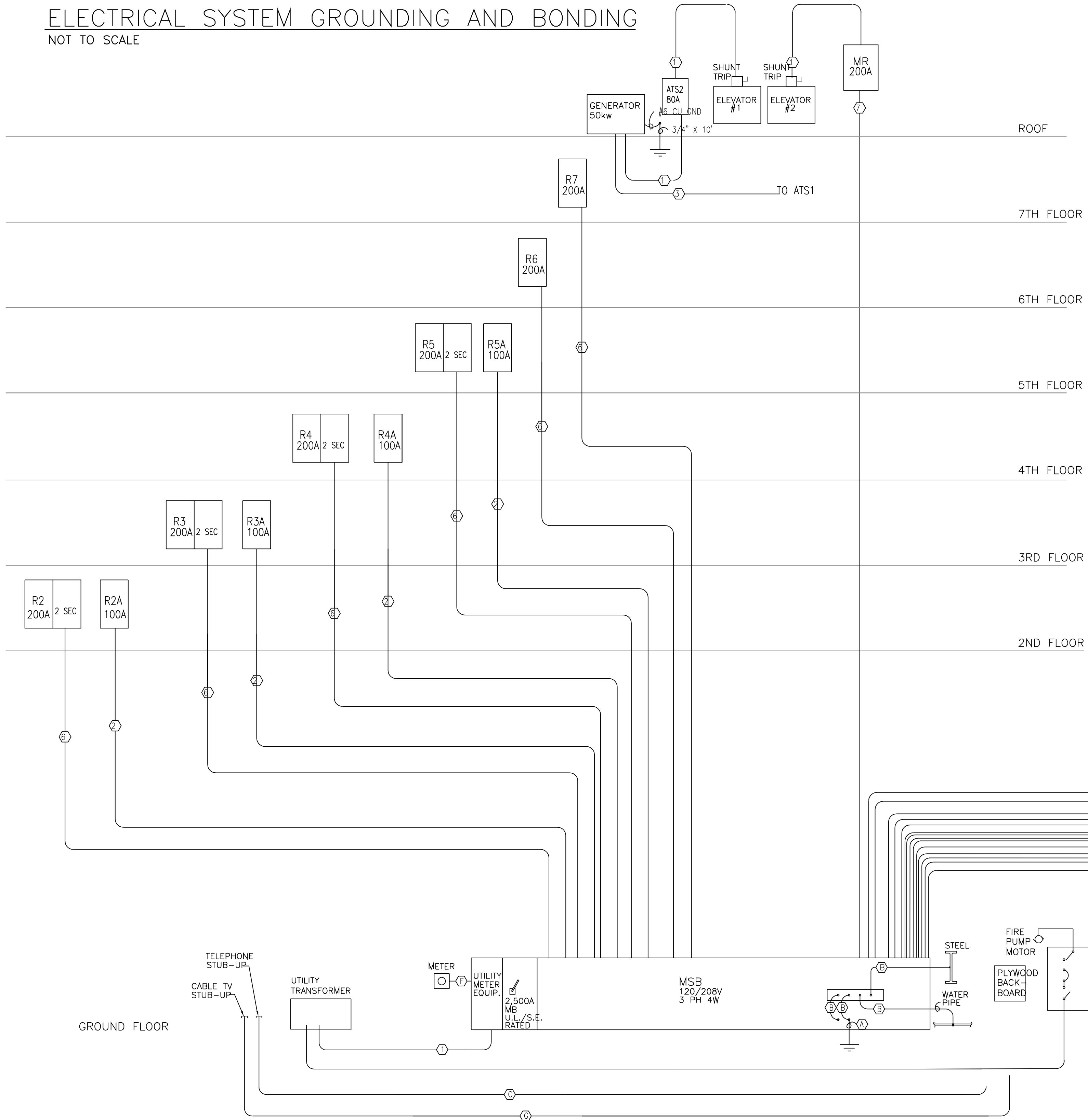


**ELECTRICAL SYSTEM GROUNDING AND BONDING**

1. THE GROUNDING ELECTRODE CONDUCTOR AT THE MAIN SERVICE EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH NEC 250.66 AND AS SHOWN ON THE ADJACENT SKETCH.
2. THE MAIN BONDING JUMPER AT THE MAIN SERVICE EQUIPMENT SHALL BE SIZED IN ACCORDANCE WITH NEC 250.92 AND AS SHOWN ON THE ADJACENT SKETCH.
3. EQUIPMENT GROUNDING CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS MAY BE A COPPER OR CORROSION RESISTANT CONDUCTOR, RIGID METAL CONDUIT, INTERMEDIATE METAL CONDUIT, ELECTRICAL METALLIC TUBING, OR THE METALLIC SHEATH OR COMBINED METALLIC SHEATH AND GROUNDING CONDUCTORS OF TYPE MC CABLE.
4. WHERE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IT SHALL BE SIZED IN ACCORDANCE WITH NEC 250.122.

**ELECTRICAL SYSTEM GROUNDING AND BONDING**  
NOT TO SCALE

MSB		VOLTS 208Y/120V 3P 4W			AIC 100,000		
ROOM		BUS AMPS 2500			MAIN BKR 2500		
MOUNTING FLOOR		NEUTRAL 100%			LUGS STANDARD		
FED FROM UTILITY		NOTE: VERIFY FAULT CURRENT WITH CMP					
CKT #	CIRCUIT DESCRIPTION	KVA LOAD			BREAKER TRIP/POLES	COND.	FEEDER RACEWAY AND CONDUCTORS
		A	B	C			
1	PANEL R2	20.3	20.3	18.9	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
2	PANEL R2A	6.2	4.75	3.45	100/3	CU	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G
3	PANEL R3	22.6	20.1	20.2	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
4	PANEL R3A	4.55	3.37	2.83	100/3	CU	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G
5	PANEL R4	22.1	20.1	19.7	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
6	PANEL R4A	3.83	2.97	2.34	100/3	CU	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G
7	PANEL R5	26	25.1	19.7	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
8	PANEL R5A	3.76	1.95	1.67	100/3	CU	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G
9	PANEL R6	18	16.9	16	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
10	PANEL R7	12.5	11.9	9.34	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
11	PANEL 1CK	0	0	0	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
12	PANEL 2CK	0	0	0	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
13	TRANSFER SWITCH ATSI	8.45	5.98	8.57	100/3	CU	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G
14	TRANSFER SWITCH ATSI	3.12	3.12	3.12	80/3	CU	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G
15	PANEL SB	10.3	10.4	8	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
16	PANEL B	14.2	14.2	13.8	150/3	CU	2" C, 3#3/0 AL, #3/0 AL N, #4 AL G
17	PANEL HM	16.6	15.1	9.3	150/3	CU	2" C, 3#3/0 AL, #3/0 AL N, #4 AL G, #4 AL IG
18	PANEL L	8.12	9.29	9.57	200/3	CU	2" C, 3#3/0 AL, #3/0 AL N, #4 AL G
19	PANEL MR	30.4	29.9	29.3	400/3	CU	(2)2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #1 AL G
20	ELEVATOR #3	8.65	8.65	8.65	90/3	CU	1-1/4" C, 3#1, #6G
21	ELEVATOR #4	14.5	14.5	14.5	225/3	CU	2" C, 3#4/0, #4G
22	MAU-1	9.25	9.25	9.25	100/3	CU	1-1/4" C, 3#2, #6G
23	MAU-2	16.1	16.1	16.1	175/3	CU	1-1/2" C, 3#1/0, #6G
24	PANEL 2SB	46.1	46.5	45.7	400/3	CU	(2)2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #1 AL G
25	PANEL 2B	19.3	18.8	18.4	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
26	PANEL LDY	11.4	11.4	10.2	200/3	CU	2" C, 3#3/0 AL, #3/0 AL N, #4 AL G
27	PANEL 3B	12.7	12.8	11.1	200/3	CU	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G
28	PANEL 2L	7.02	7.02	4.52	100/3	CU	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G
29	SPACE	0	0	0	20/3	CU	
30	SPACE	0	0	0	20/3	CU	
TOTAL CONNECTED KVA BY PHASE		376	360	334			
LIGHTING		49.7	62.2	(125%)	CONTINUOUS 0 0 (125%)		
LARGEST MOTOR		48.3	60.3	(125%)	HEATING 0 0 (100%)		
OTHER MOTORS		311	311	(100%)	NONCONTINUOUS 492 492 (100%)		
RECEPTACLES		119	64.7	(50%>10)	KITCHEN EQUIP 0 0 (N/A)		
					NONCON/DIVERSE 50.7 41.6 (82%)		
					TOTAL KVA 1,070 1,030		
		BALANCED THREE PHASE AMPS 2,860					



**KEY NOTES**

(A)	3/4" x 10' CU GROUND ROD
(B)	#3/0 BARE COPPER
(C)	#6 BARE COPPER
(D)	4' x 8' x 3/4" PLYWOOD BACKBOARD
(E)	LIGHTING RELAY
(F)	1" CONDUIT FOR METER
(G)	4" CONDUIT W/PULL STRING OR AS DIRECTED BY UTILITY

**FEEDER SCHEDULE**

ID	FEEDER AMPS	CONDUIT AND FEEDER	FEEDING THESE DEVICES
(A)	80	1-1/2" C, 3#1 AL, #1 AL N, #6 AL G	ATS2, ATSI2
(B)	100	1-1/2" C, 3#1/0 AL, #1/0 AL N, #6 AL G	2L, ATSI, EM, R2A, R3A, R4A, R5A
(C)	125	2" C, 3#2/0 AL, #2/0 AL N, #4 AL G	ATSI
(D)	150	2" C, 3#3/0 AL, #3/0 AL N, #4 AL G	B, L, LDY
(E)	150	2" C, 3#3/0 AL, #3/0 AL N, #4 AL G, #4 AL IG	HM
(F)	200	2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #4 AL G	1CK, 2B, 2CK, 3B, R2, R3, R4, R5, R6, R7, SB
(G)	400	(2)2-1/2" C, 3#250kcmil AL, #250kcmil AL N, #1 AL G	2SB, MR
(H)	2500	(6)4" C, 3#600kcmil, #600kcmil N, #3/0G	MSB

-sizing METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE

REFER TO SHEET E6.02 FOR SERVICE LOAD CALCULATION

GENERATOR SHALL BE EQUIPPED WITH TWO (2) OVERCURRENT PROTECTIVE DEVICES, ONE (1) AT 100 AMPERES TO FEED ATSI-1, AND ONE (1) AT 80 AMPERES TO FEED ATSI-2

NOTE: CONTRACTOR SHALL PROVIDE ALL ITEMS ASSOCIATED WITH FIRE PUMP AS A SEPARATE LINE ITEM. THIS SHALL INCLUDE PUMP, CONTROLLER, JOCKEY PUMP, ALL FEEDS, AND DISCONNECTING MEANS, AND ALL RELATED FIRE ALARM DEVICES.

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Date:  
**RISER DIAGRAM**

**E6.01**