

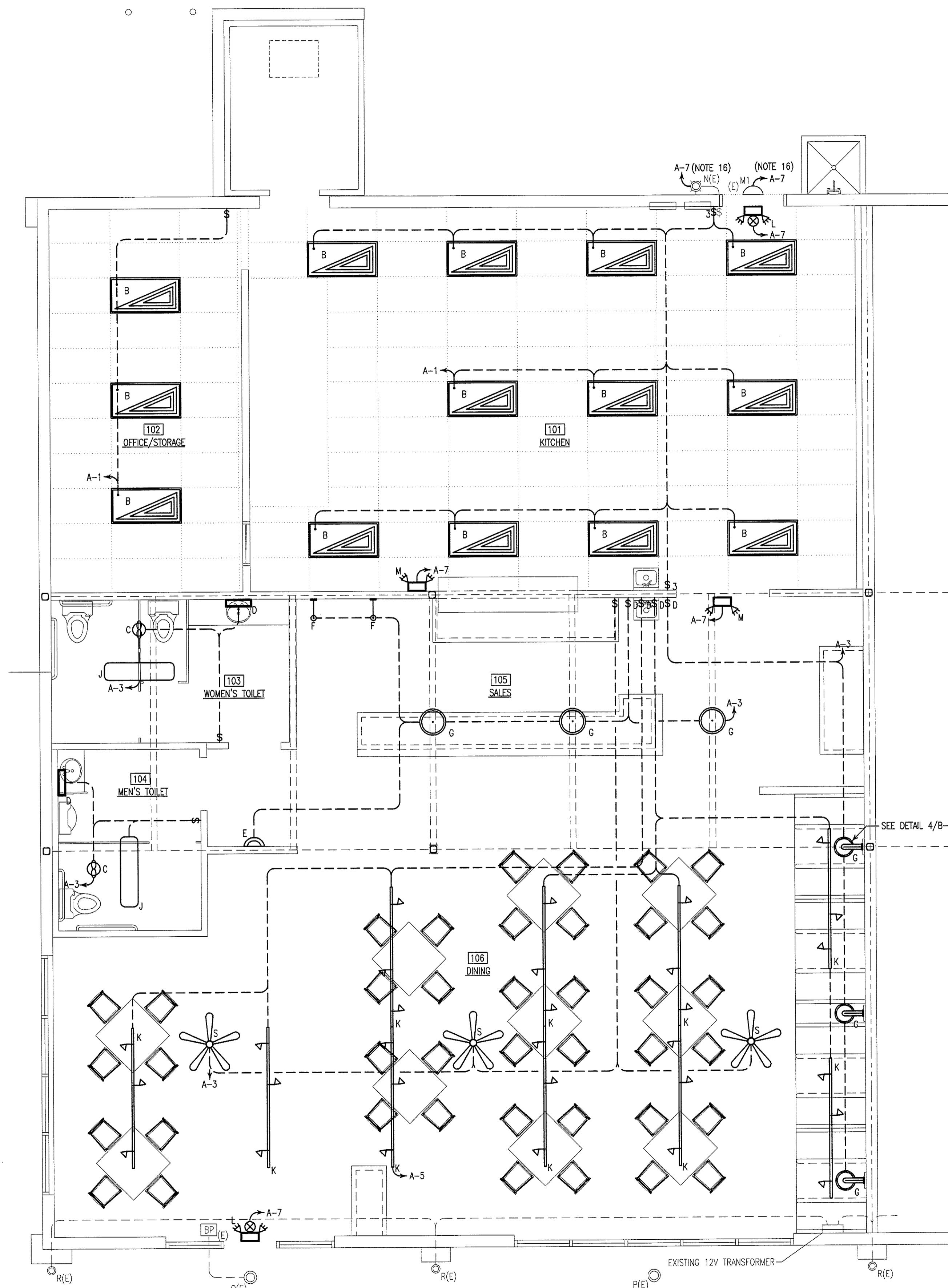
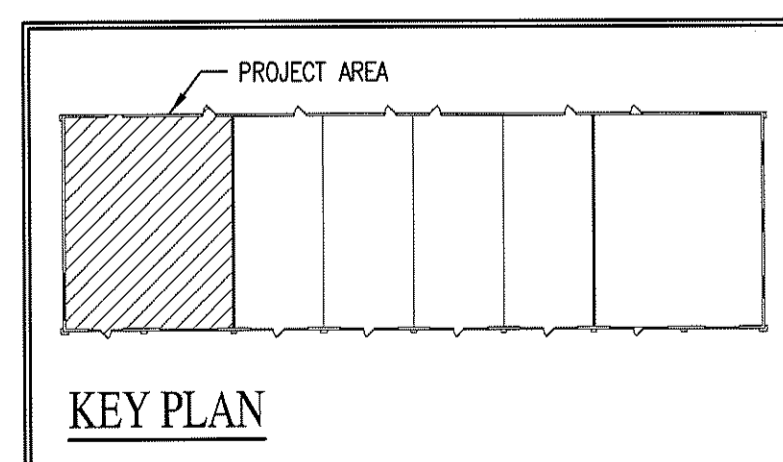
**Alamance Consulting Engineers**

200 N. Main St., Suite B  
Graham, N.C. 27253  
Phone: (336) 226-4117  
Fax: (336) 570-1926

LIGHTING LEGEND		
MARK	SYMBOL	DESCRIPTION
A		2'x4' LAY-IN FLUORESCENT, 3-TUBE, WITH ACRYLIC LENS, T-8 LAMPS, ELECTRONIC BALLASTS, 96W LITHONIA 2588 G 3 32 A12125 120 GEB 10IS (SUPPLIED BY OWNER)
B		2'x4' LAY-IN FLUORESCENT, 4-TUBE, WITH ACRYLIC LENS, T-8 LAMPS, 3-LAMP ELECTRONIC BALLAST, 126W LITHONIA 2588 G 4 32 A12125 120 GEB 10IS (SUPPLIED BY OWNER)
C		BATHROOM EXHAUST FAN, SEE EXHAUST FAN SCHEDULE FOR SPECIFICATIONS (SHEET M-2)
D		18" VANITY LIGHT, (3) 50W MINI-CANDELABRA INCANDESCENT LAMPS, 150W, VOLUME V1473-32 (SUPPLIED BY OWNER)
E		DECORATIVE WALL SCONCE, (2) 13W COMPACT FLUORESCENT LAMPS, 26W, VOLUME V6342-53 (SUPPLIED BY OWNER)
F		INTERIOR WALL MOUNTED INCANDESCENT ACCENT LIGHT, 1-LAMP, 30W (SUPPLIED BY OWNER) LITHONIA ANP 807 51 E6 51 CB
G		INTERIOR CEILING MOUNTED INCANDESCENT PENDENT LIGHT, 1-LAMP, 150W, VOLUME LIGHTING V5331-53 (SUPPLIED BY OWNER)
H		INTERIOR WALL MOUNTED INCANDESCENT PENDENT LIGHT, 1-LAMP, 50W (SUPPLIED BY OWNER)
J		SURFACE MOUNTED FLUORESCENT, 2-TUBE WITH ACRYLIC DIFFUSER, T-8 LAMPS ELECTRONIC BALLAST, 64W, LITHONIA 10641 RE LITEPUFF (SUPPLIED BY OWNER)
K		8" TRACK LIGHT, 5 HEAD (50W PAR 20), CTL 820N WHITE, END FED. (SUPPLIED BY OWNER)
L		EMERGENCY/EXIT LIGHT WITH BATTERY BACK-UP (SUPPLIED BY OWNER)
M		EMERGENCY LIGHT WITH BATTERY BACK-UP (SUPPLIED BY OWNER)
M1		EXTERIOR EMERGENCY LIGHT, WITH BATTERY BACK-UP, 2-LAMPS (EXISTING, SEE NOTE 16)
N		EXTERIOR BRACKET LIGHT, COMPACT FLUORESCENT, 1-LAMP, 13W, BROWNLEE 7320-13-WH 9 (EXISTING, SEE NOTE 16)
P		EXTERIOR RECESSED DOWN LIGHT, COMPACT FLUORESCENT, 1-LAMP, 42W (EXISTING)
Q		EXTERIOR RECESSED DOWN LIGHT, COMPACT FLUORESCENT, 1-LAMP, 42W, WITH EMERGENCY BATTERY BACK-UP (EXISTING)
R		CYLINDRICAL WALL-SCONCE, 120V/50W MR16, UP/DOWN LIGHTING, MAXIMUM DIMENSIONS 12" HIGH BY 4" ROUND, MOUNTED 7.5" AFF, DARK BRONZE OR RUST (EXISTING)
S		52" CEILING FAN W/INCANDESCENT LIGHT KIT, 150W
T		PORCELAIN KEYLESS LIGHT FIXTURE 1 LAMP, 60W
--		BATTERY BACK-UP FOR EXTERIOR EMERGENCY LIGHTING (EXISTING)
--		SINGLE POLE WALL SWITCH
--		THREE WAY WALL SWITCH
--		SINGLE POLE WALL SWITCH WITH DIMMER
--		DENOTES EXISTING FIXTURES INSTALLED PER SHELL PLANS

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE		
PREScriptive	<input checked="" type="checkbox"/>	PERFORMANCE <input type="checkbox"/> ENERGY COST BUDGET <input type="checkbox"/>
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 (KITCHEN)		
LAMP TYPE REQUIRED IN FIXTURE	FLUORESCENT	
BALLAST TYPE USED IN FIXTURE	ELECTRONIC	
NUMBER OF LAMPS IN FIXTURE	3	
TOTAL WATTAGE PER FIXTURE	36	
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	1.38 W/SQ. FT. VS 1.6 W/SQ. FT.	
LIGHTING SCHEDULE (DINING AREA)		
LAMP TYPE REQUIRED IN FIXTURE	INCANDESCENT	
BALLAST TYPE USED IN FIXTURE	N/A	
NUMBER OF LAMPS IN FIXTURE	3	
NUMBER OF BALLASTS IN FIXTURE	N/A	
TOTAL WATTAGE PER FIXTURE	250	
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED	0.9 W/SQ. FT. VS 1.6 W/SQ. FT.	
EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)		
MOTOR HORSEPOWER	N/A	
NUMBER OF PHASES	1	
MINIMUM EFFICIENCY	80%	
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.		

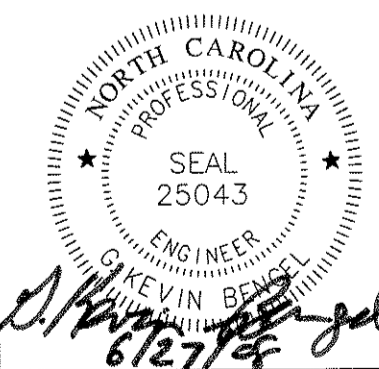
WALL LEGEND	
SYMBOL	DESCRIPTION
	2-HOUR RATED FIRE PARTITION



1 LIGHTING PLAN  
E-1 SCALE: 1/4" = 1'-0"

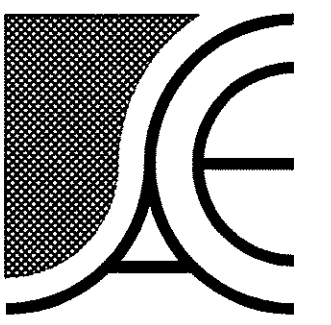
TENANT UPFIT FOR:  
**COLORADO CAFE**  
Gibsonville, North Carolina

DRAWING NAME  
LIGHTING PLAN



DRAWN  
EDM  
CHECKED  
GAB  
DATE  
6/26/08  
SCALE  
AS NOTED  
JOB NO.  
7147  
SHEET

E-1



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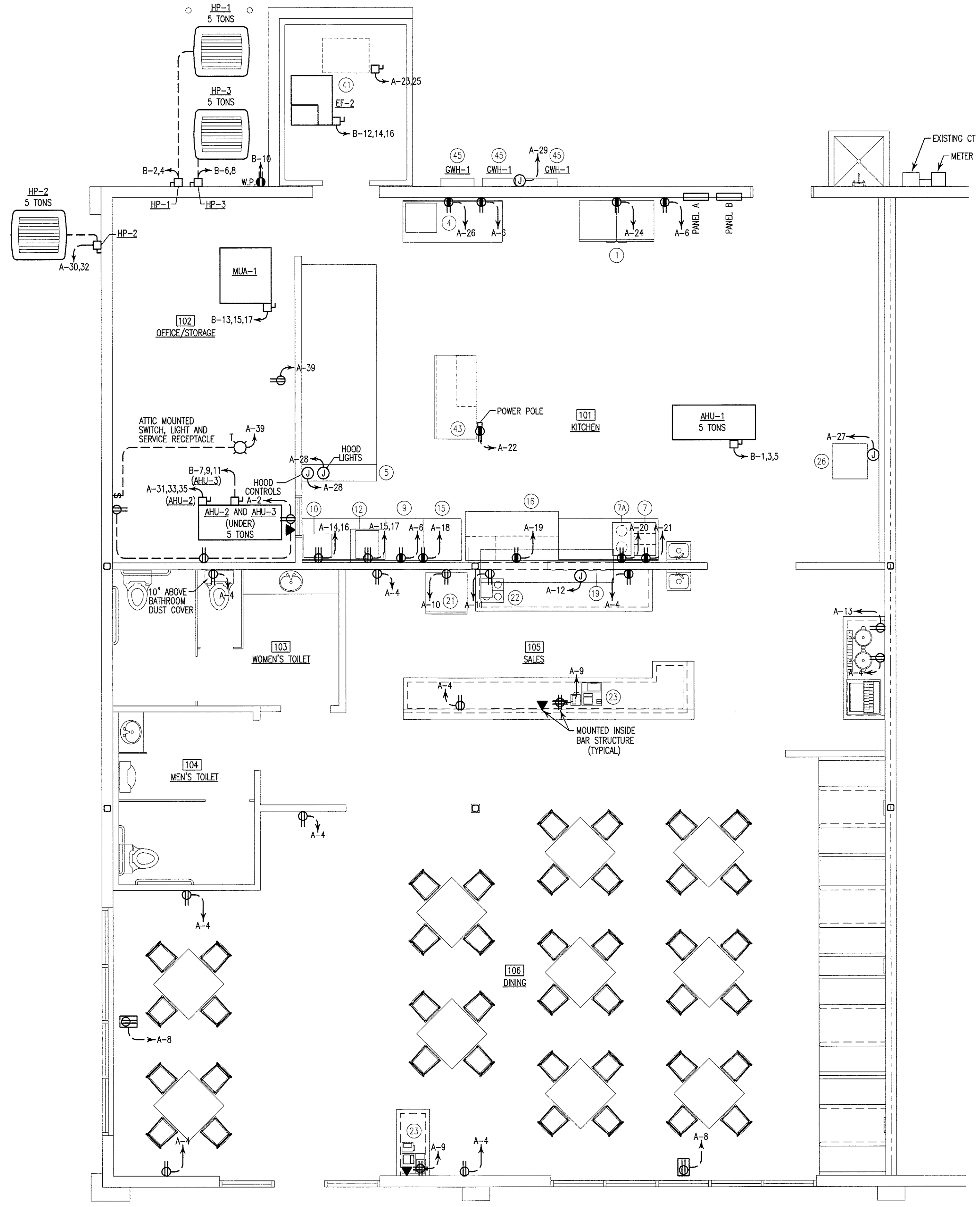
ELECTRICAL EQUIPMENT SCHEDULE				
ITEM	QUANTITY	DESCRIPTION	VOLTAGE	AMPS
1	1	REACH-IN FREEZER	115/1φ	13.2
4	1	SLICER	120/1φ	7.2
7	1	FOOD WARMER	120/1φ	10
7A	1	FOOD WARMER	120/1φ	10
9	1	1-DOOR WORKTOP REFRIGERATOR	115/1φ	4
10	1	PANINI GRILLE	208/1φ	13
12	1	MICROWAVE	208/1φ	14.3
15	1	2-DRAWER WORKTOP REFRIGERATOR	115/1φ	4
16	1	REFRIGERATED COUNTER	115/1φ	8.6
19	1	FOOD WARMER	120/1φ	4.2
22	1	COFFEE BREWER	120/1φ	15
26	1	DISHWASHER	115/1φ	12
41	1	WALK-IN COOLER	208/1φ	17.1
43	1	REFRIGERATED COUNTER	115/1φ	7.8
45	3	TANKLESS GAS WATER HEATER	120/1φ	0.5

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	120V DUPLEX RECEPTACLE
	120V DUPLEX RECEPTACLE GROUND FAULT INTERRUPTER
	120V DUPLEX RECEPTACLE GROUND FAULT INTERRUPTER WEATHER PROOF
	208V RECEPTACLE
	120V QUAD RECEPTACLE
	120V DUPLEX RECEPTACLE CEILING MOUNTED
	UNFUSED DISCONNECT
	TELE/DATA OUTLET
	JUNCTION BOX
	PANEL

WALL LEGEND	
SYMBOL	DESCRIPTION
	2-HOUR RATED FIRE PARTITION

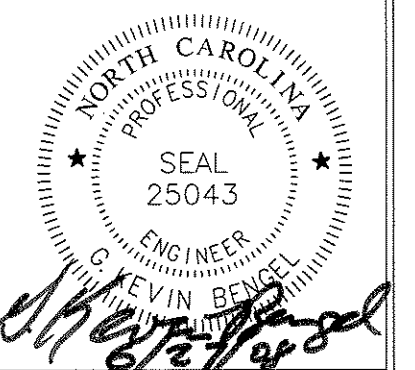
KEY PLAN	
SYMBOL	DESCRIPTION
	PROJECT AREA



1 ELECTRICAL PLAN  
E-2 SCALE: 1/4" = 1'-0"

TENANT UPFIT FOR:  
**COLORADO CAFE**  
Gibsonville, North Carolina

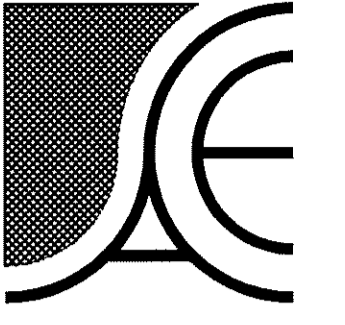
DRAWING NAME  
ELECTRICAL PLAN



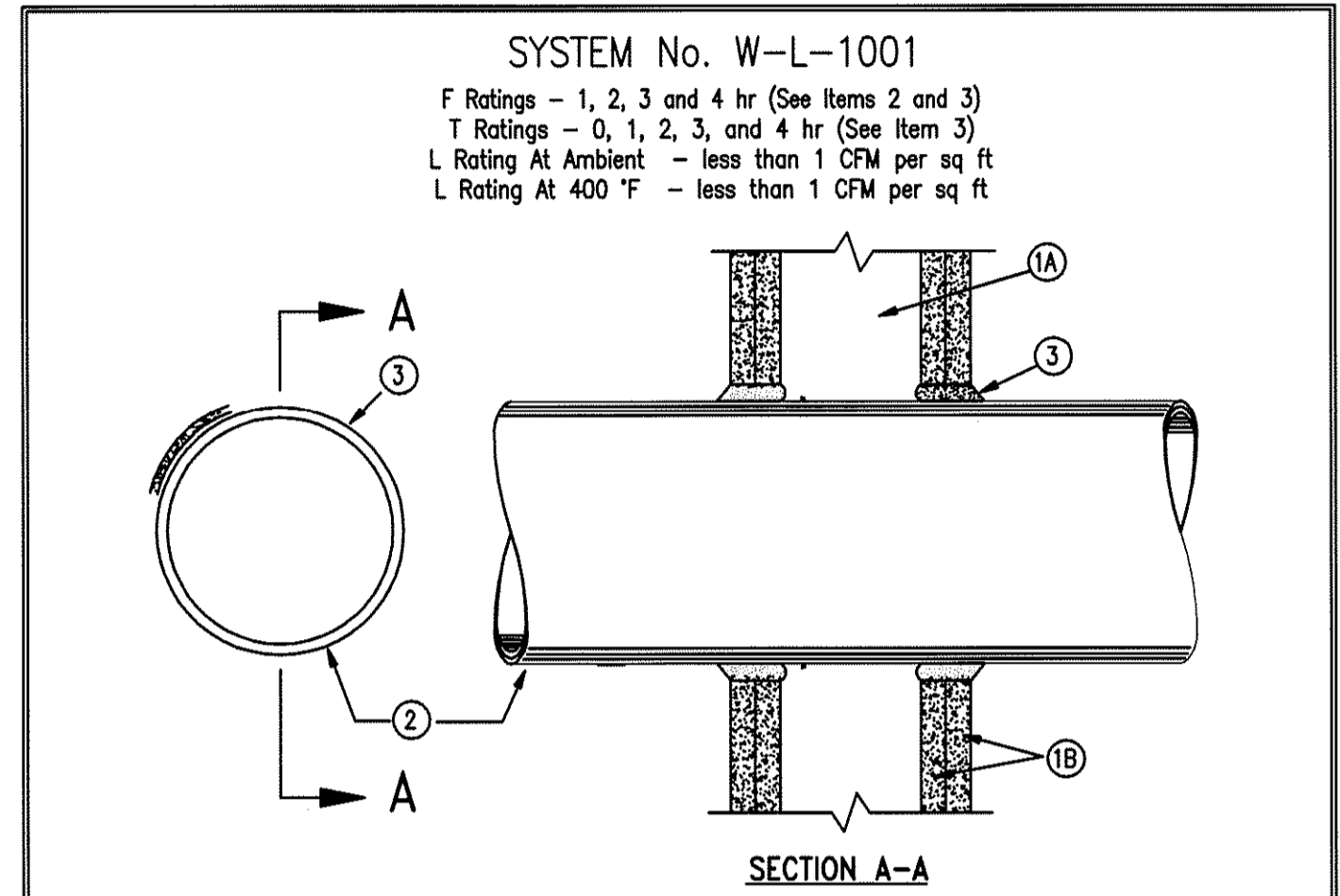
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E-2





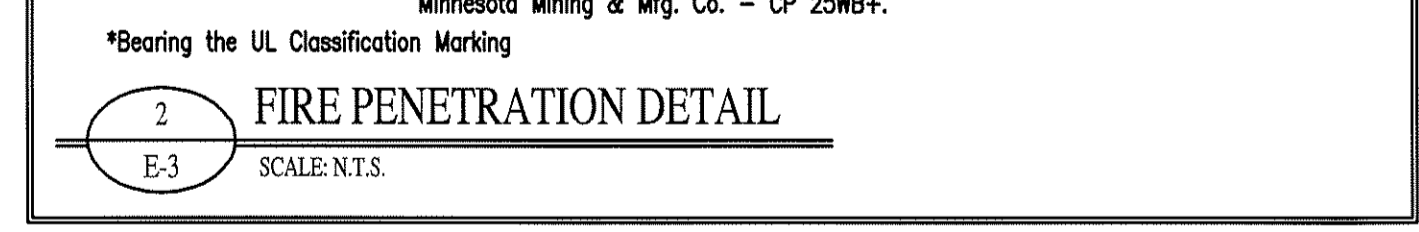
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- Wall Assembly** - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
  - Studs** - Wall framing may consist of either wood stud (max 2 hr fire-rated assemblies) or steel channel studs. Wood studs to consist of nom. 2 by 4 in. lumber spaced 16 in. OC with nom. 2 by 4 in. lumber end plates and cross braces. Steel studs to be min. 3-5/8 in. wide by 1-3/8 in. deep channels spaced max. 24 in. OC.
  - Wallboard, Gypsum\*** - Nom. 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max. diam of opening is 13-1/2 in.
- Piping or Conduit** - Nom. 12 in. diam. (or smaller) Schedule 10 (or heavier) steel pipe, nom. 12 in. diam. (or smaller) service weight (or heavier) cast iron soil pipe, nom. 12 in. diam. (or smaller) Class 50 (or heavier) ductile iron pressure pipe, nom. 6 in. diam. (or smaller) steel conduit, nom. 4 in. diam. (or smaller) steel electrical metallic tubing, nom 6 in. (or smaller) Type L (or heavier) copper tubing or nom 1 in. diam. (or smaller) flexible steel conduit. When copper pipe is used, max F Rating of firestop system (item 3) is 2 hr. steel pipes or conduits larger than nom. 4 in. diam. may only be used in walls constructed using steel channel studs. A max. of one pipe or conduit is permitted in the firestop system. Pipe or conduit to be installed near center of stud cavity width and to be rigidly supported on both sides of wall assembly.
- Fill, Void or Cavity Material\*** - Caulk - Caulk fill material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min. 1/4 in. diam bead of caulk applied to the perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on both sides of wall assembly. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:
 

Max. Pipe Diam., In.	Annular Space, In.	F Rating Hr.	T Rating, Hr.
1	0 to 3/16	1 or 2	0+, 1 or 2
1	1/4 to 1/2	3 or 4	3 or 4
4	0 to 1/4	1 or 2	0
4	0 to 1-1/2#	1 or 2	0
6	1/4 to 1/2	3 or 4	0
12	3/16 to 3/8	1 or 2	0

\*When copper pipe is used, T Rating is 0 hr.  
 #0 to 1-1/2 in. annular space applies only when Type CP-25 WB+ caulk is used and only when the min thickness of the gypsum wallboard is 5/8 in. for 1 hr rated walls and 1-1/4 in. for 2 hr rated walls.  
 Minnesota Mining & Mfg. Co. - CP 25WB+.



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"	LIGHTS	1,536	540		2	2	20	1	12	1/2"	RECEPTACLES
3	3	20	1	12	1/2"	LIGHTS	1,776	1,500		4	4	20	1	12	1/2"	RECEPTACLES
5	5	20	1	12	1/2"	LIGHTS	1,550	720		6	6	20	1	12	1/2"	RECEPTACLES
7	7	20	1	12	1/2"	EXIT/EMERGENCY LIGHTS	90	360		8	8	20	1	12	1/2"	SHOW WINDOW RECEPTACLES
9	9	20	1	12	1/2"	POINT OF SALE	360	500		10	10	20	1	12	1/2"	REFRIGERATOR
11	11	20	1	12	1/2"	COFFEE MAKER	1,139	1,352		12	12	20	1	12	1/2"	FOOD WARMER
13	13	20	1	12	1/2"	ICE MAKER	1,139	1,352		14	14	20	2	12	1/2"	PANINI GRILL
15	15	20	2	12	1/2"	MICROWAVE	1,487	1,352		16	16	-	-	-	-	-
17	17	-	-	-	-	-	1,487	920		18	18	20	1	12	1/2"	REFRIGERATED TABLES
19	19	20	1	12	1/2"	REFRIGERATED COUNTER	989	1,200		20	20	20	1	12	1/2"	FOOD WARMER
21	21	20	1	12	1/2"	FOOD WARMER	1,200	897		22	22	20	1	12	1/2"	REFRIGERATED COUNTER
23	23	20	2	12	1/2"	WALK-IN COOLER	1,778	1,518		24	24	20	1	12	1/2"	REACH-IN FREEZER
25	25	-	-	-	-	-	1,778	864		26	26	20	1	12	1/2"	SLICER
27	27	20	1	12	1/2"	DISHWASHER	1,380	1,300		28	28	20	1	12	1/2"	HOOD LIGHTS/CONTROLS
29	29	20	1	12	1/2"	WATER HEATERS	180	3,609		30	30	50	2	6	1"	HP-2
31	31	50	2	6	1"	AHU-2	5,728	3,609		32	32	-	-	-	-	-
33	33	-	-	-	-	-	5,728		34	34	-	-	-	-	-	-
35	35	-	-	-	-	-	5,728		36	36	-	-	-	-	-	-
37	37	-	-	-	-	-			38	38	-	-	-	-	-	-
39	39	20	1	12	1/2"	ATTIC LIGHT & RECEPTACLE	240		40	40	-	-	-	-	-	-
41	41	-	-	-	-	-			42	42	-	-	-	-	-	-
CONNECTED V.A. PER PHASE							19,185	17,720	20,390							
TOTAL AMPERES PER PHASE							160	148	170							

☒ - DENOTES BREAKER LOCK-OUT

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	50	3	6	1"	AHU-1	5,728	3,609		2	2	50	2	6	1"	HP-1
3	3	-	-	-	-	-	5,728	3,609		4	4	-	-	-	-	-
5	5	-	-	-	-	-	5,728	3,609		6	6	50	2	6	1"	HP-3
7	7	50	2	6	1"	AHU-3	5,728	3,609		8	8	-	-	-	-	-
9	9	-	-	-	-	-	5,728	180		10	10	20	1	12	1/2"	EXTERIOR RECEPTACLE
11	11	-	-	-	-	-	5,728	721		12	12	20	3	12	1/2"	EF-2
13	13	20	3	12	1/2"	MUA-1	396	721		14	14	-	-	-	-	-
15	15	-	-	-	-	-	396	721		16	16	-	-	-	-	-
17	17	-	-	-	-	-	396	721		18	18	-	-	-	-	-
19	19	-	-	-	-	-			20	20	-	-	-	-	-	-
21	21	-	-	-	-	-			22	22	-	-	-	-	-	-
23	23	-	-	-	-	-			24	24	-	-	-	-	-	-
25	25	-	-	-	-	-			26	26	-	-	-	-	-	-
27	27	-	-	-	-	-			28	28	-	-	-	-	-	-
29	29	-	-	-	-	-			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							19,791	16,362	16,182							
TOTAL AMPERES PER PHASE							165	136	135							

☒ - DENOTES BREAKER LOCK-OUT

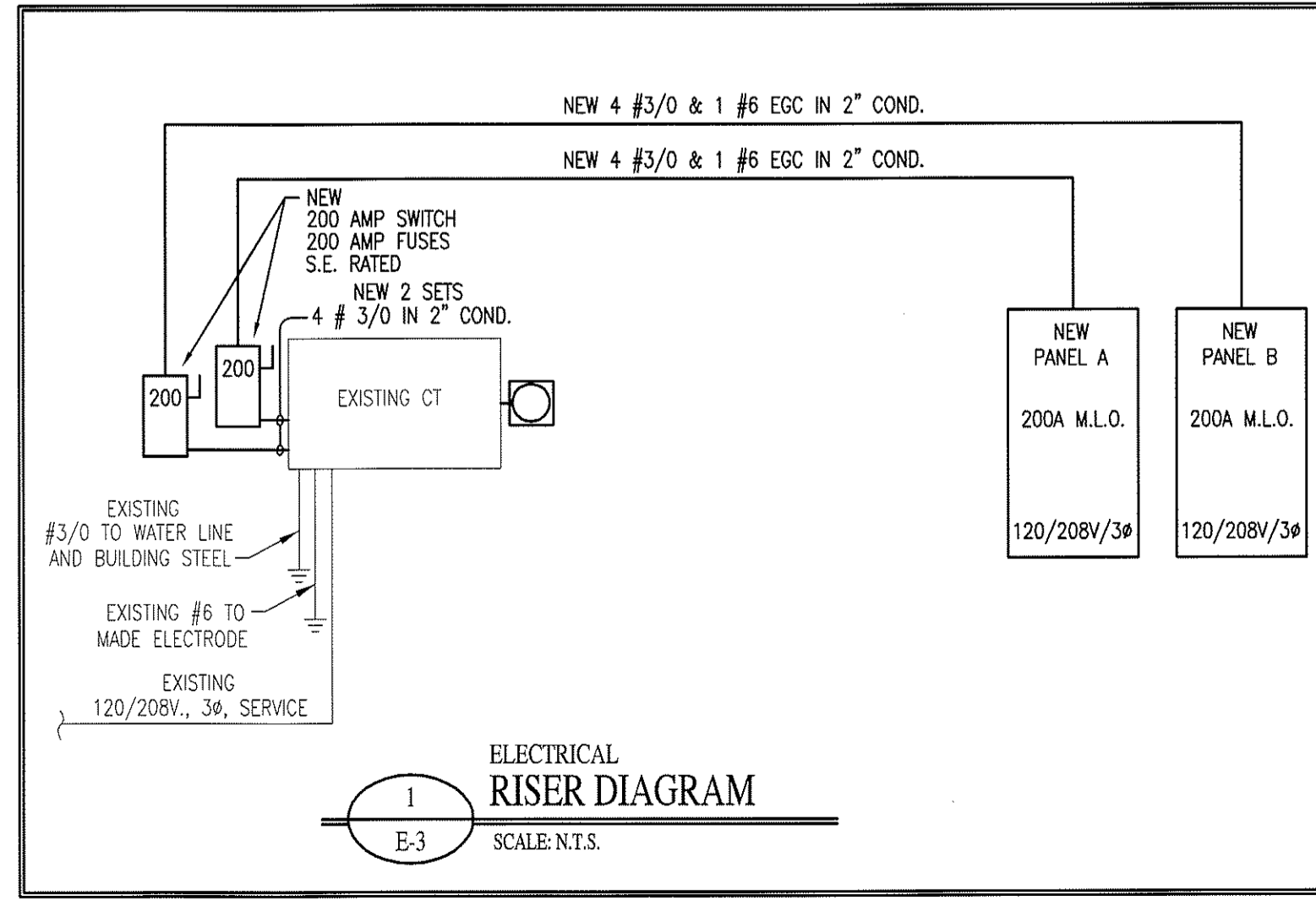
ITEM	TOTAL VA	(X) D.F.	VA
LIGHTS **	5,456	125 (%)	6,820
RECEPTACLES	4,720	100 (%)	4,720
KITCHEN EQUIPMENT ***	22,741	65 (%)	14,782
HVAC *	76,557	100 (%)	76,557
WATER HEATER	180	125 (%)	225
<b>TOTAL</b>	<b>109,654</b>	-	<b>103,104</b>

TOTAL AMPS = VA/(208 x 3) = 286

- \* NOTE: NAME PLATE RATING INCLUDES 125% DIVERSITY FACTOR.
- \*\* NOTE: LIGHTS ARE CALCULATED AT 2 WATTS PER SQ. FT. PER NEC TABLE 220.12
- \*\*\* NOTE: KITCHEN EQUIPMENT IS CALCULATED PER NEC TABLE 220.56

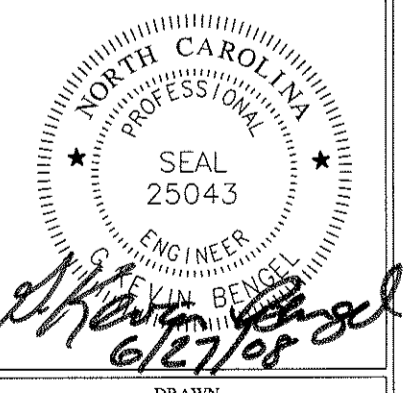
**ELECTRICAL NOTES:**

- 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 THIN (EXTERIOR) AND TYPE THIN (INTERIOR) OR APPROVED EQUAL. INSTALL MC CABLE ABOVE KITCHEN CEILING AND OFFICE. ROMEX NOT ALLOWED ABOVE LAY-IN CEILING.
- COORDINATE LOCATION OF ALL DEVICES AND MOUNTING HEIGHTS OF RECEPTACLES WITH OWNER.
- ALL ELECTRICAL COMPONENTS ARE TO BE UL LISTED.
- ANY FIRE RATED ASSEMBLY PENETRATIONS ARE TO BE PER CODE. CONTRACTOR SHOULD REVIEW ALL FIRE RATING PENETRATIONS.
- OUTLET BOXES ON OPPOSITE SIDES OF A FIRE RATED WALL SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24". WHERE THIS PROVISION CANNOT BE MET, THE OUTLET BOX SHOULD BE ENCASED WITH FIRE-RATED GYPSUM BOARD OR EQUIPPED WITH APPROVED INTUMESCENT PUDDY PADS.
- 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.



TENANT UPFIT FOR:  
**COLORADO CAFE**  
 Gibsonville, North Carolina

DRAWING NAME:  
 ELECTRICAL NOTES AND DETAILS



DRAWN: EDM  
 CHECKED: GAB  
 DATE: 6/26/08  
 SCALE: AS NOTED  
 JOB NO.: 7147  
 SHEET: