURES INDOORS AND NEMA 3R OUTDOORS.

4. PROVIDE GFCI CIRCUIT BREAKERS AND RECEPTACLES AS INDICATED ON THE PLANS AND IN THESE SPECIFICATIONS. THESE DEVICES SHALL BE CLASS A GFCI DEVICES.

5. PROVIDE PANELS AS SCHEDULED ON PLANS. CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC BREAKERS WITH A MINIMUM INTERRUPTING RATING OF 10,000 AIC FOR 120/208V. CIRCUIT BREAKERS SHALL HAVE 65/75 DEGREE C RATED TERMINATIONS. PANEL NOTED SHALL BE SERVICE ENTRANCE RATED. MOUNT PANELS WITH TOP OF PANEL 6 FT. ABOVE FLOOR. PROVIDE 3/4 IN. GREY PAINTED PLYWOOD BACKBOARD FOR ALL PANELS SECURED TO WALL WITH 1/4 IN. TOGGLE BOLTS. PANEL MANUFACTURER'S SQUARE D, GE, SIEMENS, AND CUTLER HAMMER. ALL CURRENT CARRYING PARTS SHALL BE COPPER.

6. SYSTEM COORDINATION: THE MANUFACTURER OF THE PANELBOARDS SHALL PROVIDE SERIES RATED EQUIPMENT BASED ON UL LISTED TEST RESULTS. THE CONTRACTOR SHALL VERIFY THE AVAILABLE SHORT CIRCUIT CURRENT AT THE SERVING TRANSFORMER.

7. PROVIDE EACH PANELBOARD WITH A TYPEWRITTEN CIRCUIT BREAKER DIRECTORY CARD INSIDE A PLASTIC COVERING (EVERY CIRCUIT AND CIRCUIT MODIFICATION SHALL BE LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE. THE IDENTIFICATION SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS). THE DIRECTORY AND COVERING SHALL BE LOCATED INSIDE A STEEL FRAME PROVIDED INSIDE THE DOOR OF EACH PANELBOARD. THE DIRECTORY SHALL BE TYPED TO IDENTIFY THE LOAD FED BY EACH CIRCUIT BREAKER AND THE AREAS SERVED.

8. PROVIDE NAMEPLATES FOR ALL PANELBOARDS, DISCONNECT SWITCHES, ENCLOSED CIRCUIT BREAKERS, COMBINATION STARTERS, CONTACTORS, AND ALL OTHER ELECTRICAL DISTRIBUTION EQUIPMENT PANELS. MOUNT NAMEPLATES ON EXTERIOR OF THE DOOR OF ALL SURFACE MOUNTED PANELS AND EQUIPMENT. NAME PLATES SHALL BE LAMINATED PLASTIC PLATES WITH 3/16 IN. HIGH WHITE LETTERS ETCHED ON BLACK BACKGROUND. NAME PLATES SHALL BE INSTALLED PARALLEL TO EQUIPMENT LINES. THE NAME OR USAGE OF EACH DEVICE OR BRANCH CIRCUIT SHALL BE ETCHED IN THE NAMEPLATE. CONTRACTOR TO CONTACT EQUIPMENT IDENTIFICATION WITH THE OWNER. SECURE NAMEPLATES VIA EPOXY GLUE.

SECTION E: LIGHTING

1. TYPES AND SPECIFIC REQUIREMENTS ARE PROVIDED ON THE LIGHTING FIXTURE SCHEDULE ON THE PLANS. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH LAMPS, DRIVERS, BALLASTS, AND FULLY FUNCTIONING AT COMPLETION OF PROJECT.

2. ALL LED FIXTURES SHALL BE UL LISTED AND HAVE A MINIMUM OF 5 YEAR ON-SITE REPLACEMENT WARRANTY FOR DEFECTIVE OR NON-STARTING LED SOURCE ASSEMBLIES, DRIVERS, AND FOR LUMINAIRES EXHIBITING INADEQUATE LUMEN OUTPUT. IT SHALL COVER MATERIAL, FIXTURE FINISH, WORKMANSHIP, AND SHIPPING. ON-SITE REPLACEMENT SHALL INCLUDE TRANSPORTATION, REMOVAL, AND INSTALLATION OF NEW FIXTURE.

3. RATED LUMINAIRE WATTAGE SHALL BE ACTUAL, ACCOUNTING FOR ANY REDUCTION IN EFFICIENCY DUE TO SUB-OPTIMAL LOADING OF DRIVERS.

4. DRIVERS SHALL BE CAPABLE OF ACCEPTING THE VOLTAGE INDICATED ON THE LIGHTING FIXTURE SCHEDULE AND CAPABLE OF DIMMING IF REQUIRED. DRIVERS SHALL HAVE A CLASS A RATING, TOTAL HARMONIC DISTORTION OF LESS THAN 20%, AND SHALL NOT CONTAIN ANY POLYCHLORINATED BIPHENYL (PCB).

5. ALL LED FIXTURES SHALL BE TESTED TO IES LM-79 AND IES LM-80 STANDARDS. OUTDOOR FIXTURES SHALL BE IP65 RATED. LED'S, DRIVERS AND ALL COMPONENTS SHALL HAVE A SYSTEM LIFETIME OF 50,000 HOURS OR MORE AT 25 DEGREES CELSIUS AND SHALL MAINTAIN A MINIMUM OF 80% OF INITIAL LUMEN OUTPUT AFTER 50,000 HOURS OF OPERATION. LED'S SHALL HAVE COLOR RENDERING INDEX (CRI) OF 80 OR GREATER.

6. ALL SURFACE MOUNTED FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE. ALL CEILING MOUNTED FIXTURES SHALL BE SUPPORTED FROM STRUCTURE AND SHALL MAINTAIN A MINIMUM OF 80% OF INITIAL LUMEN OUTPUT AFTER 50,000 HOURS OF OPERATION. LED'S SHALL HAVE COLOR RENDERING INDEX (CRI) OF 80 OR GREATER.

7. ALL RECESSED FIXTURES IN LAY IN TYPE CEILINGS SHALL BE PROVIDED WITH GRID CLIPS TO FASTEN FIRMLY TO CEILING SUPPORT GRID. THE CEILING GRID SHALL BE SUPPORTED AT EACH CORNER OF A FIXTURE.

8. CONNECTION TO ALL FIXTURES IN LAY IN CEILING SHALL BE BY FLEXIBLE CONDUIT OF FOUR TO SIX FEET IN LENGTH. A GROUND CONDUIT WILL BE INCLUDED WITH THIS CONNECTION.

9. ALL LENSES ON FIXTURES SHALL BE 0.125 INCH THICK MINIMUM. ALL HOUSINGS SHALL BE 22 GAUGE STEEL MIN. AND HAVE A POST FABRICATION HIGH REFLECTIVE WHITE FINISH.

SECTION F: FIRE ALARM SYSTEM

1. ACCEPTABLE MANUFACTURERS: NOTIFIER, FIRE LITE, EDWARDS, SIMPLEX, OR SILENT KNIGHT.

2. PROVIDE A COMPLETE OPERABLE FIRE ALARM SYSTEM FOR THIS PROJECT. THE MAIN PANEL SHALL BE LOCATED AS SHOWN. THE FIRE ALARM SYSTEM SHALL BE DESIGNED FOR CLASS B OPERATION. THE WIRING FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING OR "MC" CABLE WITH LISTED FITTINGS ON ALL CONDUIT ENDS. THE FIRE ALARM SHALL BE MADE IN THE USA AND BE UL LISTED. ALL WIRING AND DEVICES FOR THE SYSTEM SHALL BE SUPERVISED. COLOR CODE CONDUIT EVERY 24 IN. WITH RED MARKINGS (EXCEPT WHERE EXPOSED).

3. THE MAIN PANEL SHALL HAVE A BATTERY BACKUP AND BE SURGE PROTECTED. THE BATTERY SHALL BE CAPABLE OF PROVIDING NORMAL OPERATION FOR A PERIOD OF 24 HOURS WITH ENOUGH RESERVE TO ANNUNCIATE A BUILDING ALARM FOR 5 MINUTES.

4. NEW DEVICES SHALL BE PROVIDED WITH RECESSED METAL BOXES. ALL DEVICES SHALL BE MOUNTED FLUSH WITH WALL EXCEPT FOR PULL STATIONS WHICH SHALL BE SEPARATELY LISTED.

5. NEW BURN/STROBE DEVICES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. THE SPEAKER SHALL PRODUCE A SOUND LEVEL OF 50 DECIBELS AND THE STROBE SHALL PRODUCE A FLASHING PULSE OF 1/2 INCH 75 CANDELLA.

6. STROBE DEVICES SHALL PRODUCE A FLASHING PULSE OF 1/2 INCH 75 CANDELLA.

7. NEW PULL STATIONS SHALL BE NON-GLASS BREAK TYPE AND KEYPED THE SAME AS THE FIRE ALARM PANEL.

8. THE SMOKE DETECTORS SHALL BE PHOTOELECTRIC TYPE POWERED FROM THE MAIN FIRE ALARM PANEL.

9. PROVIDE CEILING MOUNTED SMOKE ALARMS WITH AUDIO ANNUNCIATION WHERE SHOWN. PROVIDE 9 VOLT BATTERY BACKUP. SMOKE ALARMS NORMALLY FED FROM NEAREST 120V CIRCUIT WITHIN SIGHTING UNIT UNLESS OTHERWISE NOTED ON DRAWINGS. UNIT SHALL BE ANNUALLY TESTED.

10. THE GENERAL BUILDING ALARM BELL SOUND WHEN ACTIVATED AT THE CONTROL PANEL BY SMOKE OR HEAT DETECTORS, OR BY A PULL STATION. ALARM WILL ALSO SOUND WHEN ACTIVATED BY SMOKE DETECTOR OR SPRINKLER.

11. THE MAIN PANEL SHALL PROVIDE INDICATION OF EACH INITIATING DEVICE LOCATION FOR ALARM, TROUBLE AND SUPERVISORY SILENCE. THE PANEL SHALL HAVE LAMP TEST, ALARM, TROUBLE AND SUPERVISORY SILENCE SYSTEM RESET, AND ALARM TESTATE CONTROL. THE PANEL SHALL ALSO INDICATE VOLTAGE AND BATTERY TEST. THE PANEL SHALL ALSO INCLUDE AN LCD DISPLAY. PANEL SHALL BE IN A SURFACE MOUNTED ENCLOSURE WITH LOCKABLE, SEE THROUGH, HINGED FRONT COVER.

12. THE FIRE ALARM PANEL SHALL BE EQUIPPED WITH A DIGITAL TRANSMITTER AND CELLULAR COMMUNICATION FOR OFF PREMISES REMOTE MONITORING (FIRE DEPARTMENT) DURING ALARM CONDITION. PROVIDE 3/4 IN. CONDUIT FROM FIRE ALARM PANEL TO TELEPHONE CABINETS. FIELD COORDINATE.

13. PROVIDE (1) REMOTE ANNUNCIATOR PANEL AS SHOWN ON PLANS. THE ANNUNCIATOR PANEL SHALL BE PROVIDED WITH AN LCD DISPLAY AND COMPLETE CONTROL PUSH BUTTONS INCLUDING, BUT NOT LIMITED TO, ALARM ACKNOWLEDGE, ALARM SILENCE, RESET, ETC.

SECTION G: TELEPHONE/DATA SYSTEMS

WORK INCLUDED:

1. PROVIDE 1/2 IN. EMT FROM EACH OUTLET TO ABOVE 12 INCHES ABOVE ACCESSIBLE CEILING. PROVIDE 4 IN. SQUARE BACKBOX WITH SINGLE GANG PLASTER RING FOR EACH TELEPHONE/DATA OUTLET. ALL CONDUIT SHALL BE CONCEALED. PROVIDE FACEPLATE WITH MODULAR JACKS. PROVIDE PULL STRING IN ALL EMPTY CONDUITS.

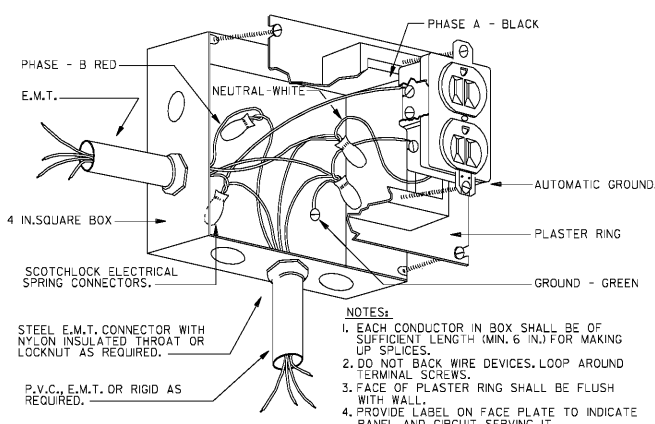
TYPE	DESCRIPTION	MANUFACTURER
A	2 FT. X 4 FT. SURFACE MOUNTED FLAT PANEL W/ AN ALUMINUM, SEAMLESS FRAME, SATIN WHITE LENS FOR FULLY LUMINOUS APPEARANCE. PROVIDE SURFACE MOUNT KIT. LAMPS: LED, 4000 LUMENS MINIMUM, 39 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	ACUTY BRANDS "EPAN" COLUMBIA "CRP" SERIES
A2	2 FT. X 2 FT. SURFACE MOUNTED FLAT PANEL W/ AN ALUMINUM, SEAMLESS FRAME, SATIN WHITE LENS FOR FULLY LUMINOUS APPEARANCE. PROVIDE SURFACE MOUNT KIT. LAMPS: LED, 4000 LUMENS MINIMUM, 39 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	ACUTY BRANDS "EPAN" COLUMBIA "CRP" SERIES
B	COMMERCIAL DOWNLIGHT, RECESSED SELF FLANGED, 6 IN. APERTURE CLEAR SPECULAR LOW IRIDESCENT REFLECTOR; ACCESS FROM BELOW OR ABOVE CEILING; STANDARD 0-10 DIMMING. PROVIDE SCA6 SLOPED CEILING ADAPTER. LAMPS: LED, 3000 LUMENS, 35 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	LITHONIA "LDN6" SERIES, PRESCOLITE "LFL6D" SERIES, CREE "SDL6" SERIES
B2	COMMERCIAL DOWNLIGHT, RECESSED SELF FLANGED, 6 IN. APERTURE CLEAR SPECULAR LOW IRIDESCENT REFLECTOR; WET LISTED. LAMPS: LED, 2000 LUMENS, 23 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	LITHONIA "LDN6" SERIES, PRESCOLITE "LFL6D" SERIES, CREE "SDL6" SERIES
C	2 FT. CONTEMPORARY SQUARE VANTY FIXTURE; WHITE ACRYLIC DIFFUSERS FOR EVEN ILLUMINATION AND SOFTENED APPEARANCE. LAMPS: LED, 1300 LUMENS, 18 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	LITHONIA "CONTEMPORARY SQUARE VANTY" OR
D	COMMERCIAL DOWNLIGHT, RECESSED SELF FLANGED, 6 IN. APERTURE CLEAR SPECULAR LOW IRIDESCENT REFLECTOR; WET LISTED. LAMPS: LED, 2000 LUMENS, 23 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	LITHONIA "LDN6" SERIES, PRESCOLITE "LFL6D" SERIES, CREE "SDL6" SERIES
E	4 FT LED STRIPLIGHT, WITH FROSTED DROP DIFFUSE LENS, SURFACE/PENDANT MOUNTED, STANDARD 0-10 DIMMING. LAMPS: LED, 5000 LUMENS, 42 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT DRIVER	LITHONIA "ZLD" SERIES, COLUMBIA "LCL" SERIES, LUMAX "CNLS"
F	COMMERCIAL DOWNLIGHT, RECESSED SELF FLANGED, 6 IN. APERTURE CLEAR SPECULAR LOW IRIDESCENT REFLECTOR; ACCESS FROM BELOW OR ABOVE CEILING; STANDARD 0-10 DIMMING. LAMPS: LED, 2000 LUMENS, 23 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	LITHONIA "LDN6" SERIES, PRESCOLITE "LFL6D" SERIES, CREE "SDL6" SERIES
G	1 FT. X 4 FT. SUSPENDED LED ENCLOSED AND GASKETED, SEAMLESS STEEL LATCHES; WHITE PAINTED FINISH, RIBBED FROSTED ACRYLIC SHIELDING. LAMPS: LED, 4500 LUMENS, 35 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT	COLUMBIA "SXM" SERIES, OR EQUAL
OA	ARCHITECTURAL TRAPEZOID WALL PACK WITH DIE-CAST ALUMINUM HOUSING; IP65 RATING FOR SUITABLE FOR LOCAL CLIMATE. LAMPS: LED, 6242 LUMENS, 50 WATTS, 3500 DEGREE K DRIVER: UNV. VOLT DRIVER	LITHONIA "WST LED" SERIES, SPALDING "LMC" SERIES, MCGRAW "IMPACT" BROWNLEE '7039
OB	CEILING MOUNTED, LOW PROFILE LUMINAIRE, DIE-CAST ALUMINUM HOUSING. UL LISTED FOR WET LOCATION. LAMPS: LED, 4000 LUMENS, 39 WATTS, 4000 DEGREE K DRIVER: UNV. VOLT DRIVER	HUBBELL "LSQ" SERIES, LITHONIA "QNY LED" SERIES,
1	LED 2 HEAD EMERGENCY UNIT, LOW PROFILE CONTEMPORARY DESIGN WITH THERMOPLASTIC HOUSING, IMPACT RESISTANT. LAMPS: LED (2) 1.5W BALLAST: UNV. VOLT	COMPASS "CU2" SERIES, LITHONIA "ELM2 LED" SERIES, SUNLITES "SEL7" EVENLITE "TCL"
2	ARCHITECTURAL LOW PROFILE OUTDOOR LED AC/EMERGENCY UNIT, SELF DIAGNOSTICS STANDARD. LAMPS: LED (2) 3W BALLAST: UNV. VOLT	ISOLITE "ELED" SERIES, EMERGENSEE "DEBL ACEM" SERIES, SUNLITES "WL"
3	LED THERMOPLASTIC EXIT, IMPACT/SCRATCH RESISTANT AND CORROSION PROOF; TOP, END, OR BACK MOUNTING STANDARD. LAMPS: LED (2) 1.5W BALLAST: UNV. VOLT	COMPASS "CE" SERIES, LITHONIA "LHOM LED" SERIES,

NOTE: CONTRACTOR TO VERIFY ALL VOLTAGES, GRID AND CEILING TYPES WITH THE ARCHITECT AND COORDINATE FIXTURE DIMENSION SIZE TO ENSURE A PROPER FIT IN ALL CEILING TYPES PRIOR TO ORDERING.

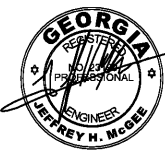
ELECTRICAL LEGEND

LIGHTING AND POWER	
	CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALL, HASH MARKS INDICATE NUMBER OF CONDUCTORS. (3 WIRE UNLESS SHOWN)
	CONDUIT RUN CONCEALED BELOW FLOOR SLAB, OR UNDERGROUND.
	HOMERUN TO PANELBOARD, LETTER OR LETTERS INDICATE PANELBOARD. NUMBERS INDICATES CIRCUIT NUMBERS.
	LIGHT FIXTURE, SEE SCHEDULE FOR MOUNTING AND TYPE.
	LIGHTING FIXTURE, WALL BRACKET MOUNTED. (SEE ARCHITECTURAL FOR MOUNTING HEIGHT.)
	JUNCTION BOX FLUSH WALL MOUNTED, 18 IN. TO CENTER LINE UNLESS OTHERWISE NOTED.
	DUPLEX CONVENIENCE OUTLET, 18 IN. ABOVE FLOOR UNLESS OTHERWISE NOTED.
	DUPLEX CONVENIENCE OUTLET, GF1 TYPE, 8 IN. ABOVE COUNTER TOP OR 12 IN. MOUNTING HEIGHT.
	DUPLEX CONVENIENCE OUTLET, GF1 TYPE, 18 IN. MOUNTING HEIGHT, WP, WHICH SHOWN INDICATES WEATHERPROOF. PROVIDE METAL IN-USE WEATHERPROOF COVER PLATE.
	QUADRUPLEX CONVENIENCE OUTLET, 18 IN. TO CENTER LINE UNLESS OTHERWISE NOTED.
	DUPLEX CONVENIENCE OUTLET WITH ISOLATED GROUND, 18 IN. ABOVE FLOOR UNLESS OTHERWISE NOTED.
	QUADRUPLEX CONVENIENCE OUTLET WITH ISOLATED GROUND, 18 IN. TO CENTERLINE UNLESS OTHERWISE NOTED.
	FLUSH FLOOR BOX WITH DUPLEX CONVENIENCE OUTLET AND COMBINATION TELEPHONE AND DATA OUTLET, FLUSH FLOOR BOX, PROVIDE WEATHERPROOF OMNIBOX SERIES TWO GANG CAST IRON OR PLASTIC FLOOR BOX WITH BRASS FLANGE AND COVERPLATE.
	SINGLE POLE TOGGLE SWITCH, 42 IN. MOUNTING HEIGHT.
	THREE POLE TOGGLE SWITCH, AS INDICATED, 42 IN. MOUNTING HEIGHT.
	0-10 VLT SLIDER TYPE DIMMER, MOUNT AT 42 IN. A.F.F.
	DUAL MOTOR RATED SWITCH.
	PANELBOARD, SEE SCHEDULE.
	DISCONNECT SWITCH, SIZE AS NOTED ON DRAWINGS.
TELEPHONE/DATA/TELEVISION SYSTEMS	
	COMBINATION COMPUTER AND TELEPHONE OUTLET, 18 IN. TO CENTER LINE OF OUTLET UNLESS NOTED OTHERWISE. (2 DATA, 1 TEL)
	COMBINATION TELEPHONE AND COMPUTER OUTLET, FLUSH WALL MOUNTED AT 8 IN. ABOVE COUNTER TOP OR 42 IN. ABOVE FLOOR.
	TELEVISION OUTLET, 18 IN. TO CENTER LINE OF OUTLET UNLESS NOTED OTHERWISE.
LIGHTING CONTROL SENSORS	
	COMBINATION 360 DEGREE, ULTRASONIC AND PASSIVE INFRARED SENSOR (WATT STOPPER "DT-300", GREENGATE, NOVITAS, HUBBELL, LEVITON, SENSOR SWITCH).
	PASSIVE INFRARED SENSOR (WATT STOPPER "WPIR", GREENGATE, NOVITAS, HUBBELL, LEVITON, SENSOR SWITCH).
FIRE ALARM SYSTEM	
	FIRE ALARM CONTROL PANEL, SURFACE MOUNTED.
	FIRE ALARM ANNUNCIATOR, FLUSH MOUNTED.
	FIRE ALARM SIGNAL, HORN AND FLASHING LIGHT, 6 FT.-8 IN. MOUNTING HEIGHT.
	STROBE LIGHT, 80 IN. ABOVE FLOOR TO THE BOTTOM OF THE LENS.
	FIRE ALARM PULL STATION, WALL MOUNTED 42 IN. ABOVE FLOOR.
	FIRE ALARM DUCT SMOKE DETECTOR LOCATED IN HVAC DUCT. PROVIDE IN UNITS 2000 CFM AND GREATER.
	SMOKE DETECTOR, PHOTOELECTRIC TYPE.
	TAMPER SWITCH, FURNISHED AND INSTALLED WITH SPRINKLER SYSTEM. INTERLOCK WITH FIRE ALARM SYSTEM BY ELECTRICAL.
	FLOW SWITCH, FURNISHED AND INSTALLED WITH SPRINKLER SYSTEM. INTERLOCK WITH FIRE ALARM SYSTEM BY ELECTRICAL.
	FIRE ALARM HEAT DETECTOR, 135 DEG. OPERATION.

NOTE: ALL MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET OR DEVICE.



RECEPTACLE CONNECTION DETAIL
NOT TO SCALE



DUNWOODY/BEELEND, Architects, Inc.

300 Mulberry Street, Suite 604
Macon, Georgia 31201
Tel: 706.742.6321
Fax: 706.742.0883
www.dunwoodybeeland.com

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A NEW RANGER STATION AT CLAYSTONE PARK FOR MACON-BIBB COUNTY

MOSLEY DIXON ROAD MACON, GEORGIA

Revisions:	

Sheet Title:
ELECTRICAL LEGEND, SCHEDULES AND DETAILS



Project #: 1819 Date: 12/19/2019

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