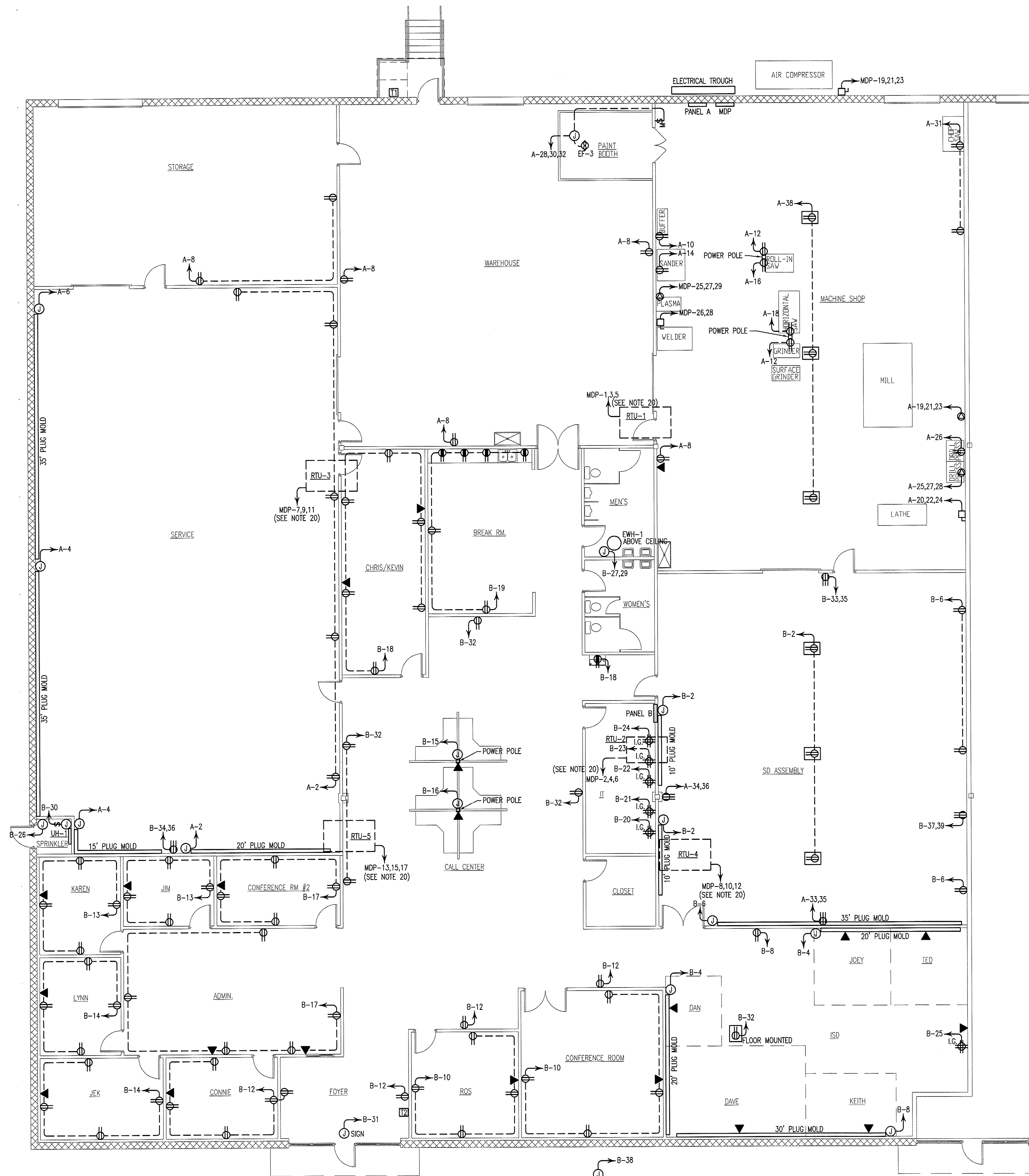


ELECTRICAL NOTES:

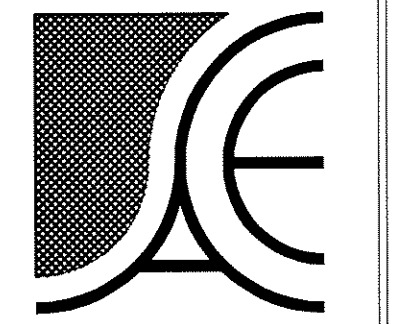
- BREAKERS SHALL HAVE "AIC" RATING GREATER THAN THE FAULT CURRENT. ELECTRICAL CONTRACTOR IS TO CONTACT POWER COMPANY FOR AVAILABLE FAULT CURRENT. SERIES RATING IS PERMISSIBLE.
- FUSES IN SERVICE DISCONNECTS SHALL BE CURRENT LIMITING TYPE.
- COORDINATE ALL HVAC WIRING WITH MECHANICAL CONTRACTOR.
- EMERGENCY LIGHTING AND EXIT SIGNS TO BE CONNECTED AHEAD OF ANY SWITCHING.
- WIRE TO BE TYPE THWN (EXTERIOR) AND TYPE THHN (INTERIOR) OR APPROVED EQUAL.
- COORDINATE LOCATION OF ALL DEVICES AND MOUNTING HEIGHTS OF RECEPTACLES WITH OWNER.
- ALL ELECTRICAL COMPONENTS ARE TO BE UL LISTED.
- LOW VOLTAGE CABLE, SUCH AS COMMUNICATION AND SIGNAL WIRE, SHALL BE PLENUM RATED AND SHALL BE LISTED AND LABELED AS SUCH.
- EQUIPMENT GROUND CONDUCTOR TO BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250.
- ALL INTERIOR WIRING TO BE RUN IN EMT UNLESS OTHERWISE APPROVED BY ENGINEER. MC CABLE MAY BE USED FOR LIGHTING FIXTURE WHIPS AND WHERE CONCEALED AND APPROVED BY OWNER.
- BATHROOM EXHAUST FANS ARE TO BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. FANS TO BE WIRED BY ELECTRICAL CONTRACTOR.
- ALL EXTERIOR LIGHTING TO BE WIRED THROUGH A LIGHTING CONTACTOR AND CONTROLLED BY A PHOTOCELL AND TIMECLOCK.
- THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CONDUIT AND EQUIPMENT WITH ALL OTHER TRADES PRIOR TO BEGINNING INSTALLATION TO AVOID CONFLICTS AND INTERFERENCE WITH OTHER TRADES.
- FINAL UTILITY CONNECTIONS (GAS, ELECTRIC, WATER, ETC.) TO EQUIPMENT SHALL BE MADE BY THE CONTRACTOR INSTALLING THE EQUIPMENT REQUIRING THE UTILITIES.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THERE IS NO INTENT TO INDICATE ALL FITTINGS REQUIRED. GENERALLY, CONDUIT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO AND PLUMB WITH WALL CONSTRUCTION.
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONED LOCATIONS OF WALL AND PARTITIONS AND FOR PARTITION THICKNESS AND CONSTRUCTION MATERIALS.
- THE FIRE ALARM CONTROL PANEL CIRCUIT SHALL BE DEDICATED FOR FACP POWER ONLY AND THE CIRCUIT BREAKER SHALL BE LABELED IN RED "FIRE ALARM CIRCUIT".
- FIRE ALARM CIRCUIT BREAKER SHALL BE ACCESSIBLE TO AUTHORIZED PERSONNEL ONLY BY MEANS OF A LOCKABLE BREAKER, LOCKABLE PANEL DOOR, OR LOCKABLE ELECTRICAL ROOM.
- THE LOCATION OF THE FIRE ALARM CONTROL PANEL (FACP) CIRCUIT BREAKER SHALL BE PERMANENTLY IDENTIFIED AT THE FACP.
- ROOF TOP UNITS ARE TO BE EQUIPPED WITH ON-BOARD BREAKER AND CONVENIENCE RECEPTACLES. COORDINATE WIRING REQUIREMENTS WITH MECHANICAL CONTRACTOR.
- ELECTRICAL POWER REQUIREMENTS FOR HVAC EQUIPMENT ARE BASED ON MANUFACTURER'S PUBLISHED DATA. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR AND/OR MECHANICAL CONTRACTOR TO CONFIRM ELECTRICAL REQUIREMENTS HAVE NOT CHANGED DUE TO EQUIPMENT SUBSTITUTIONS OR OTHER CHANGES PRIOR TO PROVIDING FINAL BID AND PRIOR TO PURCHASING PANELS, CIRCUIT WIRING AND CIRCUIT BREAKERS SERVING HVAC EQUIPMENT.
- COORDINATE LOCATIONS, POWER REQUIREMENTS, AND PLUG CONFIGURATIONS FOR ALL EQUIPMENT WITH OWNER PRIOR TO CONSTRUCTION.

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	120V DUPLEX RECEPTACLE
	120V DUPLEX RECEPTACLE GROUND FAULT INTERRUPTER
	120V DUPLEX RECEPTACLE GROUND FAULT INTERRUPTER WEATHER PROOF
	208V/1Ø RECEPTACLE
	120V DUPLEX RECEPTACLE CEILING MOUNTED
	120V QUAD RECEPTACLE ISOLATED GROUND
	UNFUSED DISCONNECT
	TELE/DATA OUTLET
	208V/3Ø RECEPTACLE
	MOTOR RATED SWITCH
	JUNCTION BOX
	PANEL
	TWO-WAY COMMUNICATION PANEL, W/BATTERY BACK-UP, CORNELL #A-4104 OR EQUAL
	TWO-WAY COMMUNICATION STATION, CORNELL #4101 OR EQUAL



ELECTRICAL PLAN
SCALE: 1/8" = 1' - 0"

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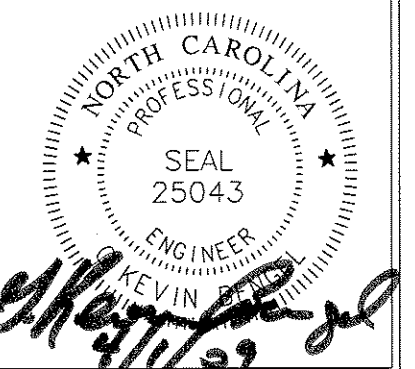
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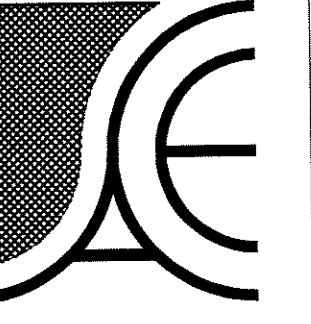
TENANT UPFIT FOR:
J.A. KING
Greensboro, North Carolina

DRAWING NAME:
ELECTRICAL PLAN



DRAWN: MJW
DATE: 11/09
SCALE: AS NOTED
FOR NO: 9024
SHEET

E-1



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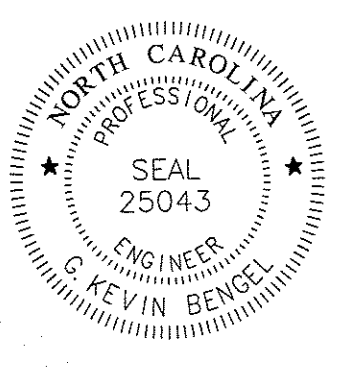
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TENANT UPFIT FOR:
J.A. KING
Greensboro, North Carolina

DRAWING NAME
LIGHTING PLAN



DRAWN
MJW
CHECKED
DATE
4/10/09
SCALE
AS NOTED
JOB NO.
9024
SHEET

E-2

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE

PRESCRIPTIVE PERFORMANCE ENERGY COST BUDGET

PROVIDE A STANDARD RISER DIAGRAM WHICH INDICATES DESIGNATED POINTS FOR CHECK METERING. PROVIDE A STANDARD PANEL SCHEDULE DESCRIPTION WHICH IDENTIFIES DIFFERENT ENDUSE LOADS.

LIGHTING SCHEDULE (OFFICE AREAS)
LAMP TYPE REQUIRED IN FIXTURE _____ FLUORESCENT/FLUORESCENT
BALLAST TYPE USED IN FIXTURE _____ ELECTRONIC/ELECTRONIC
NUMBER OF LAMPS IN FIXTURE _____ 2/2
NUMBER OF BALLASTS IN FIXTURE _____ 2/2
TOTAL WATTAGE PER FIXTURE _____ 96/128
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED 1.0 W/SQ. FT. VS 1.1 W/SQ. FT.

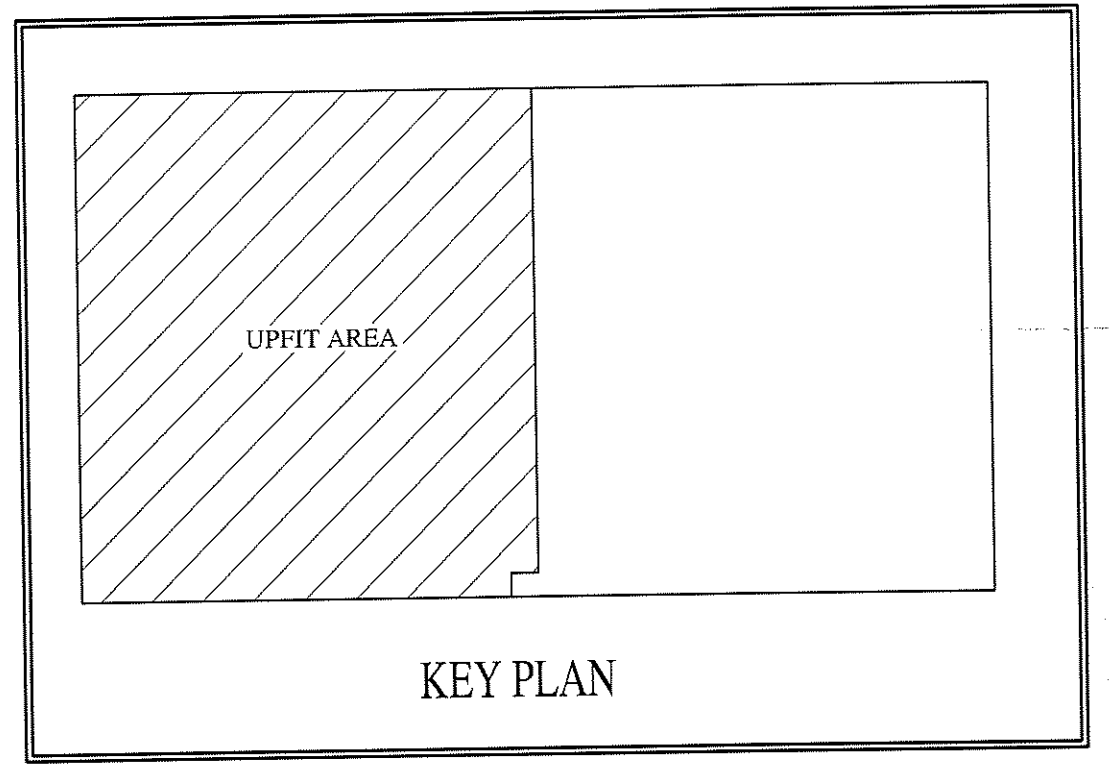
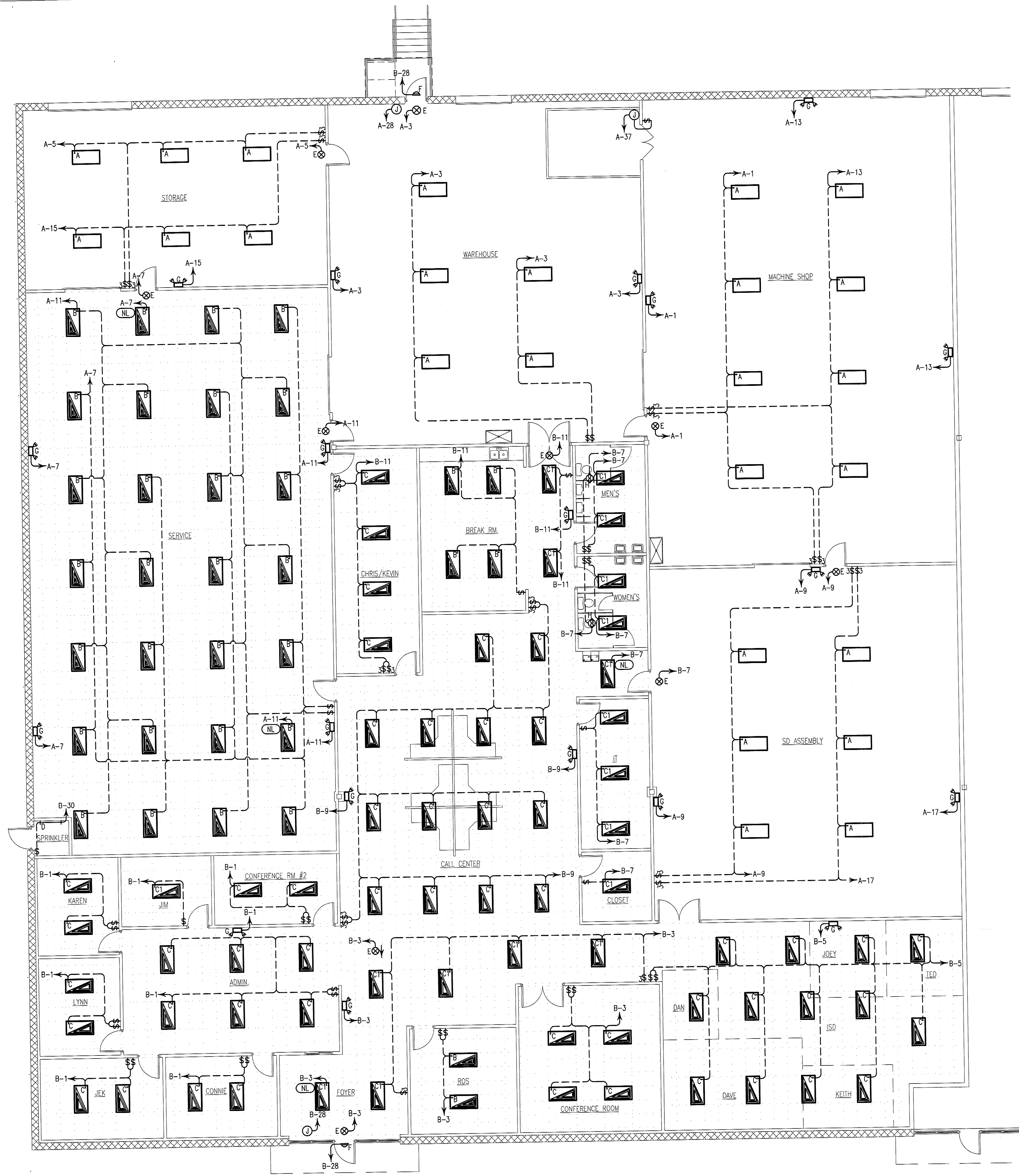
LIGHTING SCHEDULE (WORK AREAS)
LAMP TYPE REQUIRED IN FIXTURE _____ FLUORESCENT (HO)
BALLAST TYPE USED IN FIXTURE _____ ELECTRONIC
NUMBER OF LAMPS IN FIXTURE _____ 2
NUMBER OF BALLASTS IN FIXTURE _____ 2
TOTAL WATTAGE PER FIXTURE _____ 216
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED 1.1 W/SQ. FT. VS 1.7 W/SQ. FT.

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER _____ V/A _____ HP
NUMBER OF PHASES _____
MINIMUM EFFICIENCY _____ %
MOTOR TYPE _____
OF POLES _____

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF NORTH CAROLINA STATE BUILDING CODE.

* EXTERIOR LIGHTS MUST HAVE MINIMUM EFFICACY OF 45 W/LUMEN.

LIGHTING LEGEND		
MARK	SYMBOL	DESCRIPTION
A		2'x4' SUSPENDED HIGH BAY FLUORESCENT, 6-TUBE, HO T-5 LAMPS, ELECTRONIC BALLASTS, 324W
B		2'x4' LAY-IN FLUORESCENT, 4-TUBE, WITH ACRYLIC LENS, T-8 LAMPS, ELECTRONIC BALLASTS, 128W
C		2'x4' LAY-IN FLUORESCENT, 3-TUBE, WITH ACRYLIC LENS, T-8 LAMPS, (1) 2 LAMP AND (1) 1 LAMP ELECTRONIC BALLASTS, 96W
C1		2'x4' LAY-IN FLUORESCENT, 3-TUBE, WITH ACRYLIC LENS, T-8 LAMPS, 3-LAMP ELECTRONIC BALLAST, 96W
D		36" STANDARD STRIPLIGHT, 1-LAMP, 25W (LITHONIA MODEL #S125120GEB101S OR EQUAL)
E		EXIT SIGN WITH BATTERY BACK-UP
F		DECORATIVE EXTERIOR EMERGENCY LIGHT, TWO 6W XENON LAMPS, W/HIGH-TEMPERATURE NICKEL-CADMIUM BATTERY, LITHONIA #AFN-W-EXT
G		EMERGENCY LIGHT WITH BATTERY BACK-UP
H		BATHROOM EXHAUST FAN/LIGHT COMBO SEE EXHAUST FAN SCHEDULE FOR SPECIFICATIONS
--		DNOTES UNSWITCHED NIGHT LIGHT
--		SINGLE POLE WALL SWITCH
--		THREE WAY WALL SWITCH
--		SINGLE POLE TANDEM WALL SWITCHES 1 SWITCH - 1 LAMP BALLAST 1 SWITCH - 2 LAMP BALLAST
--		THREE WAY TANDEM WALL SWITCHES 1 SWITCH - 1 LAMP BALLAST 1 SWITCH - 2 LAMP BALLAST



1 LIGHTING PLAN
E-2 SCALE: 1/8" = 1'-0"

MDP											600A M.L.O. 600A BUS			
POLE NO.	BRKR NO.	TRIP AMPS	BRKR POLES	WIRE	COND	SERVES	LOAD VA	POLE NO.	BRKR NO.	TRIP AMPS	BRKR POLES	WIRE	COND	SERVES
A#	B#	C#												
1	1	60	3	4	1"	RTU-1	6317 3543	2	2	45	3	6	3/4"	RTU-2
3	3	-	-	-	-	-	6317 3543	4	4	-	-	-	-	-
5	5	-	-	-	-	-	6317 3543	6	6	-	-	-	-	-
7	7	60	3	4	1"	RTU-3	5128 3927	8	8	50	3	6	3/4"	RTU-4
9	9	-	-	-	-	-	5128 3927	10	10	-	-	-	-	-
11	11	-	-	-	-	-	5128 3927	12	12	-	-	-	-	-
13	13	60	3	4	1"	RTU-5	5128 15064	14	14	200	3	3/0	2"	PANEL A
15	15	-	-	-	-	-	5128 15778	16	16	-	-	-	-	-
17	17	-	-	-	-	-	5128 14866	18	18	-	-	-	-	-
19	19	30	3	10	1/2"	COMPRESSOR	2522 14643	20	20	200	3	3/0	2"	PANEL B
21	21	-	-	-	-	-	2522 16322	22	22	-	-	-	-	-
23	23	-	-	-	-	-	2522 15483	24	24	-	-	-	-	-
25	25	30	3	10	1/2"	PLASMA	3122 5720	26	26	100	2	1	1-1/4"	WELDER
27	27	-	-	-	-	-	3122 5720	28	28	-	-	-	-	-
29	29	-	-	-	-	-	3122	30	30	-	-	-	-	-
31	31	-	-	-	-	-		32	32	-	-	-	-	-
33	33	-	-	-	-	-		34	34	-	-	-	-	-
35	35	-	-	-	-	-		36	36	-	-	-	-	-
37	37	-	-	-	-	-		38	38	-	-	-	-	-
39	39	-	-	-	-	-		40	40	-	-	-	-	-
41	41	-	-	-	-	-		42	42	-	-	-	-	-
CONNECTED V.A. PER PHASE							65,116	67,507	60,036					
TOTAL AMPERES PER PHASE							543	563	500					

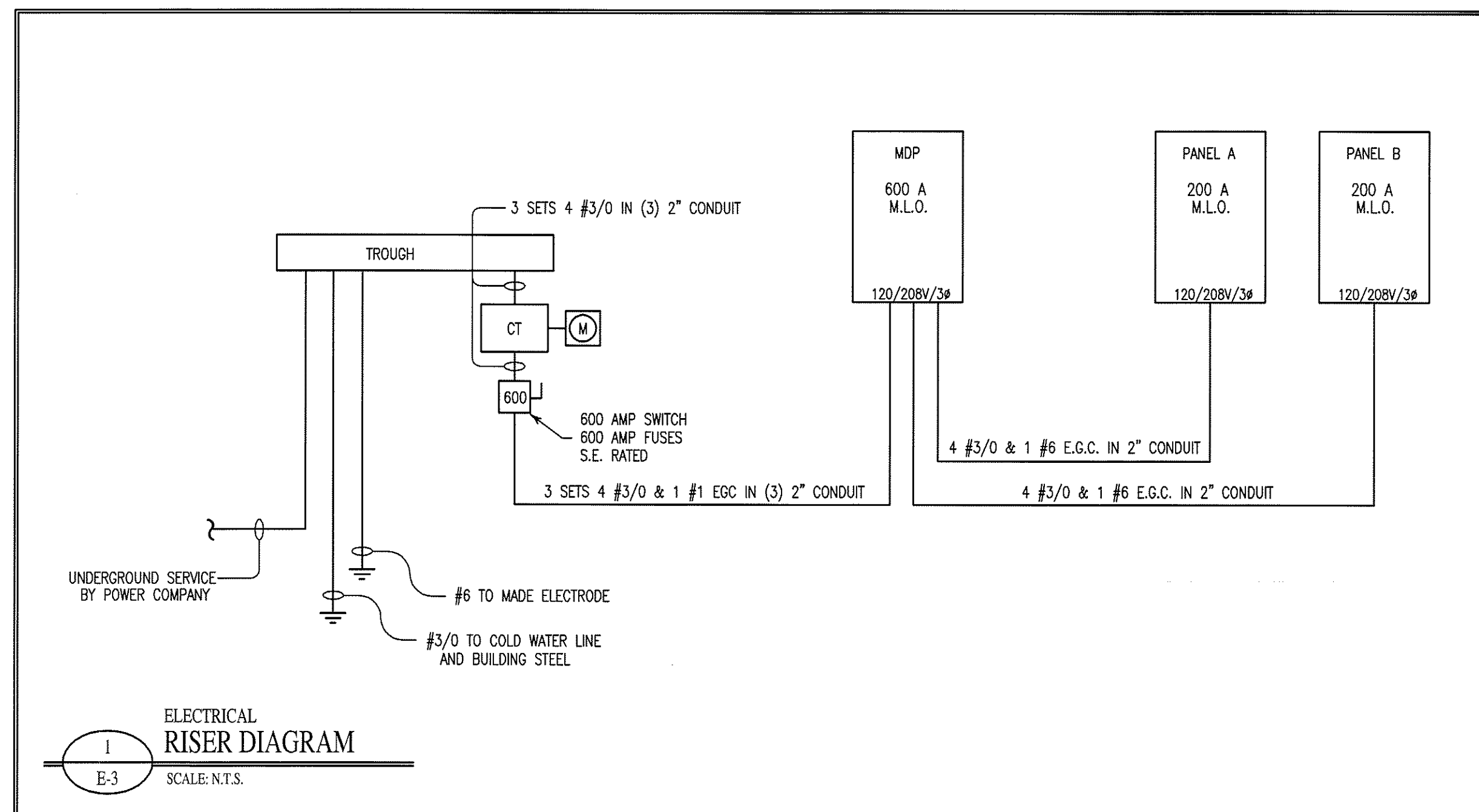
PANEL A											200A M.L.O. 200A BUS			
POLE NO.	BRKR NO.	TRIP AMPS	BRKR POLES	WIRE	COND	SERVES	LOAD VA	POLE NO.	BRKR NO.	TRIP AMPS	BRKR POLES	WIRE	COND	SERVES
A#	B#	C#												
1	1	20	1	12	1/2"	LIGHTING	1371 1620	2	2	20	1	12	1/2"	RECEPTACLES/PLUG MOLD
3	3	20	1	12	1/2"	LIGHTING	1745 1800	4	4	20	1	12	1/2"	RECEPTACLES/PLUG MOLD
5	5	20	1	12	1/2"	LIGHTING	997 1260	6	6	20	1	12	1/2"	RECEPTACLES/PLUG MOLD
7	7	20	1	12	1/2"	LIGHTING	1917 1080	8	8	20	1	12	1/2"	RECEPTACLES
9	9	20	1	12	1/2"	LIGHTING	1097 1656	10	10	20	1	12	1/2"	BUFFER
11	11	20	1	12	1/2"	LIGHTING	1917 1236	12	12	20	1	12	1/2"	GRINDER
13	13	20	1	12	1/2"	LIGHTING	1396 1656	14	14	20	1	12	1/2"	SANDER
15	15	20	1	12	1/2"	LIGHTING	1022 1608	16	16	20	1	12	1/2"	ROLL-IN SAW
17	17	20	1	12	1/2"	LIGHTING	1022 1584	18	18	20	1	12	1/2"	HORIZONTAL SAW
19	19	20	3	12	1/2"	MILL	584 2005	20	20	30	3	10	1/2"	LATHE
21	21	-	-	-	-	-	584 2005	22	22	-	-	-	-	-
23	23	-	-	-	-	-	584 2005	24	24	-	-	-	-	-
25	25	20	3	12	1/2"	DRILL PRESS	432 674	26	26	20	1	12	1/2"	DRILL PRESS
27	27	-	-	-	-	-	432 709	28	28	30	3	10	1/2"	PAINT BOOTH EXHAUST FAN
29	29	-	-	-	-	-	432 709	30	30	-	-	-	-	-
31	31	20	1	12	1/2"	RECEPTACLES	1200 709	32	32	-	-	-	-	-
33	33	30	2	10	1/2"	RECEPTACLE	1560 1560	34	34	30	2	10	1/2"	RECEPTACLE
35	35	-	-	-	-	-	1560 1560	36	36	-	-	-	-	-
37	37	20	1	12	1/2"	PAINT BOOTH LIGHTING	200	38	38	-	-	-	-	-
39	39	-	-	-	-	-		40	40	-	-	-	-	-
41	41	-	-	-	-	-		42	42	-	-	-	-	-
CONNECTED V.A. PER PHASE							15,064	15,778	14,866					
TOTAL AMPERES PER PHASE							126	131	124					

PANEL B											200A M.L.O. 200A BUS			
POLE NO.	BRKR NO.	TRIP AMPS	BRKR POLES	WIRE	COND	SERVES	LOAD VA	POLE NO.	BRKR NO.	TRIP AMPS	BRKR POLES	WIRE	COND	SERVES
A#	B#	C#												
1	1	20	1	12	1/2"	LIGHTING	1732 1260	2	2	20	1	12	1/2"	RECEPTACLES/PLUG MOLD
3	3	20	1	12	1/2"	LIGHTING	1316 1440	4	4	20	1	12	1/2"	PLUG MOLD
5	5	20	1	12	1/2"	LIGHTING	1298 1800	6	6	20	1	12	1/2"	RECEPTACLES/PLUG MOLD
7	7	20	1	12	1/2"	LIGHTING	1053 1260	8	8	20	1	12	1/2"	RECEPTACLES/PLUG MOLD
9	9	20	1	12	1/2"	LIGHTING	1444 1440	10	10	20	1	12	1/2"	RECEPTACLES
11	11	20	1	12	1/2"	LIGHTING	1163 1440	12	12	20	1	12	1/2"	RECEPTACLES
13	13	20	1	12	1/2"	RECEPTACLES	1440 1440	14	14	20	1	12	1/2"	RECEPTACLES
15	15	20	1	12	1/2"	RECEPTACLES	1080 1440	16	16	20	1	12	1/2"	RECEPTACLES
17	17	20	1	12	1/2"	RECEPTACLES	1620 1260	18	18	20	1	12	1/2"	RECEPTACLES
19	19	20	1	12	1/2"	RECEPTACLES	1080 360	20	20	20	1	12	1/2"	RECEPTACLES
21	21	20	1	12	1/2"	RECEPTACLES	360 360	22	22	20	1	12	1/2"	RECEPTACLES
23	23	20	1	12	1/2"	RECEPTACLES	360 360	24	24	20	1	12	1/2"	RECEPTACLES
25	25	20	1	12	1/2"	RECEPTACLES	2250 200	26	26	20	1	12	1/2"	F.A.C.P.
27	27	30	2	10	1/2"	WATER HEATER	2250 500	28	28	20	1	12	1/2"	EXTERIOR LIGHTING
29	29	-	-	-	-	-	1200 900	30	30	20	1	12	1/2"	UNIT HEATER (UH-1)
31	31	20	1	12	1/2"	SIGN	1560 1872	32	32	20	1	12	1/2"	RECEPTACLES
33	33	30	2	10	1/2"	RECEPTACLE	1560 1872	34	34	30	2	10	1/2"	MATERIAL TESTER
35	35	-	-	-	-	-	1560 1872	36	36	-	-	-	-	-
37	37	30	2	10	1/2"	RECEPTACLE	1560 500	38	38	20	1	12	1/2"	HOT BOX
39	39	-	-	-	-	-	1560	40	40	-	-	-	-	-
41	41	-	-	-	-	-		42	42	-	-	-	-	-
CONNECTED V.A. PER PHASE							14,645	16,322	15,483					
TOTAL AMPERES PER PHASE							122	136	129					

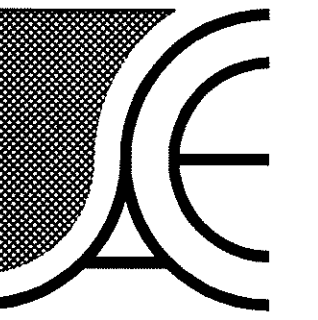
☒ - DENOTES BREAKER LOCK-OUT
☒ - DENOTES LOCK-ON BREAKER

LOAD CALCULATION SUMMARY			
ITEM	TOTAL VA	(X) D.F.	VA
LIGHTS	17,844	125 (%)	22,305
RECEPTACLES ** (FIRST 10,000 @ 100%) (REMAINDER @ 50%)	10,000 29,300	100 (%) 50 (%)	10,000 14,650
HVAC *	72,125	100 (%)	72,125
SHOP EQUIPMENT	52,243	125 (%)	52,243
SIGN	1,200	125 (%)	1,500
WATER HEATER	4,500	125 (%)	5,625
TOTAL	187,212	-	178,448
TOTAL AMPS = VA / (208 x √3) = 495			

* NOTE: NAME PLATE RATING INCLUDES 125% DIVERSITY FACTOR.
** NOTE: RECEPTACLES ARE CALCULATED PER NEC TABLE 220.44



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J.A. KING

Greensboro, North Carolina

DRAWING NAME:
ELECTRICAL
DETAILS



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