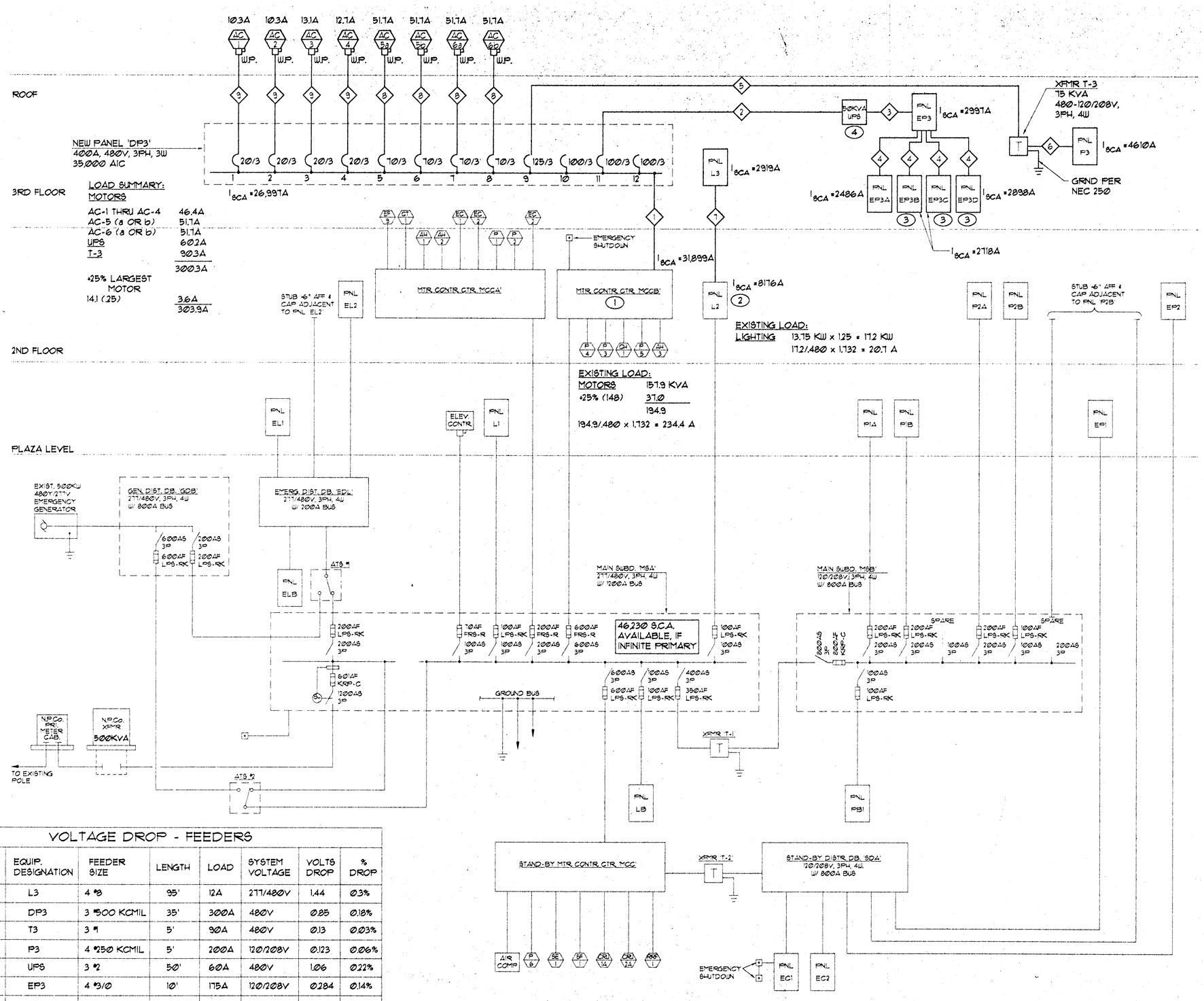

1 E5.01 **SINGLE LINE DIAGRAM**

NO SCALE

FEEDER SCHEDULE

NO.	CONDUIT & WIRE
1	3 #500 KCMIL, 1 #3 GRND, 3 1/2"C.
2	3 #2, 1 #8 GRND, 1 1/4"C.
3	4 #3/0, 1 #6 GRND, 2 1/2"C.
4	4 #1, 1 #8 GRND, 2"C.
5	3 #1, 1 #6 GRND, 1 1/2"C.
6	4 #250 KCMIL, 1 #4 GRND, 3"C.
7	4 #8, 1 #10 GRND, 3/4"C.
8	3 #4, 1 #8 GRND, 1 1/4"C.
9	3 #12, 1 #12 GRND, 3/4"C.

SHEET NOTES

1. UTILIZE EXISTING SPARE 400A FUSIBLE SWITCH IN RIGHT SIDE OF MOTOR CONTROL CENTER TO FEED NEW 3RD FLOOR DISTRIBUTION PANEL. PROVIDE & INSTALL 400A DUAL-ELEMENT, TIME-DELAY, CLASS RK5 FUSES, BUSSMANN FRS-R OR EQUAL.
2. PROVIDE & INSTALL 40A/3P CIRCUIT BREAKER TO MATCH EXISTING (WESTINGHOUSE TYPE WEHB) PANELBOARD. UTILIZE SPARE CONDUIT STUBBED OUT ABOVE PANEL, EXTEND SAME TO NEW PANEL 'L3' IN 3RD FLOOR ELECTRIC ROOM.
3. PANELS WILL BE UTILIZED BY OWNER'S EQUIPMENT INSTALLERS. SEE SCHEDULES ON SHEET E6.01.
4. THREE-PHASE UNINTERRUPTIBLE POWER SYSTEM: 480 VOLT, 3 PHASE INPUT. 120/208V, 3 PHASE, 4 WIRE OUTPUT, RATED 50 KVA AT 0.8 P.F. PROVIDE MATCHING SEALED LEAD-ACID BATTERIES/CABINET SIZED FOR 25 MINUTES AT FULL LOAD. UNIT SHALL CONSIST OF INPUT ISOLATION TRANSFORMER, RECTIFIER/CHARGER, INVERTER, TRANSFER SWITCH, MAINTENANCE BYPASS SWITCH, IN A NEMA 1 ENCLOSURE. LIEBERT SERIES 300 UPS WITH MATCHING 900 HJ BATTERY PACK, OR OWNER-APPROVED EQUAL.

BUILDING/GENERATOR LOAD CALCULATION

		DF	DEMAND
EXISTING DEMAND = 212 KVA, PER NEVADA POWER CO.		1.0	212
25% EXISTING LOAD 212KVA		.25	53
THIRD FLOOR ADDED LOAD:			
LIGHTING	9.8 KVA		
RECEPTACLES	32.4 KVA		
HVAC	124.5 KVA		
	166.7 KVA	1.0	166.7
431.7 KVA/.480 X 1.732 = 519.3A			431.7
NOTE: LOAD CALCULATION PER NEC 220-35.			

VOLTAGE DROP - FEEDERS

ORGIN	EQUIP. DESIGNATION	FEEDER SIZE	LENGTH	LOAD	SYSTEM VOLTAGE	VOLTS DROP	% DROP
L2	L3	4 #8	95'	12A	277/480V	1.44	0.3%
MCCB	DP3	3 #500 KCMIL	35'	300A	480V	0.85	0.18%
DP3	T3	3 #1	5'	90A	480V	0.13	0.03%
T3	P3	4 #250 KCMIL	5'	200A	120/208V	0.123	0.06%
DP3	UPS	3 #2	50'	60A	480V	1.06	0.22%
UPS	EP3	4 #3/0	10'	175A	120/208V	0.284	0.14%
EP3	EP3A	4 #1	60'	80A	120/208V	1.4	0.67%
EP3	EP3B	4 #1	30'	80A	120/208V	0.7	0.34%
EP3	EP3C	4 #1	30'	80A	120/208V	0.7	0.34%
EP3	EP3D	4 #1	10'	80A	120/208V	0.233	0.11%

ASSUMPTIONS: 90% POWER FACTOR, COPPER CONDUCTORS IN STEEL CONDUIT.

20130804

FADRAK ELECTRIC COOP

AS BUILD DRAWING NOV 11, 1998

630,748

DUNHAM ASSOCIATES CONSULTING ENGINEERS
MECHANICAL ELECTRICAL
3024 Eight Avenue
Las Vegas, NV 89102
Ph. (702) 222-8077
Fax (702) 222-9902

REVISION	DESCRIPTION	DATE

Sheet Title: SINGLE LINE DIAGRAM
Sheet Title: CENTRAL TIRE STATION FIRE COM. ADDITION
Job: 960502
April 28, 199
Drawn By: DJH
Checked: MJA
Sheet: E5.01