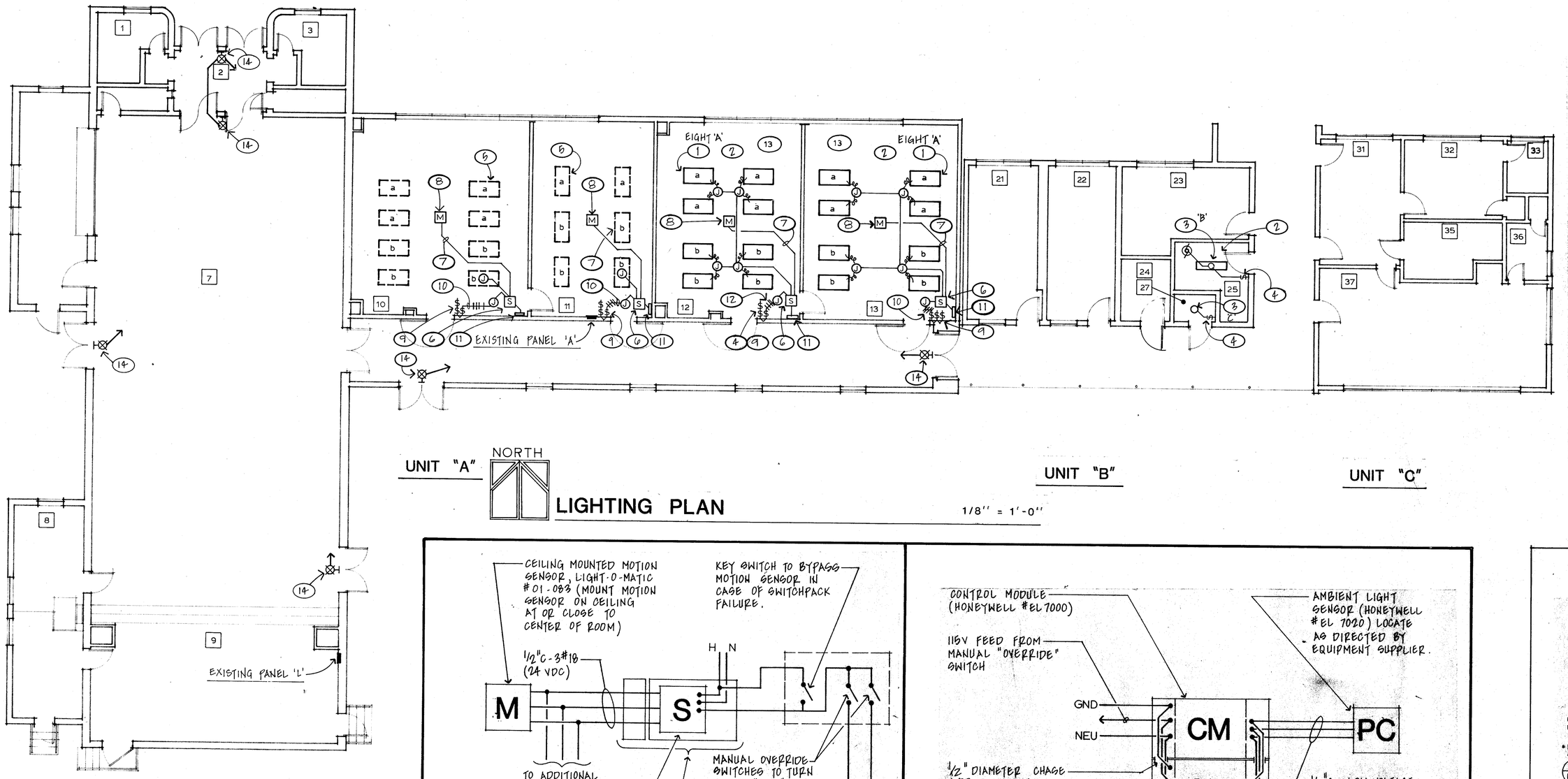


LIGHTING PLAN

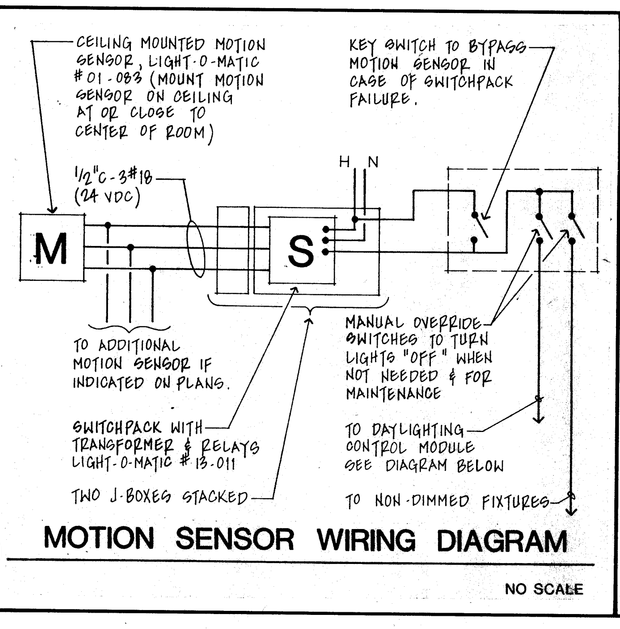
1/8" = 1'-0"

ELECTRICAL KEYNOTES (THIS SHEET ONLY)

1. INSTALL NEW FIXTURES (TYPE AND QUANTITY AS NOTED) AND RECONNECT TO EXISTING CIRCUIT AS SHOWN.
2. REMOVE ALL EXISTING FIXTURES IN THIS ROOM. RE-ROUTE AND RECONNECT ANY FEED-THRU CIRCUITS, PULL OUT ANY IDLE WIRE.
3. REPLACE EXISTING FIXTURE WITH NEW TYPE NOTED AND RECONNECT TO EXISTING SWITCHED CIRCUIT.
4. PROVIDE NEW SWITCHES AND CONNECT TO FIXTURE AS SHOWN.
5. EXISTING FIXTURES IN THIS ROOM TO REMAIN. REWIRE AND CONNECT TO MOTION SENSOR AND CONTROL MODULES PER 1/E1 AND 2/E2.
6. LOCATE SWITCHPACK IN ACCESSIBLE ATTIC WHERE CIRCUIT IS PICKED UP. WIRE PER DETAIL 1/E1.
7. 1/2"C + L.V. WIRING FOR MOTION SENSOR CONTROLS (VERIFY WIRING REQUIRED WITH SENSOR SUPPLIER). SEE 1/E1.
8. MOTION SENSOR PER 3/E1. LOCATE ON BOTTOM OF CEILING AS CLOSE TO CENTER OF ROOM AS POSSIBLE.
9. REPLACE EXISTING SWITCHES WITH TWO NEW SWITCHES, AND ONE NEW KEY SWITCH PER 1/E1 AND 2/E1. REPLACE EXISTING BOX WITH 3 GANG (FLUSH) OR PROVIDE NEW ADJACENT SURFACE BOX FOR SWITCH(ES) WITH CONCEALED FEED TO EXISTING BOX (CONTRACTOR'S OPTION).
10. REUSE EXISTING CONDUIT FROM BOX TO ATTIC TO PULL ADDITIONAL WIRING PER 1/E1 AND 2/E1. PROVIDE ADDITIONAL CONDUIT TO NEW BOX AS REQUIRED FOR WIRING NOT ABLE TO FIT IN EXISTING CONDUIT. FISH EXISTING WALL (IF NOT POSSIBLE USE SURFACE RACEWAY - WIREMOLD #700. PAINT TO MATCH ADJACENT SURFACE).
11. CONTROL MODULE AND OUTPUT MODULE (SEE 2/E1 FOR WIRING REQUIREMENTS). LOCATE OUTPUT MODULE IN ATTIC SPACE ABOVE T-BAR AND LOCATE CONTROL MODULE DIRECTLY BELOW CEILING ON WALL. CONNECT TOGETHER WITH 1/2"C + WIRING AS REQUIRED.
12. 3/4"C + WIRING AS REQUIRED. FISH DOWN WALL TO SWITCHES AS REQUIRED, IF NOT POSSIBLE THEN RUN EXPOSED WIREMOLD #700.
13. WHERE NEW CEILING IS INSTALLED RELOCATE ANY DEVICES (CLOCKS, SPEAKER, BA, ETC.) TO BELOW NEW CEILING LEVEL AND RECONNECT.
14. INSTALL EMERGENCY EXIT FIXTURE 'D'. CONNECT TO NEAREST 120V UNSWITCHED CONTINUOUS DUTY CIRCUIT (VERIFY LOCATION IN FIELD). RUN EXPOSED WIREMOLD #500. VERIFY ROUTING WITH ARCHITECT PRIOR TO INSTALLATION.

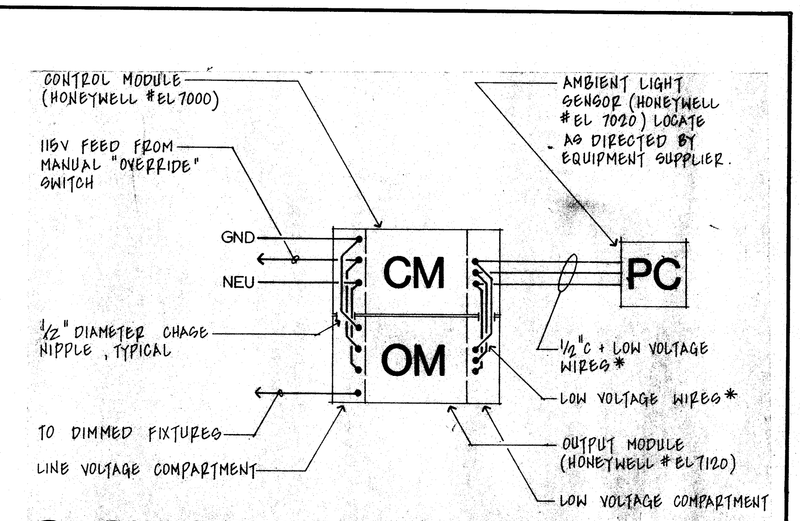
120/240 VOLTS	3 WIRE	10,000	BREAKER A.I.C.
400 A. BUSSING	A. MAIN BKR.		MAX. ENCL. DEPTH
42 CIRCUIT		MAIN SWBD	MOUNTING
BOLT-ON	**PANEL**		

CIR	BKR	LOAD ØA	LOAD ØB	V.A. ØA	V.A. ØB	DESCRIPTION	DESCRIPTION	BKR	CIR
1	40/2	7200				(E) PANEL 'C'	(E) PORTABLE CR.	70/2	2
3			7200		6000	——	——		4
5	60/2	4200		1000		(E) PANEL 'C'	LIGHTS PLUGS	20/1	6
7			4200		1000	——			8
9	20/1	1000		1000		LIGHTS-PLUGS			10
11			1000		1000				12
13		1000		1000					14
15			1000		1000				16
17		1000		1000					18
19			1000		1000				20
21		1000		1000					22
23			1000		1000				24
25	50/2	2832		1380		AC UNIT ROOM 10	AC UNIT ROOM 23	70/2	26
27			2832		1380	——			28
29	35/2	1704		2016		AC UNIT ROOM 11	AC UNIT-OFFICE	30/2	30
31			1704		2016	——	——		32
33	35/2	1704		2016		AC UNIT ROOM 12	AC UNIT-LOUNGE	30/2	34
35			1704		2016	——	——		36
37	40/2	2832		—		AC UNIT ROOM 13	SPARES	20/1	38
39			2832		—	"	"	20/1	40
41						"	"	20/1	42



1/E1 **MOTION SENSOR WIRING DIAGRAM**

NO SCALE



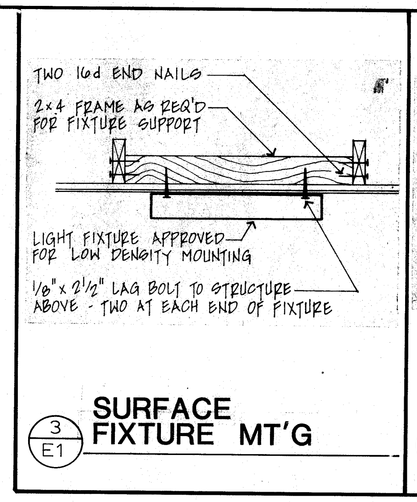
2/E1 **DAYLIGHTING CONTROL WIRING DIAGRAM**

*VERIFY CONTROL WIRING REQUIREMENTS WITH EQUIPMENT SUPPLIER NO SCALE

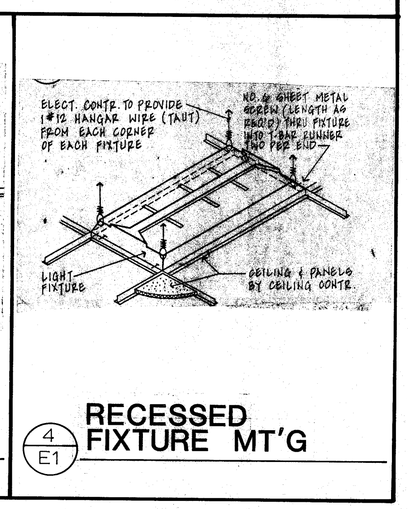
FIXTURE SCHEDULE

FIXTURE SYMBOL (3-A-150): 3=CIRCUIT NUMBER, A=FIXTURE TYPE, 150=FIXT. WATTAGE
ALL FLUORESCENT LAMPS TO BE "WATT-MISERS" OR EQUAL(U.O.N.)
ALL FLUORESCENT BALLASTS TO BE MARK III ENERGY SAVERS(U.O.N.)

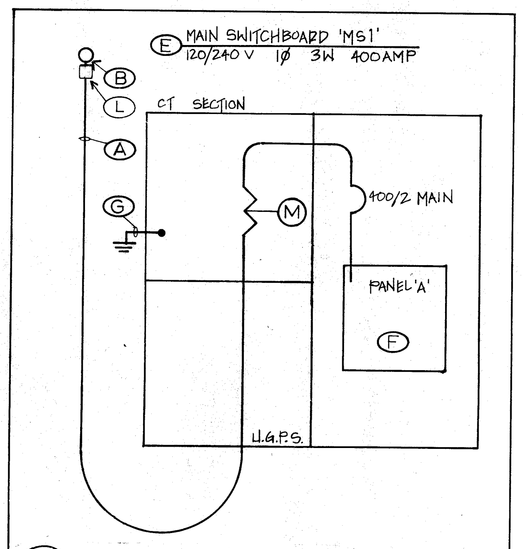
TYPE	WATTS	LAMPS	VOLT.	MANUFACTURER	CATALOG NO.	MOUNT	NOTES
A	144	4-F40	120V	KEYSTONE	2J440-EXA-128	FLUSH T-BAR	
B	72	2-F40		FAIL SAFE	FWS-240	CEILING SURFACE	
C	120	2-60W IF		PRESCOLITE	7812	CEILING SURFACE	
D	10	AS REQ'D	↓	PRESCOLITE	EDX4G	WALL SURFACE	



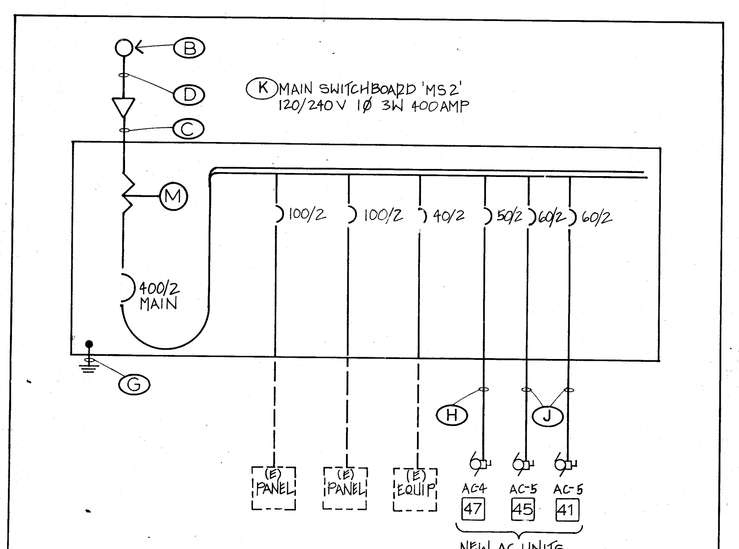
3/E1 **SURFACE FIXTURE MT'G**



4/E1 **RECESSED FIXTURE MT'G**



5/E1 **ONE LINE DIAGRAM #1**



6/E1 **ONE LINE DIAGRAM #2**

KEYNOTES: ONE LINE DIAGRAMS

A EXISTING 3"C - 3 #300 MCM. P.G.& E. CO. TO REPULL NEW CONDUCTORS.

B EXISTING UTILITY TRANSFORMER SERVICE POLE.

C TWO 2"C - 3 #3/0 IN EACH TO SERVICE WEATHER HEADS FOR OVERHEAD DROP CABLE CONNECTION.

D OVERHEAD SERVICE DROP CABLES AND CONNECTION TO WEATHER HEAD CONDUCTORS BY P.G.& E. CO.

E EXISTING 275AMP MAIN SWBD TO BE REPLACED WITH NEW 400AMP AS SHOWN. WHEN REMOVING EXISTING SWBD, LABEL ALL CONDUCTORS TO MATCHING BREAKER RATING TO BE RECONNECTED TO SAME BKR RATING IN NEW MAIN SWBD. PLACE NEW SWBD OVER EXISTING CONDUITS AND RECONNECT ALL FEEDERS AS REQUIRED. CIRCUIT BKR A.I.C. TO EXCEED P.G.& E. CO. AVAILABLE. CONTRACTOR TO VERIFY WITH P.G.& E. CO. FOR AVAILABLE RATING.

F DISTRIBUTION PANEL 'A' FACTORY INSTALLED IN SWBD REFER TO PANEL SCHEDULE 'A' FOR CIRCUIT BREAKER REQUIREMENTS. RECONNECT ALL EXISTING FEEDERS AS REQUIRED.

G MAIN SWBD SERVICE GROUND PER DETAIL 6/E1. RECONNECT TO EXISTING GROUND IF SUFFICIENT SIZE.

H 3/4"C - 2 #8 +1 #10 GND.

J 3/4"C - 2 #6 +1 #10 GND.

K EXISTING 200A METER MAIN TO BE REPLACED WITH NEW 400A MAIN SWBD MS2 SIMILAR PER NOTE E .

L SPLICE BOX AT BASE OF SERVICE BOX TO INTERCEPT EXISTING 3"C SERVICE FEEDER.

USE OF POWDER DRIVEN CONCRETE FASTENERS

Use of Powder Driven Concrete Fasteners for tension loads is limited to support of minor loads like acoustical ceilings, duct work, conduit.

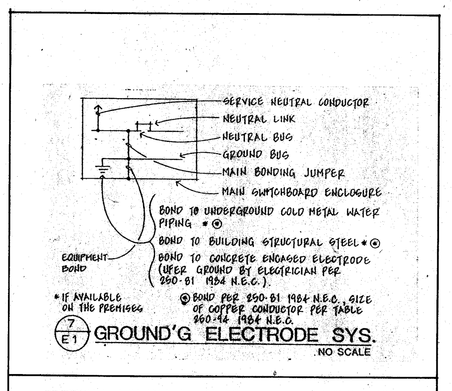
ALLOWABLE LOADS - In general, loads should be limited to less than 100 pounds. However, greater loads may be permitted for special cases when approved by the checking supervisor or field engineer.

TESTING - The operator, tool, and fastener shall be pre-qualified by the project inspector. He shall observe the testing of the first 10 fastener installations. A test "pull-out" load of not less than twice the design load, or 200 pounds, whichever is greater, shall be applied to the pin in such a manner as not to resist the spalling tendency of the concrete surrounding the pin. Thereafter, random tests under the project inspector's supervision shall be made of approximately 1 in 10 pins, except that when the design load exceeds 100 pounds, one half of the pins shall be tested. Should failure occur on any pin tested, all installations must be tested and unfair pins replaced.

PROOF LOAD TESTS FOR EXPANSION TYPE ANCHOR BOLTS
(Bolts must have I.C.B.O. approval)

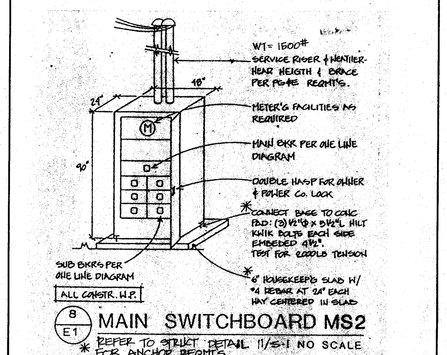
All concrete anchor bolts of the expansion type (loaded in either pullout or shear) shall have 50 percent of the bolts (alternate bolts in any group arrangement) proof tested in tension to twice the allowable tension load. If there are any failures, the immediately adjacent bolts must then also be tested.

TYPE OF MATERIALS	TYPE OF TEST	BOLT DIAMETER 3/8"	1/2"	5/8"	3/4"
Hard Rock Concrete	Direct Pull-Tension, lbs.;	1300	2000	2900	4300
	Torque Wrench-Torque, ft. lbs.	23	50	110	150
Lt. Wt. Concrete	Direct Pull-Tension, lbs.;	970	1400	1950	2590
	Torque Wrench-Torque, ft. lbs.	20	35	75	90



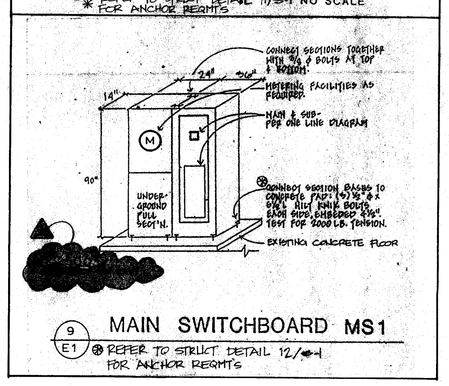
7/E1 **GROUND'G ELECTRODE SYS.**

NO SCALE



8/E1 **MAIN SWITCHBOARD MS2**

* REFER TO STRUCT DETAIL 11/S-1 FOR ANCHOR REQMTS NO SCALE



9/E1 **MAIN SWITCHBOARD MS1**

@ REFER TO STRUCT DETAIL 12/S-1 FOR ANCHOR REQMTS

ROBERT F. STUHR ARCHITECT INC.
3121 CALIFORNIA AVE.
BAKERSFIELD CA. 93304
(805) 327-1632

ROBERT F. STUHR AIA C-1610
WILLIAM J. MELBY AIA C-16835
DANNY E. ORDIZ AIA C-14728

IDENTIFICATION STAMP
Department of General Services
Office of the State Architect
AUG 2 4 1990
Structural Safety Section
Appl. # 03260
Back checked By DVP/LPA

LIGHTING PLAN / SCHEDULES / DETAILS

RAFER JOHNSON SCHOOL
1001 10TH. ST., BAKERSFIELD, CA.

BAKERSFIELD CITY SCHOOL DISTRICT
KERN COUNTY, CALIFORNIA

CORNELIUS ENGINEERING, INC.
Consulting Electrical Engineer
918 V. Main St.- Ph.733-2571
Visalia, California 93291
Gerald Cornelius Calif.no.7198

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT. ALL CONSTRUCTION SHALL CONFORM TO UBC 88, TITLE 21,24

MARK	DATE	REVISIONS
1	8-30-90	CHANGE WT. OF MAIN SWBD MS2 FROM 2000# TO 4300# PER ARCH. & ELECT. ENGINEER - SEE ADDENDUM #1

JOB NO: 644
DRAWN: R.S.
CHECKED:
DATE:

E
1
OF SHEETS

BLUEPRINT SERVICE 110182