

SPECIFICATIONS (CONTINUED ON E002)

- 1. GENERAL:**
- THE WORK COVERED BY THESE SPECIFICATIONS CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND SUPPLIES AS NECESSARY FOR THE COMPLETE AND SATISFACTORY OPERATING ELECTRICAL SYSTEMS AS SHOWN ON THE PLANS.
 - ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NFPA, STATE BUILDING CODE, AND ANY OTHER LOCAL REQUIREMENTS THAT MAY APPLY.
 - CONTRACTOR SHALL OBTAIN AND PAY FOR ALL ELECTRICAL PERMITS AND INSPECTION FEES.
 - ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY THE UNDERWRITER'S LABORATORIES, INC. OR BY A STATE APPROVED THIRD PARTY TESTING AGENCY FOR THE USE INTENDED WHERE A STANDARD FOR SUCH MATERIALS AND USE EXISTS. ALL ITEMS OF THE SAME TYPE AND RATING SHALL BE IDENTICAL AND OF THE SAME MANUFACTURER.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CATALOG DATA IN ELECTRONIC FORMAT (PDF) FOR ALL ELECTRICAL ITEMS IN THE SCOPE OF WORK, INCLUDING, BUT NOT LIMITED TO, RACEWAYS, BOXES, FITTINGS, CONDUCTORS, LUMINAIRES, LAMPS, BALLASTS, WIRING DEVICES, SAFETY SWITCHES, DISCONNECTS, TRANSFORMERS, PANELBOARDS, SWITCHBOARDS, SWITCHGEARS, MOTOR CONTROL CENTERS (MCC), BUSWAYS, GENERATORS, AUTOMATIC TRANSFER SWITCHES (ATS), UNINTERRUPTIBLE POWER SUPPLY (UPS), POWER DISTRIBUTION UNITS (PDU), FLOOR/REMOTE DISTRIBUTION CABINETS (FDC/RDC), STATIC TRANSFER SWITCHES (STS), FIRE ALARM, TELECOMMUNICATIONS, ETC. FOR APPROVAL AS APPLICABLE FOR THE PROJECT. ONE COMPLETE SET OF APPROVED SUBMITTALS SHALL BE MAINTAINED AT THE JOB SITE.
 - ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT TO COMPLY WITH THE BASIS OF DESIGN, INCLUDING PROVIDING MAINTENANCE ACCESS, CLEARANCE, CONDUIT, WIRING, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, METHODS, ETC., SHALL BE INCLUDED IN THE ORIGINAL BASE BID. NO ADDITIONAL COSTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT WILL BE APPROVED AFTER BIDS HAVE BEEN ACCEPTED AND ALL COSTS WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. CREDITS SHALL BE GIVEN TO THE OWNER WHERE SUCH EQUIPMENT AND METHODS RESULT IN LESS EXPENSE TO THE CONTRACTOR.
 - ONE COMPLETE SET OF THE LATEST CONSTRUCTION PLANS OF ALL TRADES SHALL BE MAINTAINED AT THE JOB SITE. IN ADDITION, ALL ADDENDUMS, BULLETINS, AND/OR SKETCHES SHALL BE INCORPORATED INTO THE ON-SITE CONSTRUCTION PLANS AS THE JOB PROGRESSES.
 - COMPLETELY ADEQUATE HOUSING SHALL BE PROVIDED FOR ALL MATERIALS STORED ON JOB SITE. ONLY CONDUIT MAY BE STORED OUTSIDE, BUT NOT IN CONTACT WITH THE GROUND.
 - THE CONDUIT AND NEUTRAL SYSTEM SHALL BE GROUNDED AT THE MAIN SERVICE EQUIPMENT. GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED PER NEC 250.54.
 - PROVIDE AN INTERSYSTEM BONDING TERMINATION DEVICE AT THE MAIN ELECTRICAL SERVICE PER NEC 250.94.
 - WIRING SHALL BE TESTED FOR CONTINUITY AND GROUNDS BEFORE BEING ENERGIZED. FAULTY WIRING SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.
 - PROVIDE ALL CUTTING AND PATCHING FOR INSTALLATION OF WORK AND REPAIR ANY DAMAGE DONE.
 - 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.
 - ALL ELECTRICAL JUNCTION BOXES, SWITCHGEAR, CARLING, VOICE/DATA OUTLETS, LOW VOLTAGE CABINETS, EMERGENCY RECEPTACLES, ETC. SHALL BE LABELED ACCORDING TO PANEL/RACK AND CIRCUIT NUMBER.
 - UPON COMPLETION OF WORK, CONTRACTOR SHALL PRESENT ENGINEER WITH CERTIFICATE OF APPROVAL FROM LOCAL INSPECTOR AND/OR AUTHORITY HAVING JURISDICTION BEFORE WORK WILL BE APPROVED FOR FINAL PAYMENT.
 - CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR EFFECTIVE THE DATE THE PROJECT IS ACCEPTED BY THE OWNER. ANY IMPERFECT MATERIALS OR WORKMANSHIP SHALL BE REPLACED WITHOUT ADDED COST TO THE PROJECT.
 - IT SHALL NOT BE THE INTENT OF ISSUED PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL NECESSARY ITEMS FOR A COMPLETE AND OPERATING SYSTEM.
 - THE WORD "PROVIDE" MEANS THAT THIS CONTRACTOR SHALL FURNISH, FABRICATE, ERECT, CONNECT, AND COMPLETELY INSTALL SYSTEMS IN PROPER OPERATING CONDITION. ALL LABOR, PRODUCT OPTIONS, ACCESSORIES AND INCIDENTAL MATERIALS REQUIRED SHALL BE INCLUDED AS PART OF THIS WORK TO COMPLETE THE INSTALLATION.
 - THE WORD "CONNECT" MEANS THAT THIS CONTRACTOR SHALL PROVIDE (SEE DEFINITION ABOVE) ALL DISCONNECTING MEANS, OVERCURRENT PROTECTION AND WIRING REQUIRED TO PLACE THE EQUIPMENT AND SYSTEMS IN PROPER OPERATING CONDITION AND TO COMPLY WITH CODE REQUIREMENTS.
 - CONTRACTOR SHALL COORDINATE THE ROUGH-IN OF ALL OUTLET LOCATIONS WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS, AND MILLWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
 - ELECTRICAL CONTRACTOR SHALL NOT SCALE PLANS. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL TEST ALL "LIFE SAFETY" EQUIPMENT AND SYSTEMS FOR PROPER FUNCTION AND OPERATION. UPON SUCCESSFUL COMPLETION OF TESTS, CONFIRMATION SHALL BE SENT TO THE ENGINEER OF RECORD IN THE FORM OF A LETTER STATING THE TESTS PERFORMED, THE RESULTS, AND THE DATE TESTS WERE SUCCESSFULLY COMPLETE. "LIFE SAFETY" EQUIPMENT AND SYSTEMS CONSIST OF THOSE AS SPECIFIED IN THE STATE BUILDING CODE, THE NATIONAL ELECTRICAL CODE, NFPA 101, AND ANY OTHER LOCAL REQUIREMENTS THAT MAY APPLY.
 - IF DURING THE COURSE OF WORK, THE CONTRACTOR DISCOVERS A PROBLEM WITH THE PERFORMANCE OF THE INSTALLATION RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC, OR OTHER CODES OR REQUIREMENTS, THE CONTRACTOR SHALL IMMEDIATELY BRING THE PROBLEM TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK.
 - WHERE THERE ARE CONFLICTS BETWEEN THE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL BRING THE ISSUE TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK OR ORDERING ANY MATERIALS. NO ADDITIONAL COSTS SHALL BE WARRANTED WITHOUT A CHANGE TO THE PROJECT SCOPE.
 - THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PROVIDING TEMPORARY POWER AND LIGHTING FOR ALL TRADES. AT NO TIME SHALL EXISTING BUILDING POWER SYSTEMS BE UTILIZED WITHOUT WRITTEN PERMISSION FROM THE OWNER.
 - 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(E).
 - COORDINATE LOCATION AND REQUIREMENTS FOR TELEPHONE SERVICE WITH THE TELEPHONE COMPANY.
 - THE CONTRACTOR SHALL PROVIDE A MINIMUM TWO WEEK NOTICE FOR ALL PLANNED UTILITY OUTAGES. WRITTEN AUTHORIZATION FROM THE OWNER SHALL BE PROVIDED PRIOR TO ANY OUTAGE. ALL PLANNED UTILITY OUTAGES SHALL BE COORDINATED WITH THE OWNER AND OCCUR DURING NON-OPERATING TIMES, INCLUDING NIGHTS, WEEKENDS AND HOLIDAYS. ALL PLANNED UTILITY OUTAGES SHALL INCLUDE PROVISIONS FOR PROPER BACK-UP OF ALL "LIFE SAFETY" SYSTEMS. INCLUDE AN APPROVED FIRE-WATCH PROGRAM AS REQUIRED BY THE LOCAL FIRE MARSHAL.
 - EACH BIDDER SHALL VISIT THE JOB SITE PRIOR TO BIDDING TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND TO DETERMINE THE EXTENT OF WORK REQUIRED. FAILURE TO VISIT SITE SHALL NOT EXCUSE CONTRACTOR FROM PERFORMING REQUIRED WORK NOR SHALL IT BE AN ACCEPTABLE REASON FOR REQUESTING ADDENDUMS TO THE CONTRACT.
- 2. RACEWAY:**
- CONDUIT SHALL BE MADE OF RIGID PVC, WHEATLAND, REPUBLIC CONDUIT, WESTERN TUBE, OR APPROVED EQUIVALENT.
 - FOR INTERIOR WORK, CONDUIT SHALL BE BLACK COATED EMT EXCEPT WHERE NOT PERMITTED BY CODE. USE UNDRILLED PVC BELOW CONCRETE SLAB, IN DUCTBANKS, AND FOR EXTERIOR WORK WHERE NOT SUBJECT TO DAMAGE. USE IMC WHERE SUBJECT TO PHYSICAL DAMAGE. EMT FITTINGS SHALL BE COMPRESSION GLAND TYPE, OF MALLEABLE STEEL. CONNECTORS SHALL HAVE INSULATED THROATS. CAST, SET SCREW, OR INDENTER TYPE FITTINGS ARE NOT ACCEPTABLE. ALL FITTINGS FOR EMT SHALL BE MADE OF STEEL.
 - RACEWAYS SHALL BE RUN CONCEALED, UNLESS OTHERWISE NOTED. FISH ALL NEW OUTLETS IN EXPOSED WALLS, WHERE POSSIBLE. ALL RUNS SHALL BE NEAT AND SQUARE.
 - LOW VOLTAGE CABLES NOT SPECIFIED TO BE INSTALLED IN CONDUIT, SHALL BE INSTALLED IN A CABLE TRAY SYSTEM OR J-HOOK SYSTEM CONSISTING OF MINIMUM 2" DIAMETER HOOKS LOCATED ON 3'-0" CENTERS IN ALL ACCESSIBLE CEILINGS, WHERE THERE ARE INACCESSIBLE CEILINGS, PROVIDE CONDUIT FOR ENTIRE LENGTH OF INACCESSIBILITY.
 - RACEWAYS USED FOR LOW VOLTAGE SYSTEMS SUCH AS TELECOMMUNICATIONS, FIRE ALARM, SECURITY, CCTV, CONTROLS, AND SIMILAR CONDUITS ABOVE THE CEILING AND BACKBOARD(S) SHALL BE PROVIDED WITH INSULATED THROAT BUSHINGS AT EACH CONDUIT TERMINATION. THESE BUSHINGS SHALL BE INSTALLED PRIOR TO PULLING LOW-VOLTAGE CABLES.
 - RACEWAY PENETRATIONS THROUGH FLOOR SLABS AND FIRE-RATED WALLS SHALL BE FILLED WITH IMPERVIOUS, NON-SHINKING GROUT SUFFICIENTLY TIGHT TO PREVENT THE TRANSFER OF SMOKE, WATER, AND DUST. ROOF PENETRATIONS SHALL BE WITHIN THE EQUIPMENT ROOF CURB.
 - SUPPORT ALL CONDUIT WITH STRAPS AND CLAMPS.
 - ALL CONDUIT SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES, WHETHER EXPOSED OR NOT AND SUPPORTED FROM STRUCTURE AND PROPERLY SECURED.

2018 NORTH CAROLINA ENERGY CONSERVATION CODE
COMMERCIAL ENERGY EFFICIENCY - ELECTRICAL SUMMARY

- C401 METHOD OF COMPLIANCE**
- 2018 NCECC CHAPTER 4 NC SPECIFIC COMCHECK PROVIDED
 N/A BASED ON PROJECT SCOPE ASHRAE 90.1-2013
- C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS**
- C406.1.1 EFFICIENT MECH EQUIPMENT C406.1.4 ON-SITE RENEWABLE ENERGY
 C406.1.2 REDUCED LIG DENSITY C406.1.5 DEDICATED OA SYSTEM
 C406.1.3 ENHANCED DIGITAL LTG CNTLS C406.1.6 HI-EFF SERVICE WTR HTG
 NOT APPLICABLE BASED ON PROJECT SCOPE
- C405.2 - LIGHTING CONTROLS (MANDATORY REQUIREMENTS):**
- LIGHTING SYSTEMS ARE PROVIDED WITH CONTROLS AS REQUIRED PER SECTION C405.2, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- C405.3 - EXIT SIGNS (MANDATORY REQUIREMENTS):**
- INTERNALLY ILLUMINATED EXIT SIGNS DO NOT EXCEED 5 WATTS PER SIDE.
 NOT APPLICABLE
- C405.4 - INTERIOR LIGHTING POWER REQUIREMENTS (PRESCRIPTIVE) (NON-EXEMPT):**
- NOT APPLICABLE PER 2018 NCECC C503.1, EXCEPTION 2.G.
- C405.4.1 - TOTAL CONNECTED INTERIOR LIGHTING POWER:**
- 4,413 WATTS SPECIFIED
13 % REDUCTION OF SPECIFIED VS. ALLOWED (APPLICABLE IF C406.1.2 IS SELECTED)
- C405.4.2 - TOTAL ALLOWABLE INTERIOR LIGHTING POWER:**
- METHOD OF COMPLIANCE:
 BUILDING AREA METHOD SPACE-BY-SPACE METHOD
5,074 WATTS ALLOWED
- C405.5.1 - EXTERIOR BUILDING LIGHTING POWER (NON-EXEMPT):**
- NOT APPLICABLE
TOTAL CONNECTED EXTERIOR LIGHTING POWER: _____ WATTS SPECIFIED
TOTAL ALLOWABLE EXTERIOR LIGHTING POWER: _____ WATTS ALLOWED
- C405.6 - ELECTRICAL ENERGY CONSUMPTION (DWELLING UNITS):**
- SEPARATE ELECTRICAL METERING HAS BEEN PROVIDED FOR EACH DWELLING UNIT IN GROUP R-2 BUILDINGS.
 NOT APPLICABLE
- C405.7 - ELECTRICAL TRANSFORMERS (MANDATORY REQUIREMENTS):**
- ELECTRICAL TRANSFORMERS HAVE BEEN SPECIFIED TO MEET MINIMUM EFFICIENCY REQUIREMENTS PER C405.7, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- C405.8 - ELECTRICAL MOTORS (MANDATORY REQUIREMENTS):**
- ELECTRICAL MOTORS HAVE BEEN SPECIFIED TO MEET MINIMUM EFFICIENCY REQUIREMENTS PER C405.8, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE
- C408 - SYSTEM COMMISSIONING:**
- BUILDING IS LESS THAN 10,000 SQUARE FEET AND IS EXEMPT FROM THE SYSTEM COMMISSIONING REQUIREMENTS OF SECTION C408.
 BUILDING IS GREATER THAN 10,000 SQUARE FEET AND REQUIRE SYSTEM COMMISSIONING PER SECTION C408.

LIGHTING FIXTURE SYMBOLS AND DEVICES

SYMBOL	DESCRIPTION
	LED LIGHTING FIXTURE. SEE FIXTURE SCHEDULE. SUSPEND FOUR CORNERS WITH WIRE TO STRUCTURE. DO NOT ALLOW GRID ALONE TO SUPPORT FIXTURE.
	LED STRIP FIXTURE.
	RECESSED LED OR H.I.D. LIGHTING FIXTURE.
	FLUORESCENT OR LED FIXTURE WITH EMERGENCY BATTERY BALLAST OR DRIVER ON LIFE SAFETY BRANCH. PROVIDE 1100 LUMEN INVERTER RATED FOR 90 MINUTE OPERATION. SEE FIXTURE SCHEDULE FOR FIXTURE TYPE. EMERGENCY DEVICE SHALL SUPPLEMENT FIXTURE.
	SURFACE LUMINAIRE LIGHT (TYPE DENOTED)
	SUSPENDED OR PENDANT LIGHT (TYPE DENOTED)
	RECESSED LINEAR LIGHT (TYPE DENOTED)
	EXIT LIGHT WITH ARROWS AND NUMBERS OF FACES AS INDICATED ON PLANS. 90 MIN BATTERY BACKUP. SEE LIGHTING FIXTURE SCHEDULE.
	SINGLE POLE SWITCH, 20 AMP, 120/277 VOLT, COOPER 4H 1221, OR EQUAL BY HUBBELL, LEVITON AND PASS & SEYMOUR.
	THREE WAY SWITCH, 20 AMP, 120/277 VOLT, COOPER 1223, THREE WAY SWITCH, 20 AMP, 120/277 VOLT, COOPER 1223, OR EQUAL BY HUBBELL, LEVITON AND PASS & SEYMOUR.
	DIMMER SWITCH, LUTRON SERIES, OR EQUAL. VERIFY LOAD ON CIRCUIT AND MATCH DIMMER SIZE TO LOAD AND DEVICE QUANTITY. PROVIDE DOUBLE GANG J-BOX WITH SINGLE GANG TRIM PLATE. PROVIDE DIMMING SWITCH AS RECOMMENDED BY LIGHTING MANUFACTURER. MATCH SWITCH TYPE TO SOURCE (LED, FLUORESCENT, OR INCANDESCENT) WATTAGE, AND QUANTITY.
	THREE WAY DIMMER SWITCH. VERIFY LOAD ON CIRCUIT AND MATCH DIMMER SIZE TO LOAD AND DEVICE QUANTITY. PROVIDE DOUBLE GANG J-BOX WITH SINGLE GANG TRIM PLATE. PROVIDE DIMMING SWITCH AS RECOMMENDED BY LIGHTING MANUFACTURER. MATCH SWITCH TYPE TO SOURCE (LED, FLUORESCENT, OR INCANDESCENT) WATTAGE, AND QUANTITY.
	CEILING MOUNTED OCCUPANCY SENSOR. DUAL TECHNOLOGY. SENSOR SWITCH CM PDT 10, WATT STOPPER #DT-300, COOPER OAC-DT OR EQUAL.
	WALL MOUNTED OCCUPANCY SENSOR. DUAL TECHNOLOGY. SENSOR SWITCH WITH NEUTRAL, 120/277V RATED, WATT STOPPER #W-150, OR EQUAL BY SENSOR SWITCH, AND LEVITON.
	WALL MOUNTED OCCUPANCY SENSOR AND DIMMER SWITCH. INFRARED TECHNOLOGY, WATT STOPPER #PW-100, SENSOR SWITCH, COOPER CONTROLS OR EQUAL. DIMMER SWITCHING. SWITCH SHALL BE INSTALLED IN SINGLE GANG BOX, 120/277V RATED.
	LIGHT LEVEL SENSOR. WATT STOPPER #S-101, APPROVED EQUAL.
	CEILING MOUNTED OCCUPANCY SENSOR POWER PACK. SENSOR SWITCH PP-20, WATT STOPPER #BZ-100, COOPER #BZ, OR EQUAL.
	SWITCHING DEVICE INDICATOR. INDICATES SWITCH AND ASSOCIATED FIXTURES CONTROLLED BY DEVICE.
	GENERATOR TRANSFER DEVICE WITH DIMMING INPUT/OUTPUT FOR NORMAL LIGHTING CONTROL, SEE EMERG. LIG RELAY DETAIL. CONNECT TO LOCAL LIFE SAFETY BRANCH LIGHTING CIRCUIT. BASED ON BODINE BLCD-208, EQUALS BY: LEGRAND, ETC. OR APPROVED EQUAL.

SYMBOL SCHEDULE POWER AND TELECOM

SYMBOL	DESCRIPTION
	WIRING SYSTEM SWITCHED
	WIRING SYSTEM UNSWITCHED
	WIRING SYSTEM LOW VOLTAGE
	CONDUIT TURNED UP TO FLOOR ABOVE.
	CONDUIT TURNED DOWN TO FLOOR BELOW.
	BRANCH CIRCUIT HOMERUN TO PANEL.
	JUNCTION BOX WITH CONNECTION TO EQUIPMENT SERVICE.
	208Y/120V PANELBOARD. SEE SCHEDULE FOR MOUNTING. TOP OF PANEL MAX. 6'-6" AFF.
	480Y/277V PANELBOARD. SEE SCHEDULE FOR MOUNTING. TOP OF PANEL MAX. 6'-6" AFF.
	480-208Y/120V TRANSFORMER. SEE RISE FOR SIZE. PROVIDE 4" HOUSEKEEPING PAD.
	DUPLEX RECEPTACLE, 20 AMP, 120/277V, COOPER 5362 OR EQUAL.
	GROUND FAULT RECEPTACLE, NEMA 5-20R DUPLEX. ALL RECEPTACLES INSTALLED INSIDE, WITHIN 10' RADIUS OF SINK OR IN A KITCHEN SHALL BE GFCI.
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER BACKSPLASH, OR AT HEIGHT NOTED.
	GROUND FAULT DUPLEX RECEPTACLE, NEMA 5-20R MOUNTED ABOVE COUNTER BACKSPLASH OR AT HEIGHT NOTED.
	QUAD RECEPTACLE, TWO NEMA 5-20R DUPLEX RECEPTACLES.
	GFI NEMA 5-20R QUAD RECEPTACLE FOR ELECTRIC WATER COOLER. COORDINATE LOCATION WITH PLUMBING CONTRACTOR.
	TELEVISION OUTLET - REFER TO DETAIL #1/E502.
	OVERFLOOR RACEWAY 2 GANG BOX. PROVIDE DUPLEX RECEPTACLE AND DATA MOUNTING BRACKET. WIREMOLD OFR48-2. ROUTE ONE 1" TO ABOVE ACCESSIBLE CEILING. BUSH END OF CONDUIT.
	NON-FUSED HEAVY DUTY DISCONNECT SWITCH. NUMERALS INDICATE SWITCH RATING, NEMA 1 ENCLOSURE, UNLESS OTHERWISE NOTED.
	FUSED HEAVY DUTY DISCONNECT SWITCH. NUMERALS INDICATE SWITCH RATING/FUSE SIZE, NEMA 1 ENCLOSURE, UNLESS OTHERWISE NOTED. DIAGONAL LINE INDICATES FUSED.
	FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER.
	DATA OUTLET. MINIMUM 1" CONDUIT TO ABOVE NEAREST ACCESSIBLE CEILING FOR J-HOOK SYSTEM OR TO LOCAL CABLE TRAY (WITHIN 6") AS APPLICABLE WITH PULL STRING. 4" SQUARE BOX WITH A SINGLE-GANG OPENING AND PLASTER RING.
	CONDUIT SLEEVE, 2" SLEEVE UNLESS OTHERWISE NOTED.

ELECTRICAL ABBREVIATIONS LIST

1P	1 POLE (2P, 3P, 4P, ETC.)	DSE	DOMESTIC WATER	HT	HEIGHT	NEMA	NATIONAL ELECTRICAL	SWBD	SWITCHBOARD
A	AMPERE	DEPT	DEPARTMENT	HTG	HEATING	MANUFACTURER'S	ASSOCIATION	SYM	SYMMETRICAL
AC	ABOVE COUNTER OR AIR	DET	DETAIL	HTR	HEATER	NON-FUSED SAFETY	ASSOCIATION	SYS	SYSTEM
ACLG	ABOVE CEILING	DIAM	DIAMETER	HV	HIGH VOLTAGE	DISCONNECT SWITCH	TEL	TELEPHONE	TEL/DATA
ADO	AUTOMATIC DOWNSHOP	DIS	DISCONNECT	HVAC	HEATING, VENTILATING AND	NOT IN CONTRACT	TERM	TERMINAL	TERMINAL
AF	AMP FRAME	DIST	DISTRIBUTION	HWP	HYDROVIC WATER PUMP	N.L.	NIGHT LIGHT	TL	TWIST LOCK
AFB	ABOVE FINISHED FLOOR	DR	DRAIN	IC	INTERRUPTING CAPACITY	N.O.	NORMALLY OPEN	TR	TAMPER RESISTANT
AFG	ABOVE FINISHED GRADE	DRP	DRAIN PIPER	IC	INTERRUPTING CAPACITY	NPF	NORMAL POWER FACTOR	T-STAT	THERMOSTAT
AFI	ARC FAULT CIRCUIT	DS	SAFETY DISCONNECT SWITCH	IG	ISOLATED GROUND	NTS	NOT TO SCALE	TTC	TELEPHONE TERMINAL
AFI	ARC FAULT CIRCUIT	DT	DOUBLE THROW	IMC	INTERMEDIATE METAL CONDUIT				CABINET
AFI	ARC FAULT CIRCUIT	DWG	DRAWING	INCAND	INCANDESCENT	OH	OVERHEAD	TV	TELEVISION
AFI	ARC FAULT CIRCUIT			IR	INFRA RED	OL	OVERLOADS	TVTC	TELEVISION TERMINAL
AFI	ARC FAULT CIRCUIT			I/W	INTERLOCK WITH	PA	PUBLIC ADDRESS	TYP	TYPICAL
AL	ALTERNATE	ECC	ELECTRICAL CONTRACTOR	J-BOX	JUNCTION BOX	PB	PULL BOX OR PUSHBUTTON	UC	UNDER COUNTER
ALT	ALTERNATE	ELEC	ELECTRIC, ELECTRICAL			PE	PNEUMATIC ELECTRIC	UE	UNDERGROUND ELECTRICAL
AMP	AMPERE	ELEV	ELEVATOR			PF	POWER FACTOR	UG	UNDERGROUND
AMPL	AMPLIFIER	EM	EMERGENCY			PH	PHASE	UH	UNIT HEATER
ANUN	ANNUNCIATOR	EMS	ENERGY MANAGEMENT SYSTEM	KV	KILOVOLT	PIV	POST INDICATING VALVE	UT	UNDERGROUND TELEPHONE
APPROX	APPROXIMATELY	EMT	ELECTRICAL METALLIC TUBING	KVA	KILOVOLT-AMPERE	PNL	PANEL	UTIL	UTILITY
AQ-STAT	AQUASTAT	EP	ELECTRIC PNEUMATIC	KVAR	KILOVOLT-AMPERE REACTIVE	PP	POWER POLE	UV	UNIT VENTILATOR OR
ARCH	ARCHITECT, ARCHITECTURAL	EQU	EQUIPMENT	KW	KILOWATT	PR	PRIMARY		ULTRAVIOLET
AS	AMP SWITCH	EW	ELECTRIC WATER COOLER	KWH	KILOWATT HOUR	PROJ	PROJECTION	V	VOLT
AT	AMP TRIP	EXIST	EXISTING	LOC	LOCATE OR LOCATION	PRV	POWER ROOF VENTILATOR	VA	VOLT-AMPERES
ATS	AUTOMATIC TRANSFER SWITCH	EXH	EXHAUST	LOC	LOCATE OR LOCATION	PT	POTENTIAL TRANSFORMER	VDT	VIDEO DISPLAY TERMINAL
AUTO	AUTOMATIC	EXP	EXPLOSION PROOF	LT	LIGHT	PVC	POLYVINYL CHLORIDE	VERT	VERTICAL
AUX	AUXILIARY	FAL	FIRE ALARM	LTG	LIGHTING	PWR	POWER	VFD	VARIABLE FREQUENCY DRIVE
AV	AUDIO VISUAL	FA	FIRE ALARM	LTNG	LIGHTNING			VOL	VOLUME
AWG	AMERICAN WIRE GAUGE	FABP	FIRE ALARM BOOSTER POWER SUPPLY PANEL	LV	LOW VOLTAGE	QUAN	QUANTITY	W	WATT
BATT	BATTERY	FACP	FIRE ALARM CONTROL PANEL	MAX	MAXIMUM			W/	WITH
BD	BOARD	FCU	FAN COIL UNIT	MAG.S	MAGNETIC STARTER				
BLDG	BUILDING	FIXT	FIXTURE	M/C	MOMENTARY CONTACT				
BMS	BUILDING MANAGEMENT SYSTEM	FLR	FLOOR	MCC	MECHANICAL CONTRACTOR				
C	CONDUIT	FLUR	FLUORESCENT	MCB	MAIN CIRCUIT BREAKER				
CAB	CABINET	FU	FUSE	MCC	MOTOR CONTROL CENTER				
CAT	CATALOG	FUDS	FUSED SAFETY DISCONNECT SWITCH	MDC	MAIN DISTRIBUTION CENTER				
CATV	CABLE TELEVISION	G	GAUGE	MDP	MAIN DISTRIBUTION PANEL				
CB	CIRCUIT BREAKER	GAL	GALLON	MFR	MANUFACTURER				
CCTV	CLOSED CIRCUIT TELEVISION	GALV	GALVANIZED	MFS	MAIN FUSED DISCONNECT SWITCH				
CKT	CIRCUIT	GEN	GENERAL CONTRACTOR	MH	MANHOLE				
CLG	CEILING	GEN	GENERATOR	MIC	MICROPHONE				
COMB	COMBINATION	GRI	GROUND FAULT CIRCUIT INTERRUPTER	MIN	MINIMUM				
CMPR	COMPRESSOR	INT	INTERRUPTER	MISC	MISCELLANEOUS				
CONN	CONNECTION	GND	GROUND FAULT PROTECTOR	MLO	MAIN LUGS ONLY				
CONST	CONSTRUCTION	GND	GROUND	MMS	MANUAL MOTOR STARTER				
CONT	CONTINUATION OR CONTINUOUS	GRS	GALVANIZED RIGID STEEL (CONDUIT)	MOA	MULTIOUTLET ASSEMBLY				
CONTR	CONTRACTOR	GYP	GYP SUM BOARD	MSP	MOTOR STARTER PANELBOARD				
CONV	CONVECTOR	MT	MOUNT	MSB	MAIN SWITCHBOARD				
CP	CIRCULATING PUMP	MT/C	EMPTY CONDUIT	MNTS	MANUAL TRANSFER SWITCH				
CR	CATHODE-RAY TUBE	HOA	HANDS-OFF-AUTOMATIC SWITCH	MTR	MOTOR, MOTORIZED				
CT	CURRENT TRANSFORMER	HORIZ	HORIZONTAL	MTR	MOTOR, MOTORIZED				
CTR	CENTER	HP	HORSEPOWER	N.C.	NORMALLY CLOSED				
CU	COPPER	HPF	HIGH POWER FACTOR	NEC	NATIONAL ELECTRICAL CODE				

ELECTRICAL SHEET INDEX

SHEET NUMBER	SHEET NAME
E001	ELECTRICAL LEGEND AND NOTES
E002	ELECTRICAL SPECIFICATIONS
E090	OVERALL DEMOLITION ELECTRICAL PLAN
E100	OVERALL ELECTRICAL FLOOR PLAN
E101	ENLARGED LIGHTING FLOOR PLAN - EAST
E102	ENLARGED LIGHTING FLOOR PLAN - WEST
E201	ENLARGED POWER FLOOR PLAN - EAST
E202	ENLARGED POWER FLOOR PLAN - WEST
E501	ELECTRICAL DETAILS
E502	ELECTRICAL DETAILS
E601	ELECTRICAL SCHEDULES

INNOVATIVE DESIGN
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PERMIT/BID SET
SEAL
11/19/2019

Union Station Mezzanine Office Fit Up
City of Raleigh Transit Division
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NO.	SUBMISSION	DATE
1	PERMIT/BID SET	11/08/19

CHECKED BY: **MKG**

DRAWN BY: **RDH**

PROJECT NUMBER: **1908**

SHEET NAME: **ELECTRICAL LEGEND AND NOTES**