ELECTRICAL SPECIFICATIONS

PART 1: GENERAL

A. PROVIDE ALL WORK AND MATERIALS FOR THE INSTALLATION OF COMPLETE WIRING SYSTEMS AS SPECIFIED HEREIN AND INDICATED ON THE DRAWINGS.

B. ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR.

C. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER.

D. WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, OSHA, STATE BUILDING CODE AND ALL OTHER APPLICABLE LOCAL REQUIREMENTS. ALL WORK SHALL COMPLY WITH THE LATEST ADDITION OF NECA STANDARDS OF INSTALLATION.

E. ALL MATERIALS, DEVICES, AND APPLIANCES SHALL BE NEW, EXCEPT WHERE OTHERWISE NOTED, AND SHALL BE LISTED BY AN APPROVED TESTING AGENCY WHERE SUCH A LISTING IS AVAILABLE. FACTORY ASSEMBLED EQUIPMENT SHALL BE LISTED AND LABELED AS AN ASSEMBLY, ANY EQUIPMENT NOT LISTED SHALL HAVE PRIOR APPROVAL FROM THE LOCAL AUTHORITY HAVING JURISDICTION. ALL MATERIALS SHALL COMPLY WITH APPLICABLE ANSI, IEEE AND NEMA STANDARDS.

F. PROVIDE ALL CUTTING, PATCHING, CHANNELING AND CHASING FOR INSTALLATION OF WORK AND REPAIR ANY DAMAGE OF EXISTING OR NEW INSTALLATIONS AT THE CONTRACTORS EXPENSE.

G. SHOP DRAWINGS AND CATALOG DATA SHALL BE SUBMITTED FOR APPROVAL PRIOR TO BEGINNING WORK. SUBMIT FOUR COPIES OF SHOP DRAWINGS FOR LIGHTING FIXTURES, LAMPS, BALLASTS AND PANELBOARDS. SUBMIT FOUR COPIED OF CATALOG DATA FOR DISCONNECT SWITCHES AND WIRING DEVICES.

H. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR PANELBOARDS, WIRING TROUGHS, AND FUSED SWITCHES, WHITE LETTERS ON BLACK FOR 120/208 VOLT SYSTEMS. LABEL ALL BREAKERS INSIDE THE PANEL NEXT TO THE BREAKER USING THE NUMBER SCHEME INDICATED ON THE DRAWINGS.

I. AN ELECTRICAL INSPECTION CERTIFICATE SHALL BE ISSUED BY THE LOCAL INSPECTION AUTHORITIES BEFORE APPROVAL FOR FINAL PAYMENT.

J. THE CONDUIT AND NEUTRAL SYSTEM SHALL BE GROUNDED AT THE MAIN SERVICE EQUIPMENT. GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED PER N.E.C. ARTICLE 250 AND AS INDICATED ON THE DRAWINGS.

K. WIRING SHALL BE TESTED FOR CONTINUITY AND GROUNDS BEFORE BEING ENERGIZED. FAULTY WIRING SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.

L. IF, DURING THE COURSE OF WORK, THE ELECTRICAL CONTRACTOR DISCOVERS A PROBLEM WITH THE PERFORMANCE OF THE INSTALLATION RELATIVE TO THE PLANS AND SPECIFICATIONS OR NEC OR OTHER CODES, THE CONTRACTOR SHALL IMMEDIATELY BRING THE PROBLEM TO THE ATTENTION OF THE ARCHITECT OR ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK.

M. THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, UNLESS OTHERWISE NOTED, EXCEPT FOR CONTROL WIRING FOR EQUIPMENT NOT PROVIDED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING FOR SUCH EQUIPMENT SHALL BE PROVIDED BY THE RESPECTIVE DISCIPLINE.

N. COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL SERVICE WITH THE POWER COMPANY. WHERE MORE THAN ONE SERVICE IS SUPPLIED TO A BUILDING, PROVIDE IDENTIFICATION AT EACH SERVICE PER NEC 230-2(B) AND AS INDICATED ON THE DRAWINGS.

O. COORDINATE LOCATION AND REQUIREMENTS FOR TELEPHONE SERVICE WITH THE TELEPHONE COMPANY AND AS INDICATED ON THE DRAWINGS.

P. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PROVIDING TEMPORARY POWER.

PART 2: RACEWAY

A. CONDUIT SHALL BE ZINC-COATED EMT INDOORS. EMT FITTINGS SHALL BE STEEL SCREW. MINIMUM SIZE SHALL BE ½"C, UNLESS OTHERWISE NOTED. USE SCHEDULE 40 PVC OUTDOORS ABOVE 8'-0" OR BELOW GRADE. USE IMC WHERE REQUIRED BY CODE OR EXPOSED BELOW 8'-0".

B. SUPPORT ALL CONDUITS WITH STRAPS AND CLAMPS. RUN ALL CONDUIT PARALLEL OR PERPENDICULAR TO BUILDING WALLS.

C. JUNCTION AND PULL BOXES SHALL BE CODE GAUGE GALVANIZED SHEET METAL.

D. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED FOR EQUIPMENT CONNECTIONS, BUT NOT AS A WIRING METHOD OTHERWISE.

E. MC CABLE MAY BE USED AS A WIRING METHOD WHERE ALLOWED BY CODE.

F. RACEWAY PENETRATIONS THROUGH FLOOR SLABS AND FIRE-RATED WALLS SHALL BE FILLED WITH IMPERVIOUS, NON-SHRINK GROUT SUFFICIENTLY TIGHT TO PREVENT THE TRANSFER OF SMOKE, WATER, AND DUST. ROOF PENETRATIONS SHALL BE WITHIN THE EQUIPMENT CURB WHERE POSSIBLE.

G. CONDUIT INSTALLED UNDERGROUND OR IN CONCRETE SHALL HAVE JOINTS MADE WATER-TIGHT BY USE OF POLYTETRA-FLUOROETHYLENE TAPE. AAPPROVED SEALS SHALL BE PROVIDED IN HAZARDOUS LOCATIONS AS REQUIRED BY THE N.E.C.

PART 3: CONDUCTORS

A. ALL CONDUCTORS SHALL BE SINGLE CONDUCTOR COPPER. THHN/THWN, SOLID FOR SIZES #14 THROUGH #10. THHN/THWN STRANDED FOR SIZES #8 AND LARGER.

B. BRANCH CIRCUITS SHALL NOT BE SMALLER THAN #12 AWG. CONTROL WIRING MAY BE #14 AWG.

C. CONDUCTORS SHALL BE COLOR CODED BLACK/RED/BLUE FOR 120/208 VOLT SYSTEMS FOR A, B, AND C PHASES, RESPECTIVELY.

D. WIRING TO LIGHTING FIXTURES SHALL BE AS REQUIRED BY UL LABEL.

E. ALL BRANCH CIRCUIT CONDUITS OR CABLE ASSEMBLIES SHALL CONTAIN AN INSULATED GREEN GROUNDING CONDUCTOR SIZED PER NEC 250-122.

F. ALL CONDUCTORS INSTALLED IN VERTICAL RACEWAYS SHALL BE SUPPORTED AT INTERVALS AS REQUIRED PER NEC ARTICLE 300-19.

G. ALL EQUIPMENT AND DEVICE TERMINATIONS SHALL BE UL LISTED FOR USE WITH 75°C INSULATED CONDUCTORS AT THEIR 75°C AMPACITY.

H. PROVIDE A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR IN ALL BRANCH CIRCUITS.

PART 4: WIRING DEVICES

A. WIRING DEVICES SHALL BE WHITE WITH STAINLESS STEEL COVER PLATES, SPECIFICATION GRADE AS INDICATED BELOW, EQUAL TO THE COOPER QUALITY INDICATED.

TOGGLE SWITCHES SHALL BE AS FOLLOWS:

SINGLE POLE 20 AMP	COOPER 1221
THREE WAY 20 AMP	COOPER 1223
FOUR WAY 20 AMP	COOPER 1224
SINGLE POLE/PILOT 20 AMP	COOPER 1221PL*

DUPLEX RECEPTACLES SHALL HAVE A NYLON FACE AND SHALL BE AS FOLLOWS:

15 AMP DUPLEX	COOPER 5252
20 AMP DUPLEX	COOPER 5362
15 AMP DUPLEX-GFCI	COOPER GF5262
20 AMP DUPLEX-GFCI	COOPER GF5362
20 AMP DUPLEX/USB/TAMPER	COOPER TR7745
15 AMP DUPLEX-IG	COOPER IG5252
20 AMP DUPLEX-IG	COOPER IG5362

B. DUPLEX RECEPTACLES ON DEDICATED CIRCUIT SHALL BE 20 AMP. OTHER DUPLEX RECEPTACLES MAY BE 15 AMP, UNLESS OTHERWISE NOTED.

C. OUTLET BOXES SHALL NOT BE MOUNTED BACK-TO-BACK.

D. A MAXIMUM OF 10 RECEPTACLES SHALL BE ON EACH BRANCH CIRCUIT.

E. WEATHERPROOF COVERS SHALL HAVE A LID SO THAT PLUGS MAY BE INSTALLED WITHOUT COMPROMISING THE WP FUNCTION, EQUAL TO INTERMATIC GUARDIAN ONE #WP102OC.

F. ALL OUTLETS (INCLUDING TELEPHONE, CABLE TV AND DATA) SHALL HAVE COVER PLATES, BLANK IF NOT USED.

PART 5: DISCONNECT SWITCHES

A. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY TYPE IN NEMA 1 ENCLOSURES (UNLESS OTHERWISE INDICATED), FUSED OR NON-FUSED AS INDICATED. FUSED SWITCHES SHALL HAVE REJECTION-TYPE FUSE CLIPS. SWITCHES SHALL BE SQUARE D, OR EQUAL. FUSES SHALL BE CLASS R-5, TIME DELAY. A SET OF 3 SPARE FUSES OF EACH SIZE AND TYPE SHALL BE FURNISHED TO THE OWNER.

PART 6: ELECTRICAL GEAR

A. CAROLINA PRODUCTS, INC (CPI) SHALL BE BASIS OF DESIGN FOR MODULAR PANELBOARD SYSTEM. CONTACT AT 1-704-364-9029 FOR PROJECT SPECIFIC INFORMATION.

B. PANELBOARDS SHALL BE DEAD-FRONT SAFETY TYPE. ALL CIRCUIT BREAKERS SHALL BE MOLDED-CASE, BOLT-ON, AUTOMATIC THERMAL MAGNETIC TYPE, CALIBRATED FOR 40°C, OR AMBIENT COMPENSATION. CABINET SHALL BE 20 INCHES WIDE MINIMUM, WITH NOT LESS THAT 4-INCH WIRING GUTTERS AT TOP, SIDES, AND BOTTOM, SQUARE D "NF", "NQOD", OR EQUAL. BUS SHALL BE ALUMINUM WITH RATINGS AS INDICATED ON DRAWINGS. LUGS SHALL BE SIZED TO ACCOMMODATE CONDUCTORS INDICATED ON THE POWER RISER DIAGRAM.

C. PROVIDE HANDLE LOCK-ON DEVICES ON ALL CIRCUIT BREAKERS CONNECTED TO EMERGENCY, EXIT, AND NIGHT LIGHTING, FIRE ALARM, TELEPHONE AND SECURITY SYSTEMS.

D. CIRCUIT BREAKERS USED FOR SWITCHING OF LIGHTING OR SIGN CIRCUITS SHALL BE SWITCHING DUTY RATED AND SHALL BE MARKED "SWD".

PART 7: LIGHT FIXTURES

A. CATALOG NUMBERS GIVEN DENOTE MINIMUM QUALITY AND PERFORMANCE REQUIRED. EQUAL EQUIPMENT BY OTHER MANUFACTURERS IS ACCEPTABLE AS INDICATED ON THE LIGHT FIXTURE SCHEDULE.

B. LAY-IN FIXTURES SHALL BE SUSPENDED FROM STRUCTURE WITH 2 WIRES AT OPPOSITE CORNERS. DO NOT SUPPORT FROM CEILING GRID.

C. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LIGHT FIXTURES.

D. ALL RECESSED LIGHTING FIXTURES SHALL BE THERMALLY PROTECTED.

E. LED FIXTURE SHALL HAVE 0-10V DIMMING DRIVERS AS SPECIFIED IN LIGHT FIXTURE SCHEDULE.

F. LED FIXTURES SHALL BE SPECIFICATION GRADE AND DRIVERS SHALL HAVE INRUSH PROTECTION

PART 8: TELEPHONE/DATA SYSTEM

A. FURNISH AND INSTALL A COMPLETE TELEPHONE/DATA CONDUIT SYSTEM AS INDICATED ON THE DRAWINGS. ALL OUTLET BOXES FOR TELEPHONE AND/OR DATA JACKS SHALL BE DOUBLE GANG WITH A SINGLE-GANG OPENING.

B. PULL AND LEAVE IN EACH CONDUIT ONE PULL CORD FOR PULLING IN CABLE. ALL WIRING, OUTLETS AND EQUIPMENT SHALL BE PROVIDED AND INSTALLED BY THE OWNERS TELE/DATA SUPPLIER.

C. TELEPHONE SERVICE CONDUITS SHALL BE PROVIDED TO THE PROPERTY LINE OR AS INDICATED ON THE DRAWINGS.

D. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A #6 AWG GREEN COPPER WIRE IN A 3/4" CONDUIT FROM THE NEAREST COLD WATER METAL MAIN TO A LUG AT THE TELEPHONE/DATA BACKBOARD.

PART 9: LIGHTING CONTROLS

A. FURNISH AND INSTALL AN ELECTRONIC TIME CONTROLLER WHERE INDICATED. CONTROLLER SHALL BE CAPABLE OF SWITCHING 40 AMPERES PER POLE CONTINUOUSLY AT 120 VOLTS AND SHALL BE SPST (DPST, 3PST, DPTDT, SPDT, AS REQUIRED).

B. LIGHTING CONTACTORS SHALL SWITCH A LOAD AT 120 VOLTS, 60 HZ AND SHALL HAVE THE NUMBER OF POLES INDICATED ON THE DRAWINGS. THE CONTACTOR SHALL BE CONTINUOUSLY RATED 20 AMPERES PER POLE FOR ALL TYPES OF BALLAST AND TUNGSTEN LIGHTING AND RESISTANCE LOADS.

C. ALL LIGHTING CONTACTORS SHALL BE ELECTRICALLY HELD AND HAVE A NEMA 1 ENCLOSURE UNLESS OTHERWISE NOTED.

D. CONTACTORS SHALL BE HOUSED IN CPI ENCLOSURE. SEE ELECTRICAL EQUIPMENT ELEVATION FOR CONTACTOR SECTION IN MODULAR PANELBOARD.

ELECTRICAL SYMBOLS SCHEDULE

	CONDUIT AND/OR WIRING SYSTEM CONCEALED IN CONSTRUCTION IN FINISHED AREAS, EXPOSED IN UNFINISHED AREAS.
	CONDUIT AND/OR WIRING SYSTEM CONCEALED BELOW FLOOR OR FLOOR SLAB.
	CONDUIT STUB. TERMINATE WITH BUSHING OR CAP IF UNDERGROUND.
	BREAK IN CONDUIT, SEE PLAN FOR CONTINUATION.
	NON-RIGID RACEWAY SYSTEM
	BRANCH CIRCUIT HOMERUN TO PANEL.
J J	JUNCTION BOX SIZED PER NEC.
S	SINGLE POLE SWITCH, 20 AMP, 120/277 VOLT, COOPER 1221, OR EQUAL.
S_3	THREE WAY SWITCH, 20 AMP, 120/277 VOLT, COOPER 1223, OR EQUAL.
S_{OC}	WALL MOUNTED, PIR/MICORPHONICS TECHNOLOGY OCCUPANCY SENSOR, 120/277 VOLT, SENSOR SWITCH WSX, OR EQUAL WITH 15 FT MINOR MOTION COVERAGE, MINIMUM.
PC	TORK OR EQUAL 120V PHOTOCELL MOUNTED IN NEMA 3R ENCLOSURE
OC	CEILING MOUNTED, PIR/MICORPHONICS TECHNOLOGY OCCUPANCY SENSOR, 120/277 VOLT, SENSOR SWITCH CM9 PDT, OR EQUAL WITH 12 FT RADIAL MINOR MOTION COVERAGE, MINIMUM.
S_D	DIMMER SWITCH, LUTRON OR EQUAL, DIMMER SWITCH SHALL MATCH RESPECTIVE DIMMING CHARACTERISTIC OF LUMINIARE. CONTRACTOR SHALL PROVIDE LOW VOLTAGE CABLES AS REQUIRED.
R S	FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER WITH O.L.'S,NEMA 3R ENCLOSURE.
	DUPLEX RECEPTACLE, 15 AMP, 120 VOLT (USE 20 AMP FOR SINGLE RECEPTACLE ON A CIRCUIT.) MOUNT 18" A.F.F., U.O.N., COOPER 5252 OR EQUAL.
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER BACKSPLASH, OR AT 48" A.F.F. U.O.N., COOPER 5252 OR EQUAL.
	DOUBLE DUPLEX RECEPTACLE MOUNT AT 18" A.F.F. TWO NEMA 5-15R DUPLEX RECEPTACLES IN A COMMON BOX AND COVER PLATE.
	ISOLATED GOUNDED DOUBLE DUPLEX RECEPTACLE MOUNT AT 18" A.F.F. UON. TWO NEMA 5-15R DUPLEX RECEPTACLES IN A COMMON BOX AND COVER PLATE.
GFCI	GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE. NEMA 5-20R DUPLEX. ALL RECEPTACLES INSTALLED OUTSIDE, WITHIN 6' OF A SINK OR IN A KITCHEN SHALL BE GFCI.
WP	WEATHERPROOF RECEPTACLE. NEMA 5-15R DUPLEX. COVER SHALL BE COOPER #1991 WHERE MOUNTED HORIZONTAL AND #4966 WHERE MOUNTED VERTICAL.
	DUPLEX RECEPTACLE MOUNTED IN "F" FOR FLOOR AND "C" FOR CEILING. 'ASW' FOR ABOVE SHOW WINDOW. FLOOR BOX SHALL BE CAST ALUMINUM WITH BRASS COVER.
	WALL MOUNTED CONNECTION TO KITCHEN EQUIPMENT, NUMBER INDICATES TYPE, SEE KITCHEN EQUIPMENT SCHEDULE.
M	FRACTIONAL HORSEPOWER MOTOR CONNECTION.
3	MOTOR CONNECTION, NUMBER INDICATES HORSEPOWER.
	CONNECTION FOR WATER HEATER, VOLTAGE, PHASE AND SIZE AS INDICATED.
	DATA OUTLET. DOUBLE GANG BOX WITH SINGLE GANG OPENING, MOUNT AT 18" A.F.F. WITH 3/4" [illegible] TO ABOVE ACCESSIBLE CEILING. CABLE PROVIDED BY OTHERS.
	A[illegible]IC [illegible]ENSED FLUORESCENT/LED LIGHTING FIXTURE. LETTER IS FIXTURE TYPE, SEE LIGHT FIXTURE SCHEDULE. SUSPEND TWO OPPOSITE CORNERS WITH #10 AWG WIRE TO STRUCTURE AND ATTACH THE REMAINING TWO CORNERS TO THOSE WIRES. GRID ALONE SHALL NOT SUPPORT FIXTURE.
	ROUND RECESSED OR SURFACE MOUNTED LIGHT FIXTURE. LETTER INDICATES FIXTURE TYPE, SEE LIGHT FIXTURE SCHEDULE. INDEPENDENTLY SUPPORT FIXTURE TO STRUCTURE UNLESS SURFACE MOUNTED TO A STRUCTURAL CEILING.
	WALL MOUNTED ROUND LIGHT FIXTURE. LETTER INDICATES TYPE, SEE LIGHT FIXTURE SCHEDULE.
	WALL MOUNTED LINEAR LIGHT FIXTURE. LETTER INDICATES TYPE, SEE LIGHT FIXTURE SCHEDULE.
	FIXTURE WITH INTEGRAL 1100 LUMEN BATTERY INVERTER AND/OR ON EMERGENCY LIGHTING CIRCUIT. LETTER INDICATES TYPE, SEE LIGHT FIXTURE SCHEDULE FOR TYPE AND FOR BATTERY REQUIREMENT. SUPPORT FIXTURES IN SAME MANNER AS LISTED ABOVE.
	WALL MOUNTED EMERGENCY LIGHTING BATTERY PACK FIXTURE, SEE LIGHT FIXTURE SCHEDULE.
	WALL MOUNTED COMBINATION EMERGENCY BATTERY PACK AND EXIT SIGN. SEE LIGHT FIXTURE SCHEDULE.
S	DUCT SMOKE DETECTOR.
	DUCT DETECTOR REMOTE INDICATING LIGHT.
	NONFUSED DISCONNECT SWITCH, SIZE AS INDCIATED ON DRAWINGS, NEMA 1 ENCLOSURE U.O.N.
	FUSED DISCONNECT SWITCH, SIZE AS INDICATED ON DRAWINGS, FUSE PER NAMEPLATE DATA OR AS INDICATED, NEMA 1 ENCLOSURE U.O.N.
	LIGHTING AND/OR POWER PANEL BOARD, SURFACE MOUNTED WITH REQUIRED CODE CLEARANCE. SEE PANEL SCHEDULE FOR AMPERAGE.
	PLYWOOD TELEPHONE OR DATA BACKBOARD. SIZE AS INDICATED ON THE RESPECTIVE RISER DIAGRAM.
	WALL MOUNTED UTILITY METER.

GENERAL NOTES

A. ELECTRICAL CONTRACTOR SHALL REVIEW ENTIRE SET OF CONTRACT DOCUMENTS INCLUDING BUT NOT NECESSARILY LIMITED TO ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND ENTIRE PROJECT MANUAL. ELECTRICAL CONTRACTOR SHALL ACKNOWLEDGE AND INCLUDE IN THE SCOPE OF WORK (CONTRACT) ALL CONDITIONS PERTINENT TO THE COMPLETION OF THE ELECTRICAL WORK. ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE ELECTRICAL WORK WITH THE INSTALLATION OF WORK BY ALL OTHER TRADES AND MAKE NECESSARY FIELD ADJUSTMENTS AS REQUIRED TO ACCOMODATE THE ELECTRICAL INSTALLATION. ALL OF THE ABOVE SHALL BE INCLUDED IN THE SCOPE OF WORK AT NO ADDITIONAL COST TO THE OWNER.

B. VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED.

C. ENGRAVED, LAMINATED PLASTIC IDENTIFICATION PLATES SHALL BE FURNISHED AND INSTALLED ON ALL PANELS AND SWITCHGEAR. PLATES SHALL BE AFFIXED TO FRONT PANELS, INDICATING PANEL NAME, VOLTAGE AND AMPERAGE. PROVIDE UPDATED PANEL DIRECTORIES FOR ALL PANELS.

D. ELECTRICAL CONTRACTOR SHALL CAREFULLY EXAMINE THE DRAWINGS AND SPECIFICATIONS, VISIT THE SITE OF THE WORK, AND FULLY INFORM HIMSELF AS TO ALL CONDITIONS AND MATTERS THAT CAN IN ANY WAY AFFECT THE WORK OR THE COST THEREOF, SHOULD THE CONTRACTOR FIND DISCREPANCIES IN, OR OMISSIONS FROM, THE DRAWINGS, SPECIFICATIONS OR OTHER DOCUMENTS OR BE IN DOUBT AS TO THEIR MEANING, NOTIFY THE ARCHTIECT/ENGINEER AT ONCE, IN WRITING, OF ANY DISCREPENCIES BETWEEN EXISTING CONDITIONS AND NEW WORK OR BETWEEN ELECTRICAL WORK AND THE WORK OF OTHER TRADES PRIOR AND OBTAIN CLARIFICATION PRIOR TO SUBMITTING ANY BID. LACK OF SUCH NOTIFICATION SHALL BE CONSTRUED TO INDICATE NO DISCREPANCIES OR CONFLICTS EXIST. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY WORK REQUIRED TO COMPLY WITH THESE REQUIREMETNS.

E. SHARED NEUTRALS ARE NOT ALLOWED. EACH CIRCUIT SHALL HAVE ITS OWN INDEPENDENT NEUTRAL. EACH CONDUIT RUN SHALL CONTAIN A GROUND WIRE. CONDUIT ONLY IS NOT AN ACCEPTABLE GROUND PATH.

F. TO G.C. AND ALL SUBCONTRACTORS: NO PRICING SHOULD BE DONE FROM A PARTIAL SET AND NO CHANGE ORDER WILL BE ALLOWED FOR PRICING BASED ONLY ON A PARTIAL SET OF REVIEW OF A SINGLE TRADE'S DRAWINGS. ALL TRADES SHOULD CROSS REFERENCE ARCHITECTURAL SHEETS AND ALL OTHER TRADES FOR ADDITIONAL INFORMATION, CLARIFICATIONS AND COORDINATION REQUIRED-TYP. RELATED TO PRICING RELATED TO ANY CONTRADICTIONS THAT MAY BE FOUND IN THE DOCUMENT SET BIDDERS SHOULD INCLUDE THE MOST RESTRICTIVE (I.E. MOST EXPENSIVE) AS PART OF THE BID. ALL BIDS AND PRICING IN THEIR ENTIRETY SHALL BE BASED SOLELY ON THE FULL AND COMPLETE SET OF CONSTRUCTION DOCUMENTS ISSUED FOR THIS SPECIFIC PROJECT- TYP. NO CHANGE ORDER OR MODIFICATION TO THE CONTRACT DOCUMENTS SHALL BE MADE OR CONSIDERED BASED ON G.C. OR SUBCONTRACTOR ASSUMPTIONS BASED ON REVIEW OF A PARTIAL SET OR PAST PROJECT COMPARISONS- TYP.

ABBREVIATIONS

A	AMPERE
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
C	CONDUIT
CKT	CIRCUIT
EWC	ELECTRIC WATER COOLER
FLA	FULL LOAD AMPS
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
G	GROUND
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
IG	ISOLATED GROUND
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KCMIL	THOUSAND CIRCULAR MILS
KW	KILOWATT
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTS	MANUAL TRANSFER SWITCH
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NL	NIGHT LIGHT
NO	NORMALLY OPEN
#	NUMBER
NTS	NOT TO SCALE
P	POLE
	PHASE
PNL	PANELBOARD
SCWT	SCREW COVER WIRE TROUGH
SPD	SURGE PROTECTION DEVICE
SW	SWITCH
TELE/DATA	TELEPHONE/DATA
TYP	TYPICAL
UG	UNDERGROUND
V	VOLT
UON	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
XFMR	TRANSFORMER
3R	NEMA 3R ENCLOSURE

NOTES:

1. SEE DEVICE MOUNTING ELEVATION FOR MOUNTING HEIGHTS.
2. SEE SPECIFICATIONS FOR DEVICE COLOR AND COVER PLATE STYLE.

RAD
Ragona Architecture & Design, PLLC
1454 Stonebark Road, Charlotte, NC 28209
T: 704.552.0116 www.rad-arch.com

WAVE ENGINEERING
122 W. BLAND ST. SUITE C
CHARLOTTE NC, 28203
980-256-7728
INFO@WAVE-ENGINEERING.COM

WAVE PROJECT # 18072

#ATL034
CONYERS, GA

Krystal®

GEORGIA REGISTERED 041811 PROFESSIONAL ENGINEER BRANDON R DILLARD
3/22/18

ISSUED FOR CONSTRUCTION
1447 Highway 138
Conyers, Georgia 30012
Rockdale County, Georgia

Revisions		
#	Date	Description

Project Number:	18028
Issued for:	CONSTRUCTION
Issue Date:	03/22/18

DRAWING TITLE
ELECTRICAL SYMBOLS & SPECIFCIATIONS

SHEET NUMBER
E500

3/21/2018 3:27:36 PM