

RELAY

GROUND FAULT SENSOR.

480/277 3 PHASE 4W 2000A BUS 60HZ AIC = 30,000

70 A. 3P. EDB

500 A. 3P. LAL

300/400 A. 3P. LAL

150 A. 2P. EDB

800/1000 A. 3P. MAL

1700/2000 A 3P. PAF

1

GROUND BUS (TYP.)

#1/0 GND.

4-# 500 KCMIL + GND. IN 4" SCHEDULE 40 PVC CONDUIT, PER PHASE.

3-#4 THW + #8 GND.

WEATHERPROOF 100A. DISCONNECT WITH 70A. FUSES.

CONTROL PANEL FOR PUMP SYSTEM (REFER TO IRRIGATION DRAWINGS.)

2-#1/0 THW + #6 GND.

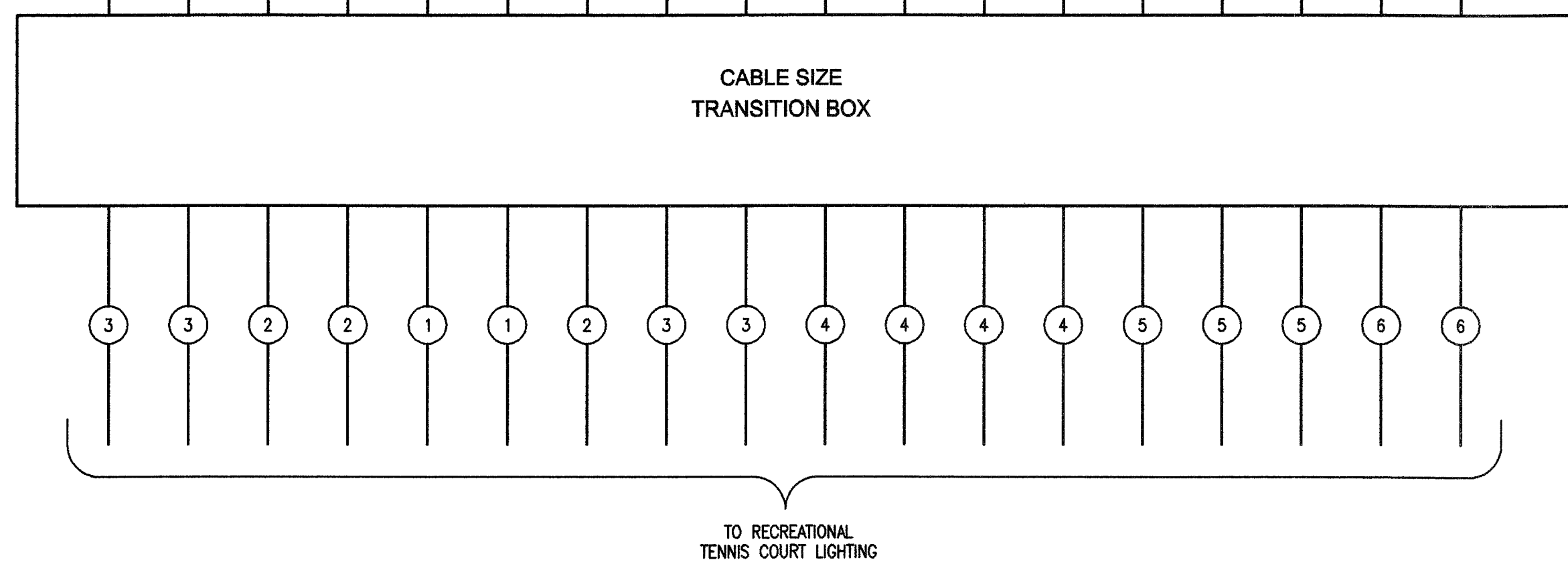
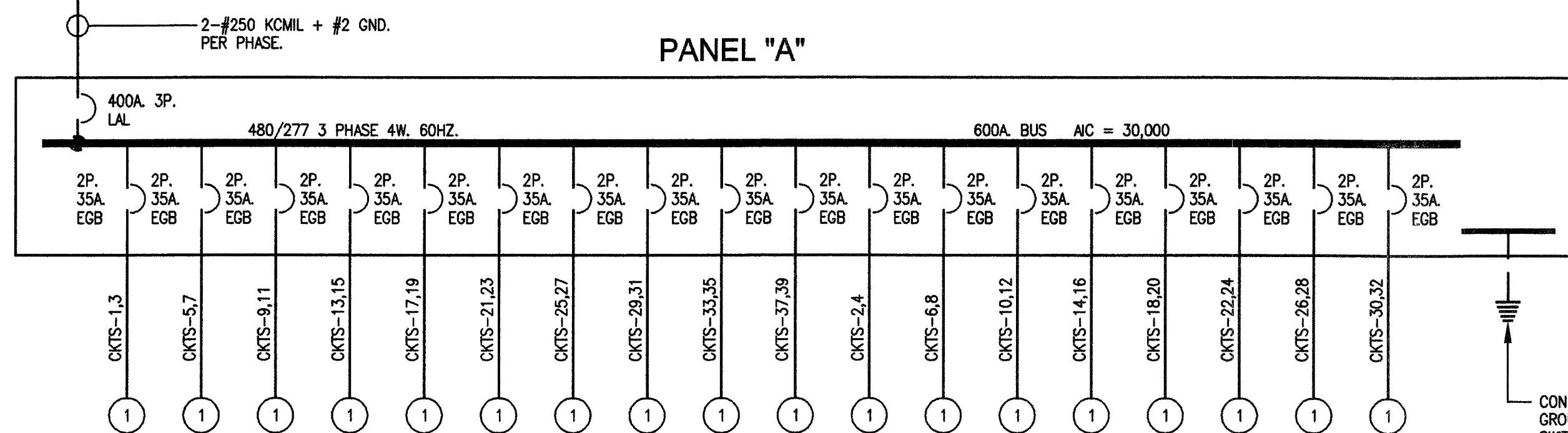
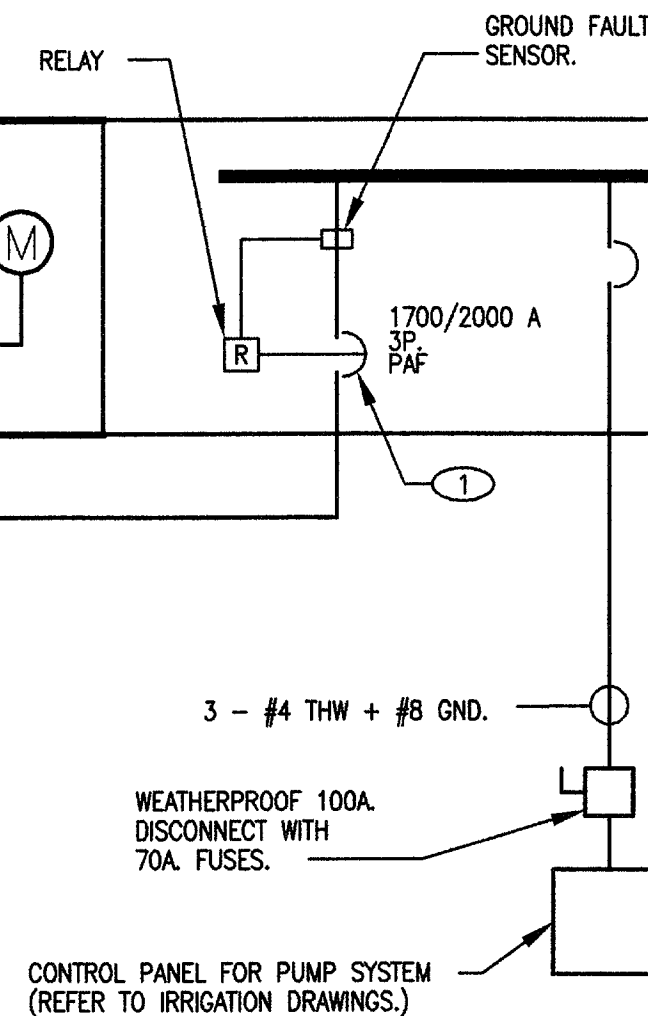
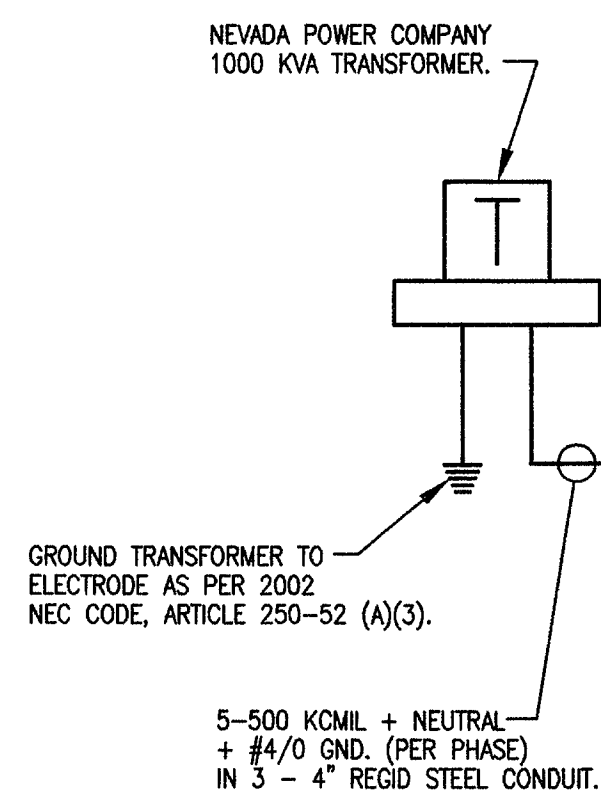
50 KVA TRANSFORMER 480V - 240/120V SINGLE PHASE

T1

4-# 350 KCMIL + #4 GND. PER PHASE

3-#250 THW + #4 GND

PANEL "F" 240/120 SINGLE PHASE 300A. MCB 15,000 AIC



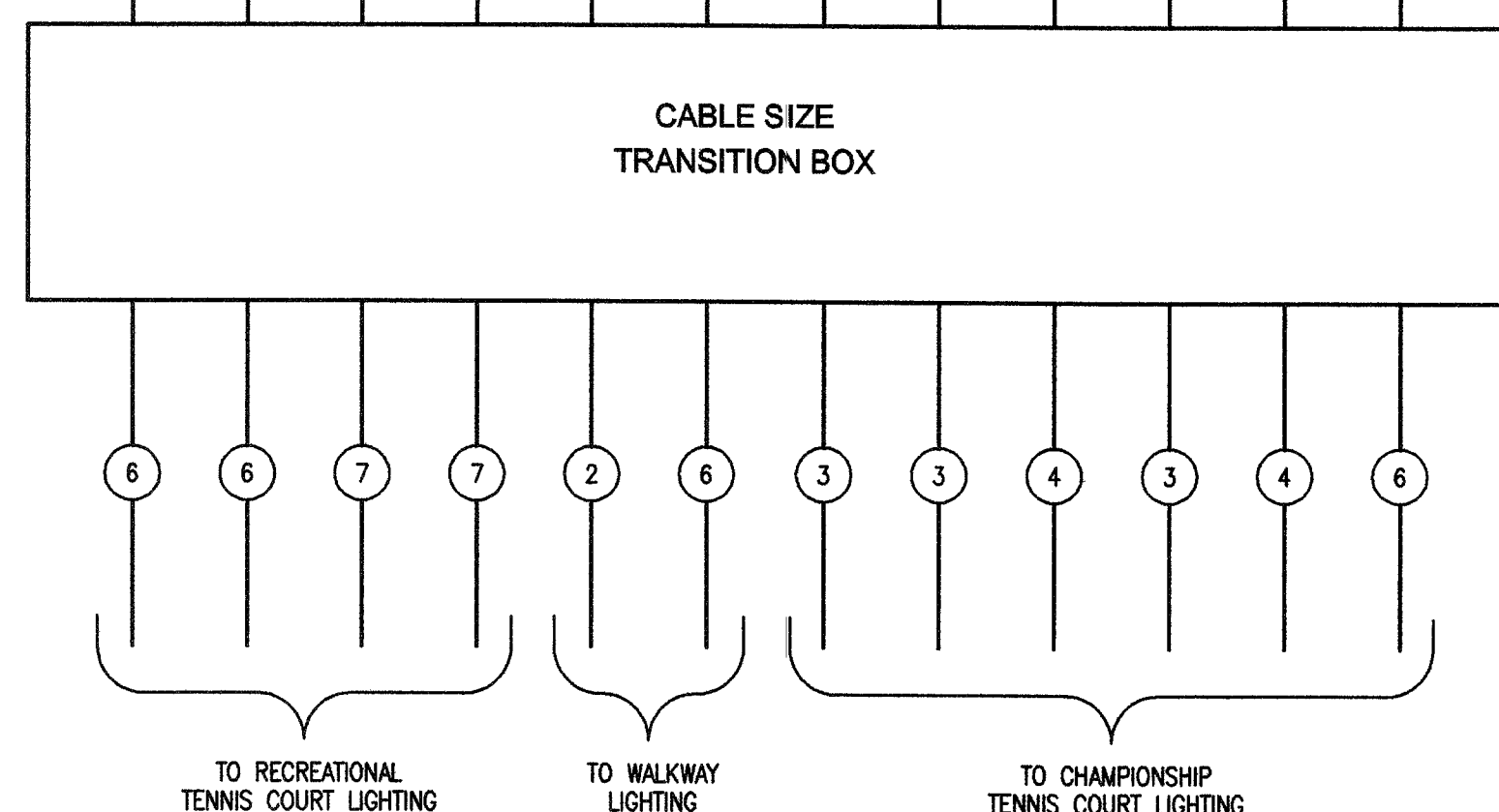
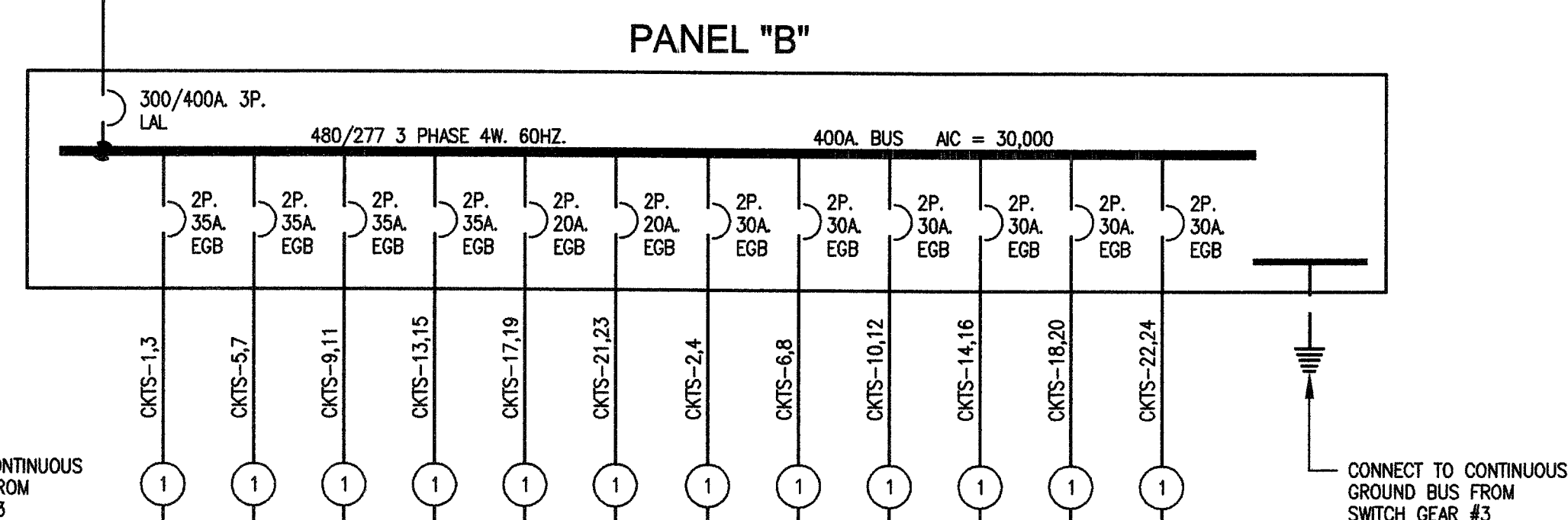
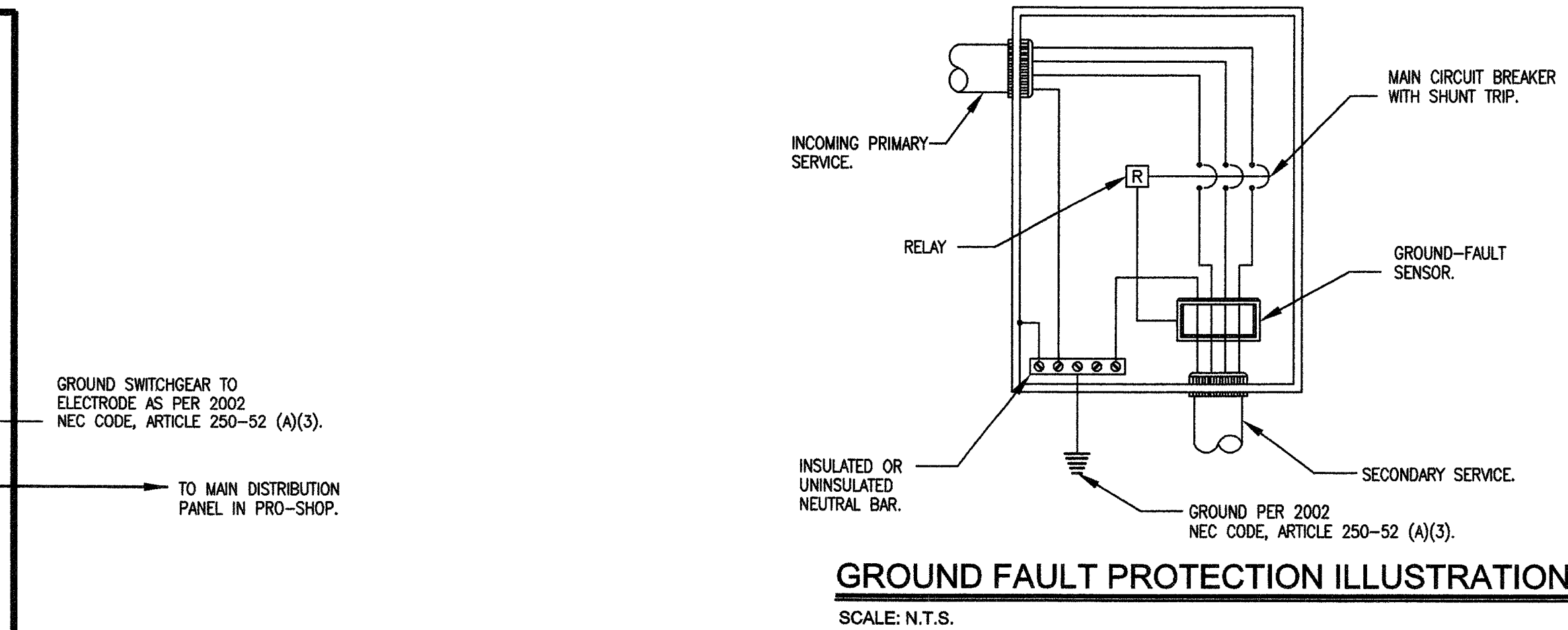
CONDUIT AND CABLE SCHEDULE		
CALL NO.	WIRE SIZE	GROUND
①	2-#10 THW	#10
②	2-#8 THW	#10
③	2-#6 THW	#10
④	2-#4 THW	#8
⑤	2-#3 THW	#8
⑥	2-#2 THW	#6
⑦	2-#1/0 THW	#6

1. ALL BREAKERS TO BE RATED AT 100 %.

2. THE SQUARE D COMPANY COMPONENTS HAVE BEEN USED AS REFERENCE FOR THE SIZING OF THE SWITCHGEAR CABINETS AND CIRCUIT BREAKERS. ALTERNATE SWITCHGEAR MANUFACTURERS MUST COMPLY WITH PHYSICAL SIZE OF THE CABINETS AND THE MINIMAL CALCULATED AIC RATINGS OF THE CIRCUIT BREAKERS.

① PROVIDE A 2000A FRAME WITH A TRIP RATING OF 1700A. THE CIRCUIT BREAK IT TO INCLUDE A GROUND FAULT SHUNT TRIP.

SCALE: N.T.S.



CIRCUIT BREAKER AIC RATING SCHEDULE		
BKR TYPE	CIRCUIT BREAKER RATING	MINIMUM CALCULATED AIC RATING REQUIRED
EDB	18,000	15,000
LAL	30,000	30,000
MAL	30,000	30,000
EGB	35,000	30,000
KHL	35,000	30,000
PAF	50,000	30,000

SW GEAR #3.

SW GEAR #3.

PANEL A -	259.485 KVA	
PANEL B -	139.947 KVA	
T1 TRANSFORMER -	50 KVA	
2 - 30 HP MOTORS -	<u>44.160 KVA</u>	
	493.592 KVA	493.592 KVA

PRO-SHOP

PANEL PA -	79.108 KVA	
T2 TRANSFORMER -	75.000 KVA	
T3 TRANSFORMER -	<u>225.000 KVA</u>	
	379.108 KVA	<u>379.108 KVA</u>
		872.700 KVA

$$I = \frac{KVA \times 1000}{V \times 1.73 \times PF} = \frac{872.700 \times 1000}{480 \times 1.732 \times 0.8} = 1312.2 \text{ A}$$

THE DESIGN PROFESSIONAL HAS PREFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE A/C RATINGS INDICATED FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT ANDTHE ELECTRICAL SYSTEM.

THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS AND FEEDERS PER 2002 NATIONAL ELECTRICAL CODE ARTICLE 210.19(A)(1) FPN NO. 4.



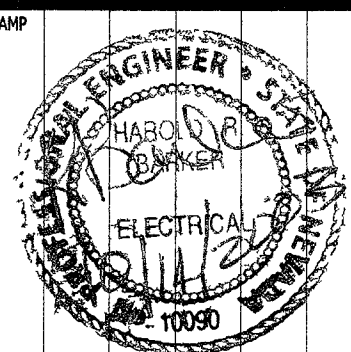
PROVISIONS

CONSULTANT

**ALLEGRO
CONSULTA**

WASHINGTON/BUFFALO PARK – PHASE 1A
WASHINGTON & BUFFALO, LAS VEGAS, NV

SINGLE LINE DIAGRAM - SWITCH GEAR #3



OWNER: CITY OF LAS VEGAS
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DRAWN	GS
FILE	TE-5.1
DATE	07/03
SCALE	N.T.S.
BED NO	03.15341.07
CLY DWG NO	650.75.1A
SHT NO	

TE-5.1

79309