

ELECTRICAL SPECIFICATION  
GENERAL ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

- 1.01 SCOPE OF WORK:  
FURNISH ALL LABOR, TOOLS, MATERIALS INCLUDING ALL SPECIALTIES AND APPURTENANCES FOR THE INSTALLATION OF THE COMPLETELY TESTED AND OPERATING ELECTRICAL SYSTEM INDICATED HEREIN AND ON THE CONTRACT DRAWINGS. COMPLETE ELECTRICAL SYSTEMS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:  
1. DEMOLITION AND REMOVAL OF EXISTING EQUIPMENT  
2. EXTEND AND RECONNECT EXISTING WIRING TO THE REUSED AND RELOCATED EQUIPMENT.  
3. POWER DISTRIBUTION SYSTEM  
4. LIGHTING SYSTEM AND CONTROL  
5. COMMUNICATION RACEWAY AND SYSTEM  
6. CONNECTIONS TO EQUIPMENT FROM OTHER SECTIONS OF THE SPECIFICATION.

- 1.02 WORK PERFORMED AND MATERIAL PROVIDED SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL CODES. WORK CODES SHALL BE EXECUTED IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, RULES AND REGULATIONS OF LOCAL AND STATE AGENCIES HAVING JURISDICTION OVER THIS WORK. SUCH CODES SHALL TAKE PRECEDENCE OVER THE DRAWINGS. OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS. PAY REQUIRED FEES.

- 1.03 CONTRACTOR SHALL VERIFY THAT THE ELECTRIC SERVICE COMPLIES WITH NEC, LOCAL CODES, AND LOCAL UTILITY REQUIREMENTS. PROVIDE ALL REQUIRED CHANGES FOR A FULLY FUNCTIONAL SYSTEM. COORDINATE SERVICE WITH UTILITY COMPANY.

- 1.04 SUBMIT FOR REVIEW THREE (3) COPIES OF MANUFACTURER'S CATALOG LITERATURE OF MAJOR COMPONENTS CONTAINED IN THE ELECTRICAL WORK INCLUDING:

- A. LIGHT FIXTURES AND CONTROL DEVICES.  
B. POWER DISTRIBUTION EQUIPMENT: PANELBOARDS AND CIRCUIT BREAKERS.  
ALL MATERIALS SHALL BE NEW, BEST OF THEIR KIND, FREE FROM DEFECTS AND LISTED BY THE UNDERWRITERS LABORATORIES, INC. BEFORE ORDERING MATERIALS OR EQUIPMENT, SUBMIT ENGINEERING DATA FOR MATERIAL AND EQUIPMENT PROPOSED FOR USE. CHECK EQUIPMENT DIMENSIONS FOR ADEQUATE SPACE ALLOTMENT ON PROJECT. NO SUBSTITUTION WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER OR THE OWNER'S REPRESENTATIVE.

- 1.05 ELECTRICAL DRAWINGS ARE CONSIDERED DIAGRAMMATIC AND INDICATE MAJOR COMPONENT, GENERAL LOCATION OF WORK AND SYSTEM. PROVIDE ALL REQUIRED EQUIPMENT FOR FULLY OPERATIONAL SYSTEMS. COORDINATE WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS, AND BE FAMILIAR WITH ALL CONDITIONS, NEW AND EXISTING, WHICH AFFECT THE WORK. VERIFY AND FIELD CHECK ALL DIMENSIONS AND CONDITIONS PRIOR TO START OF ANY WORK AND REVIEW THE DRAWINGS FOR ANY CONDITIONS WHICH AFFECT HIS WORK. EQUIPMENT LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED.

- 1.06 ALL WORK SHALL BE INSTALLED IN A NEAT AND GOOD WORKMANSHIP MANNER. GUARANTEE WORK AND WORKMANSHIP FOR A PERIOD OF ONE YEAR BEGINNING FROM THE DAY OF FINAL ACCEPTANCE OF THE WORK OR BENEFICIAL OCCUPANCY BY THE OWNER, WHICHEVER OCCURS FIRST. GUARANTEE WORK SHALL BE PERFORMED PROMPTLY AND AT NO ADDITIONAL COST TO THE OWNER. GUARANTEE SHALL APPLY TO ALL MATERIALS, EQUIPMENT, AND SERVICES.

- 1.07 CONTRACTOR SHALL EXERCISE CARE IN REMOVING DEMOLISHED ITEMS AND REPAIR OR REPLACE ANY DAMAGE CAUSED TO EXISTING CONSTRUCTION AND EQUIPMENT TO REMAIN. CONTRACTOR SHALL RE ROUTE AND RECONNECT ANY CIRCUITS THAT REMAIN IN USE OR RELOCATED.

- 1.08 THIS WORK IS A REMODEL. THE CONTRACTOR SHALL REVIEW THE SITE PRIOR TO BID SUBMISSION AND SHALL INCLUDE IN HIS BID THE COST OF REPLACEMENT, REPAIR, RELOCATION OR REMOVAL OF EXISTING MEP ELEMENTS AS REQUIRED TO COMPLETE INSTALLATION OF ALL SYSTEMS SHOWN ON THESE DRAWINGS. ALL UNUSED EQUIPMENT SERVING THIS AREA SHALL BE REMOVED AND RETURNED TO THE LANDLORD'S/OWNER'S STOCK. THE CONTRACTOR, BY SUBMITTING HIS BID PROPOSAL AGREES TO ACCEPT ALL EXISTING SITE CONDITIONS NOT SPECIFICALLY EXCEPTED. ALL EXCEPTIONS SHALL BE PROVIDED IN WRITING TO THE ARCHITECT AND ENGINEER. EXISTING MEP EQUIPMENT TO REMAIN OR BE REUSED OR RELOCATED (LIGHTING FIXTURES, EXHAUST FANS, VAV BOXES, SWITCHES, WIRING DEVICES, COVER PLATES, DIFFUSERS, THERMOSTATS, SINKS, ETC., AND ASSOCIATED WIRING, CONDUIT, DUCTWORK, PIPING, ETC.) WITHIN OR SERVING THE SPACE WHICH IS DAMAGED OR DOES NOT COMPLY WITH THE SPECIFICATIONS SHALL BE RESTORED TO LIKE NEW CONDITION SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER, OR SHALL BE REPLACED WITH NEW MATERIALS MEETING THE SPECIFICATION REQUIREMENTS.

- 1.09 WORK SHALL BE IN ACCORDANCE WITH LANDLORD'S LEASING SPECIFICATIONS.

PART 2 - PRODUCTS

- 2.01 GENERAL: THE PRODUCT MANUFACTURERS AND COMPONENT MODEL NUMBERS IN THE FOLLOWING PARAGRAPHS ARE GIVEN TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE AND THEY ARE NOT INTENDED TO EXCLUDE EQUIVALENT PRODUCTS OF ALTERNATE MANUFACTURERS. ALTERNATE MANUFACTURERS OF EQUIVALENT PRODUCTS WILL BE CONSIDERED UPON SUBMISSION AND APPROVAL BY ARCHITECT.

- 2.02 CONDUIT SHALL BE EMT IN DRY INTERIOR SPACES. USE LIQUID TIGHT FLEXIBLE METAL CONDUIT FOR FINAL CONNECTIONS TO EXTERIOR EQUIPMENT. MINIMUM CONDUIT SIZE SHALL BE 3/4".

- 2.03 EXISTING PANELBOARDS SHALL BE REUSED. PROVIDE NEW CB AS REQUIRED FOR NEW BRANCH CIRCUITING SHOWN. NEW PANELBOARDS SHALL BE EQUIPPED WITH COPPER BUS AND SQUARE "D" TYPE NQOB OR MATCH EXISTING.

- 2.04 CIRCUIT BREAKERS SHALL BE MOLDED CASE, THERMAL MAGNETIC, QUICK-MAKE, QUICK-BREAK, BOLT-ON TYPE. CIRCUIT BREAKER SHALL BE RATED AT OR ABOVE EXISTING PANELBOARD FAULT CURRENT (AIC) RATING.

2.05 CABLE:

- A. CONDUCTORS SHALL BE COPPER, THIN OR THIN 600 VOLT INSULATION.  
B. CONDUCTORS #10 AND SMALLER SHALL BE SOLID, LARGER SHALL BE STRANDED.  
C. ARMORED CABLE (AC) MAY BE USED FOR BRANCH CIRCUITS.  
D. METAL-CLAD (MC) CABLE SHALL BE USED FOR BRANCH CIRCUITS IN THE ASSEMBLY AREAS OR WHERE REQUIRED BY CODE.  
E. COMMUNICATION CABLE SHALL BE PLENUM RATED.

- 2.07 LIGHT FIXTURES SHALL BE AS INDICATED IN DRAWING NOTES.

- 2.08 DEVICES SHALL BE COMMERCIAL GRADE, 20 AMP; DEVICE PLATES SHALL BE STAINLESS STEEL, NON-MAGNETIC, SATIN FINISH. ALL DEVICES SHALL BE FLUSH MOUNTED U.O.O. VERIFY DEVICE COLOR WITH ARCHITECT.

- 2.09 COORDINATE TELEPHONE AND DATA OUTLET LOCATIONS WITH TENANT. PROVIDE PLASTER RING AND PULL WIRE TO ACCESSIBLE CEILING SPACE. PROVIDE OUTLET BOX AND EMPTY RACEWAY WITH PULL WIRE IN INSULATED SOLID OR INACCESSIBLE AREA.

PART 3 - EXECUTION

- 3.01 ALL EQUIPMENT AND SYSTEMS DESIGNS, INSTALLATIONS AND TESTS SHALL BE IN CONFORMANCE WITH APPLICABLE CODES, STANDARDS, AND ORDINANCES, THE MANUFACTURER'S RECOMMENDATIONS, UTILITY REQUIREMENTS, AND THE CRITERIA NOTED.

- 3.02 CONDUITS AND CABLES SHALL BE CONCEALED. TEST CABLES FOR CONTINUITY AND GROUNDS.

- 3.03 OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED FOR ELECTRICAL WORK.

END OF SECTION

ELECTRICAL LEGEND

SYMBOL	ABRV.	DESCRIPTION	MOUNT	REMARKS
	PNL	ELECTRICAL PANEL 208Y/120V, 480Y/277V		
		HOME RUN CONNECT TO CIRCUIT BREAKER INDICATED		ARROWHEADS INDICATE # OF CIRCUITS
		WIRE RUN (SLASHES INDICATE # OF WIRES IF MORE THAN 2. 2#12 + 1#12G, 3/4" C. MIN.)		
		LIGHT FIXTURE 1 X 4'		
		LIGHT FIXTURE 2 X 4'		
	RECP	DUPLEX RECEPTACLE	18" AFF UNO	
	QUAD	QUADRUPLEX RECEPTACLE STANDARD	84" AFF UNO	
	JB	JUNCTION BOX		
		MOTOR CONNECTION		
		SWITCH 1 POLE, 2 POLE, 3WAY, 4 WAY	48" AFF UNO	
		COMMUNICATION RECEPTACLE TELEPHONE, DATA, COMBINATION	18" AFF UNO	PLASTER RING & PULL CORD TO CEILING
		COMMUNICATION RECEPTACLE WALL MOUNTED TELEPHONE	54" AFF UNO	PLASTER RING & PULL CORD TO CEILING
	AFF	ABOVE FINISHED FLOOR		
	CLG	CEILING		
	UNO	UNLESS NOTED OTHERWISE		
	ADA	AMERICANS WITH DISABILITIES ACT COMPLIANCE		
	P	POLES		
	Ø	PHASE		
	G, GRD	GROUND		
	C	CONDUIT		
	WP	WEATHER PROOF		
	GFCI	GROUND FAULT CIRCUIT INTERRUPTER		
	ENCL	ENCLOSURE		
	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.		
	IG	ISOLATED GROUND		
	E	EXISTING		
	R	RELOCATED		

EXISTING PANEL LBS

CKT	FOR	CKT BKR	LOAD		CKT FOR	CKT BKR
			P AMP	VOLT		
3	PHASE		208Y/120	=VOLT		=TYPE
4	WIRE			=AMP		=M.A.C
1	EXISTING	1	20	120	a	2
3	EXISTING	1	20	120	b	4
5	EXISTING	1	20	120	c	6
7	EXISTING	1	20	120	a	8
9	SPACE	1	20	120	b	10
11	SPACE	1	20	120	c	12
13	SPACE	1	20	120	a	14
15	SPACE	1	20	120	b	16
17	SPACE	1	20	120	c	18
19	SPACE	1	20	120	a	1.2
21	TELE EQUIPMENT	1	20	120	1.5	1.0
23	TELE EQUIPMENT	1	20	120	1.5	1.0

- a 1.2 =TOTAL PHASE LOAD  
b 2.5 =TOTAL PHASE LOAD  
c 2.5 =TOTAL PHASE LOAD  
6.2 =TOTAL NEW CONNECTED LOAD

REVISIONS:	RELEASED FOR:	DRAWN BY: JM
PERMIT: 10-02-00	<input type="radio"/> PRELIMINARY ONLY	JOB NO.:
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	<input checked="" type="radio"/> CONSTRUCTION	

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SHEET TITLE	DATE: 10.02.00	DWG. NO.
COVER SHEET	SCALE: 1/8"=1'-0"	E-1

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