

**GDI ENGINEERING**



**prospect Heights**

Residential

**Austin, Texas**







CONNECTED LOAD						
Location:		CL	DF	A	B	DEMAND TOTAL
L	Lighting	0.52	1.25	0.30	0.22	0.85
R	Convenience Recept	18.04		9.49	8.55	14.02
H	Heating (Space)	5.58	1.25	2.85	2.73	6.98
C	Cooling		1.00			
A	HVAC	5.28	1.00	2.40	2.88	5.28
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen	23.05	13.00	11.65	11.40	14.98
N	Noncontinuous		1.00			
	Total	52.47		26.69	25.78	41.91

Total Demand Load (KVA)	31.48	DEMAND LOAD TO BE CALCULATED AS BELOW: FIRST 10KVA OF GENERAL LOAD AND FIXED APPLIANCES AT 100% THE REMAINDER AT 40% + AIR CONDITIONING AT 125%
Total Demand Current (A)	131.15	
Min. Feeder Ampacity (A)	137.71	

DESCRIPTION	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION
1 LIGHTING LIVING ROOM - KITCHEN	L 2X 14 AWG	-#14G	15A-1P	0.16	0.30	0.14	0.14	15A-1P	2x 14 AWG	-#14G	LIGHTING BEDROOM 1 - BATHROOMS
3 LIGHTING BEDROOM - 4 BATHROOM - LAUNDRY	L 2X 14 AWG	-#14G	15A-1P	0.11	0.22	0.11	0.11	15A-1P	2x 14 AWG	-#14G	LIGHTING BEDROOMS - 2-3
6 RECEPTACLES BEDROOM -1 - STORAGE	R 2x 12 AWG	-#12G	20A-1P	0.90	1.26	0.36	0.36	20A-1P	2x 12 AWG	-#12G	RECEPTACLES GFCI BATHROOMS
7 FRIDGE	K 2x 12 AWG	-#12G	20A-1P	0.75	1.15	0.40	0.40	20A-1P	2x 12 AWG	-#12G	PROVISION FOR GAS RANGE
9 ELECTRIC RANGE	K 3x 6 AWG	-#10G	50A-2P	4.00	5.50	1.50	1.50	20A-1P	2x 12 AWG	-#12G	DISHWASHER
11	K			4.00	4.90	0.90	0.90	20A-1P	2x 12 AWG	-#12G	RECEPTACLES LIVING ROOM
13 MICROWAVE / OVEN	K 3x 10 AWG	-#10G	20A-2P	0.75	1.07	0.32	0.32	20A-1P	2x 12 AWG	-#12G	RECEPTACLES OUTDOOR
16	K			0.75	2.25	1.50	1.50	20A-1P	2x 12 AWG	-#12G	WASHER
17 PROVISION FOR EV	R 3x 6 AWG	-#10G	50A-2P	5.75	6.25	0.50	0.50	20A-1P	2x 12 AWG	-#12G	PROVISION FOR GAS DRYER
19	R			5.75	8.25	2.50	2.50	30A-2P	3x 10 AWG	-#10G	ELECTRIC DRYER
21 RECEPTACLES BEDROOM 4 - BATHROOM - LAUNDRY	R 2x 12 AWG	-#12G	20A-1P	1.26	3.76	2.50	2.50	30A-2P	3x 10 AWG	-#10G	ELECTRIC DRYER
23 RECEPTACLES BEDROOM 2	R 2x 12 AWG	-#12G	20A-1P	0.90	2.40	1.50	1.50	20A-1P	2x 12 AWG	-#12G	SMALL APPLIANCE
26 RECEPTACLES BEDROOM 3	R 2x 12 AWG	-#12G	20A-1P	0.90	2.40	1.50	1.50	20A-1P	2x 12 AWG	-#12G	SMALL APPLIANCE
27 GAS WATER HEATER	H 2x 12 AWG	-#12G	20A-1P	0.48	2.88	2.40	2.40	30A-2P	3x 10 AWG	-#10G	CU-01
29 FURNACE	H 2x 12 AWG	-#12G	20A-1P	0.60	3.00	2.40	2.40	30A-2P	3x 10 AWG	-#10G	CU-01
31 FIRE SPRINKLER CONTROL PANEL	R 2x 12 AWG	-#12G	20A-1P	0.50	2.75	2.25	2.25	30A-2P	3x 10 AWG	-#10G	PROVISION FOR ELECTRIC WATER HEATER
33 GARBAGE DISPOSAL	K 2x 12 AWG	-#12G	20A-1P	0.90	3.15	2.25	2.25	30A-2P	3x 10 AWG	-#10G	PROVISION FOR ELECTRIC WATER HEATER
36 CONTROL FOR GAS METER	R 2x 12 AWG	-#12G	20A-1P	0.50	0.98	0.48	0.48	20A-1P	2x 12 AWG	-#12G	KITCHEN EXHAUST FAN
37 SPACE											SPACE
38 SPACE											SPACE
39 SPACE											SPACE
41 SPACE											SPACE
				Total Connected Load		26.69	25.78				

Step	Directions	Value
<b>LOAD CALCULATIONS FOR UNIT 1136A</b>		
1	Square footage	1,701 x 3 = 5,103 va
2	Number of circuits	2 x 1500 = 3,000 va
3	APPLIANCES & MOTOR LOADS: 220.82(B)(3) & (4)	47,653 va
4	TOTAL STEPS 1-3: 220.82(B)	37,653 va
5	HEATING & AIR CONDITIONING LOADS: 220.82(C)	15,061 va
6	CALCULATE TOTAL SERVICE OR FEEDER LOAD: 220.82(A)	30,341 va
7	CALCULATED SERVICE OR FEEDER SIZE	126 amps

CONNECTED LOAD						
Location:		CL	DF	A	B	DEMAND TOTAL
L	Lighting	0.51	1.25	0.30	0.21	0.64
R	Convenience Recept	17.14		9.09	8.05	13.57
H	Heating (Space)	6.88	1.25	3.23	3.65	8.60
C	Cooling		1.00			
A	HVAC	5.28	1.00	2.40	2.88	5.28
P	Process		1.00			
O	Other Continuous		1.25			
K	Kitchen	23.05	13.00	11.65	11.40	14.98
N	Noncontinuous		1.00			
	Total	52.86		26.67	26.19	43.07

Total Demand Load (KVA)	31.63	DEMAND LOAD TO BE CALCULATED AS BELOW: FIRST 10KVA OF GENERAL LOAD AND FIXED APPLIANCES AT 100% THE REMAINDER AT 40% + AIR CONDITIONING AT 125%
Total Demand Current (A)	131.80	
Min. Feeder Ampacity (A)	138.38	

DESCRIPTION	WIRE	GRD	CB	KVA	A	B	KVA	CB	WIRE	GRD	DESCRIPTION
1 LIGHTING LIVING ROOM - KITCHEN	L 2X 14 AWG	-#14G	15A-1P	0.16	0.30	0.14	0.14	15A-1P	2x 14 AWG	-#14G	LIGHTING BEDROOM 1 - BATHROOMS
3 LIGHTING BEDROOMS 2 - 3	L 2X 14 AWG	-#14G	15A-1P	0.11	0.21	0.10	0.10	15A-1P	2x 14 AWG	-#14G	LIGHTING BATHROOM - LANDING - OFFICE
6 RECEPTACLES BEDROOM -1 - STORAGE	R 2x 12 AWG	-#12G	20A-1P	0.90	1.26	0.36	0.36	20A-1P	2x 12 AWG	-#12G	RECEPTACLES GFCI BATHROOMS
7 FRIDGE	K 2x 12 AWG	-#12G	20A-1P	0.75	1.15	0.40	0.40	20A-1P	2x 12 AWG	-#12G	PROVISION FOR GAS RANGE
9 ELECTRIC RANGE	K 3x 6 AWG	-#10G	50A-2P	4.00	5.50	1.50	1.50	20A-1P	2x 12 AWG	-#12G	DISHWASHER
11	K			4.00	4.90	0.90	0.90	20A-1P	2x 12 AWG	-#12G	RECEPTACLES LIVING ROOM
13 MICROWAVE / OVEN	K 3x 10 AWG	-#10G	20A-2P	0.75	1.07	0.32	0.32	20A-1P	2x 12 AWG	-#12G	RECEPTACLES OUTDOOR
16	K			0.75	2.25	1.50	1.50	20A-1P	2x 12 AWG	-#12G	WASHER
17 PROVISION FOR EV	R 3x 6 AWG	-#10G	50A-2P	5.75	6.25	0.50	0.50	20A-1P	2x 12 AWG	-#12G	PROVISION FOR GAS DRYER
19	R			5.75	8.25	2.50	2.50	30A-2P	3x 10 AWG	-#10G	ELECTRIC DRYER
21 RECEPTACLES BEDROOM 2	R 2x 12 AWG	-#12G	20A-1P	1.26	3.76	2.50	2.50	30A-2P	3x 10 AWG	-#10G	ELECTRIC DRYER
23 RECEPTACLES BEDROOM 3 - OFFICE	R 2x 12 AWG	-#12G	20A-1P	0.90	2.40	1.50	1.50	20A-1P	2x 12 AWG	-#12G	SMALL APPLIANCE
25 GAS WATER HEATER	H 2x 12 AWG	-#12G	20A-1P	0.48	1.98	1.50	1.50	20A-1P	2x 12 AWG	-#12G	SMALL APPLIANCE
27 FURNACE	H 2x 12 AWG	-#12G	20A-1P	0.90	3.30	2.40	2.40	30A-2P	3x 10 AWG	-#10G	CU-02
29 GARBAGE DISPOSAL	K 2x 12 AWG	-#12G	20A-1P	0.90	3.30	2.40	2.40	30A-2P	3x 10 AWG	-#10G	CU-02
31 CONTROL FOR GAS METER	R 2x 12 AWG	-#12G	20A-1P	0.50	3.25	2.75	2.75	30A-2P	3x 10 AWG	-#10G	PROVISION FOR ELECTRIC WATER HEATER
33 FIRE SPRINKLER CONTROL PANEL	R 2x 12 AWG	-#12G	20A-1P	0.50	3.25	2.75	2.75	30A-2P	3x 10 AWG	-#10G	PROVISION FOR ELECTRIC WATER HEATER
36 SPARE					0.48	0.48	0.48	20A-1P	2x 12 AWG	-#12G	KITCHEN EXHAUST FAN
37 SPACE											SPACE
38 SPACE											SPACE
39 SPACE											SPACE
41 SPACE											SPACE
				Total Connected Load		26.67	26.19				

Step	Directions	Value
<b>LOAD CALCULATIONS FOR UNIT 1136B</b>		
1	Square footage	1,406 x 3 = 4,218 va
2	Number of circuits	2 x 1500 = 3,000 va
3	APPLIANCES & MOTOR LOADS: 220.82(B)(3) & (4)	46,768 va
4	TOTAL STEPS 1-3: 220.82(B)	36,768 va
5	HEATING & AIR CONDITIONING LOADS: 220.82(C)	14,707 va
6	CALCULATE TOTAL SERVICE OR FEEDER LOAD: 220.82(A)	29,987 va
7	CALCULATED SERVICE OR FEEDER SIZE	125 amps

ISSUE DATE: 31 JAN 2024  
PROJECT NUMBER: 202105  
DRAWN BY: A.B  
CHECKED BY: A.B

NO	REFERENCE	ISSUED





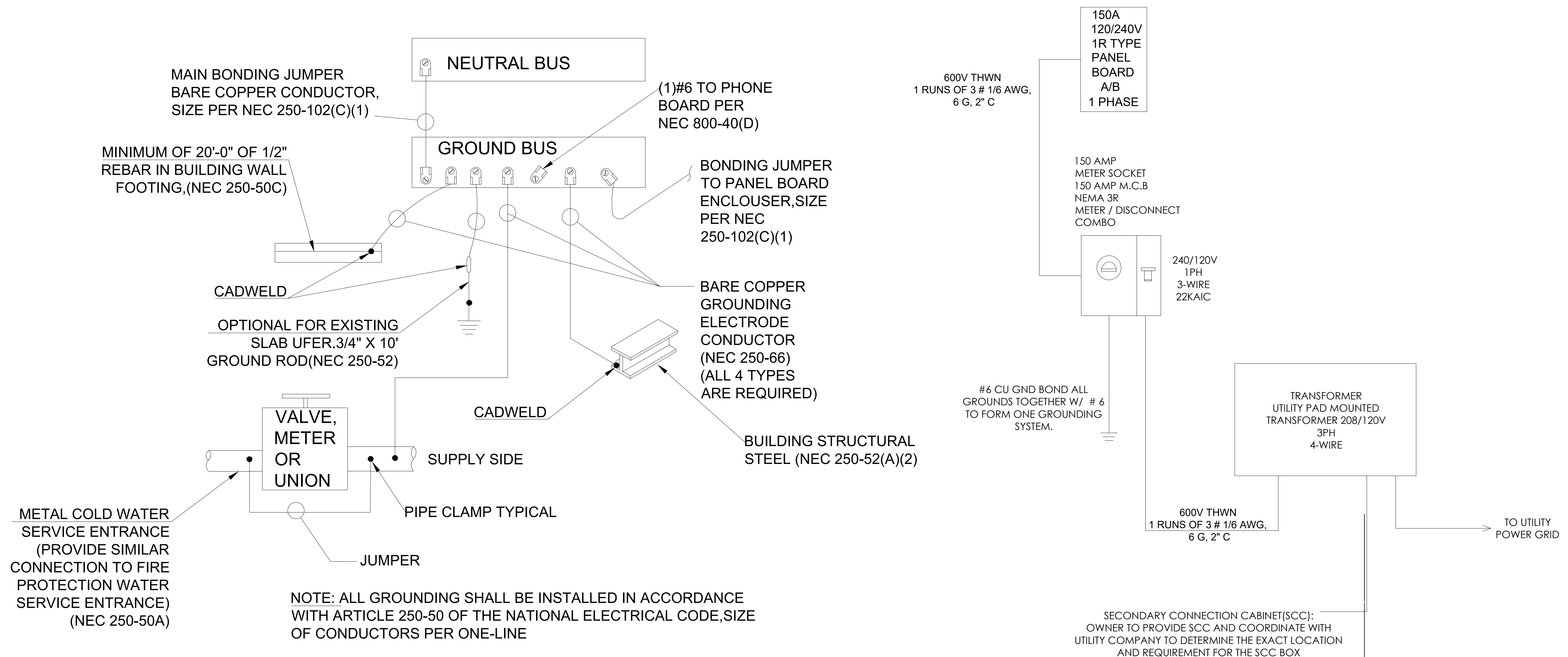
ISSUE DATE: **31 JAN 2024**  
 PROJECT NUMBER: **202105**  
 DRAWN BY: **A.B**  
 CHECKED BY: **A.B**

REVISIONS:

NO	REFERENCE	ISSUED



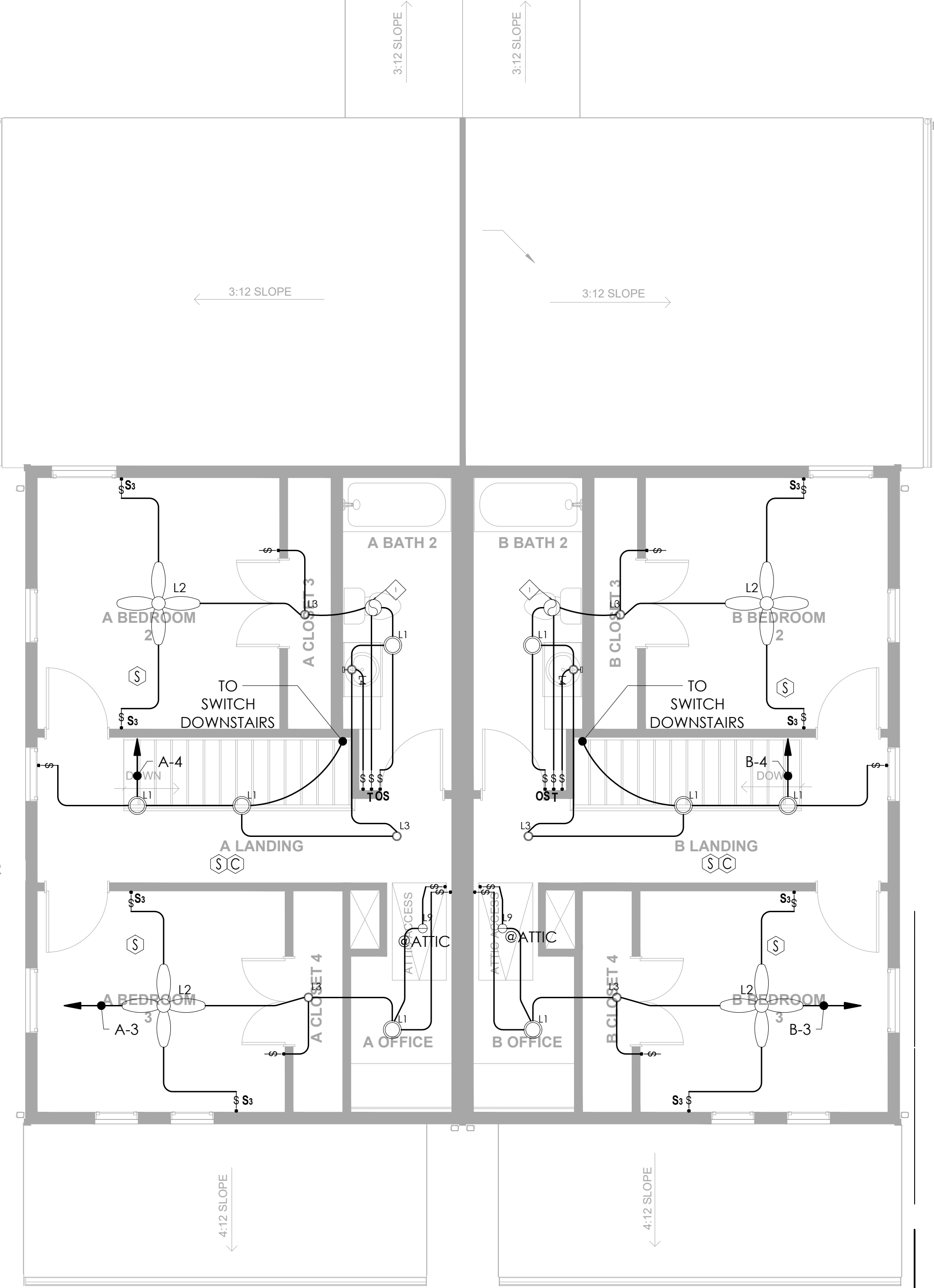
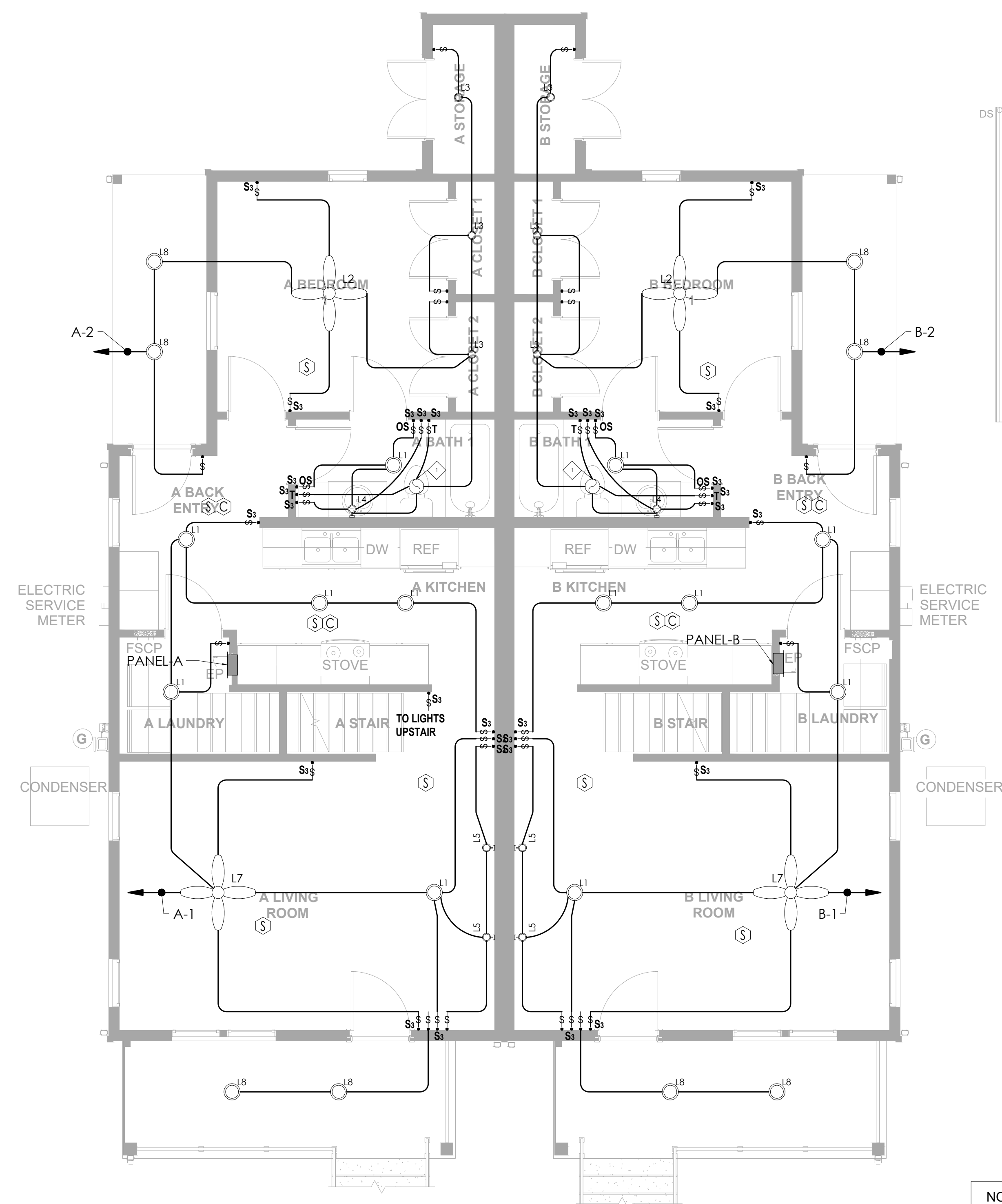
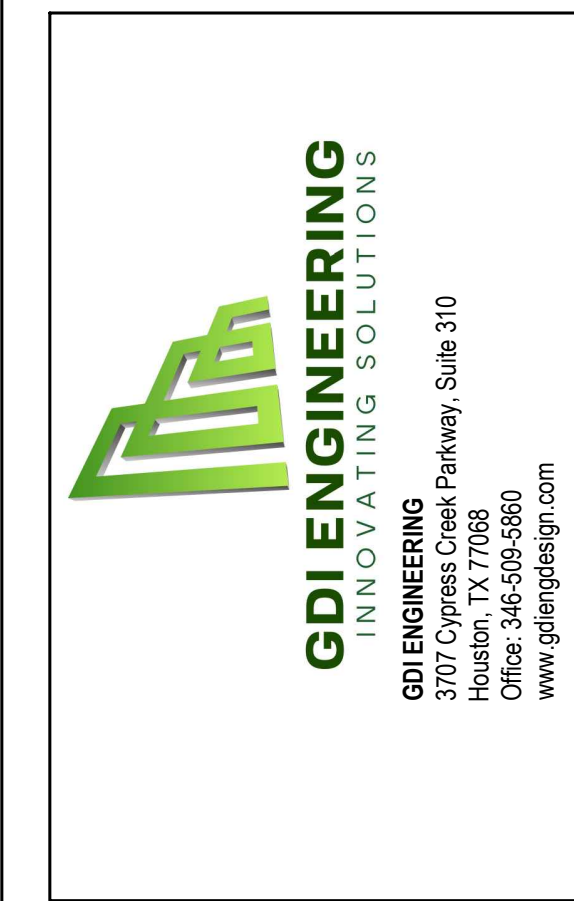
**GDI ENGINEERING**  
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**TYPICAL RISER FOR 1138A AND 1138B**  
**EACH UNIT HAS A SEPARATE CONNECTION**  
**RISER TYPICAL FOR THE UNITS 1138A & 1138B**

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REVISIONS:		
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**SHEET NOTES:**  
 ◆ PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING (OR WALL) FOR EXHAUST FANS THAT TURNS ON WHEN THE TIMER SWITCH OF THIS FAN IS TURNED ON

**ELECTRICAL LEGEND**

○	JUNCTION BOX FOR EXHAUST FANS
T	TIMER
OS	OCCUPANCY SENSOR
S	ONE WAY LIGHTING SWITCH
S <sub>2</sub>	TWO WAYS LIGHTING SWITCH
⊙	SELF CONTAINED SMOKE/CARBON MONOXIDE (120 W/BATTERY BACKUP) - CEILING MOUNTED
⊙	SMOKE DETECTOR (120 W/BATTERY BACKUP) - CEILING MOUNTED

**NOTE-GEN-CENLEFT**

TAG	SYMBOL	DESCRIPTION	TYPE	W	V	MOUNT.	MANUF.	MODEL	QUANTITY
L1	○	10-IN LED DOWNLIGHT - DIMMABLE 3000K - DRY RATED (WHITE)	LED	15W	120V	REC.	TBD	TBD	20
L2	⊗	HARBOR BREEZE 42" CEILING FAN/LIGHT	LED	50W	120V	SUSP.	HARBOR BREEZE	TBD	6
L3	○	5.4-IN LED DOWNLIGHT - DIMMABLE 3000K - DRY RATED	LED	15W	120V	REC.	MAXXIMA	TBD	12
L4	⊙	"LED" 3-LIGHT VANITY	LED	15W	120V	WALL	TBD	TBD	4
L5	⊙	WALL SCONCE	LED	15W	120V	WALL	TBD	TBD	4
L6	⊕	PENDANT LIGHT	LED	15W	120V	WALL	TBD	TBD	0
L7	⊗	ROTHLEY 52" LED CEILING FAN W/ LIGHT	LED	50W	120V	SUSP.	ROTHLEY	TBD	2
L8	○	11" ROUND FLUSH MOUNT	LED	20W	120V	REC.	HAMPTON BAY	TBD	8
L9	⊖	LED KEYLESS LAMPHOLDER KIT	LED	10W	120V	REC.	LAVITON	TBD	2

2 October 2023  
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 Project: High Rise Condominium Working Floor Electrical  
 File: unit1\_electrical.dwg



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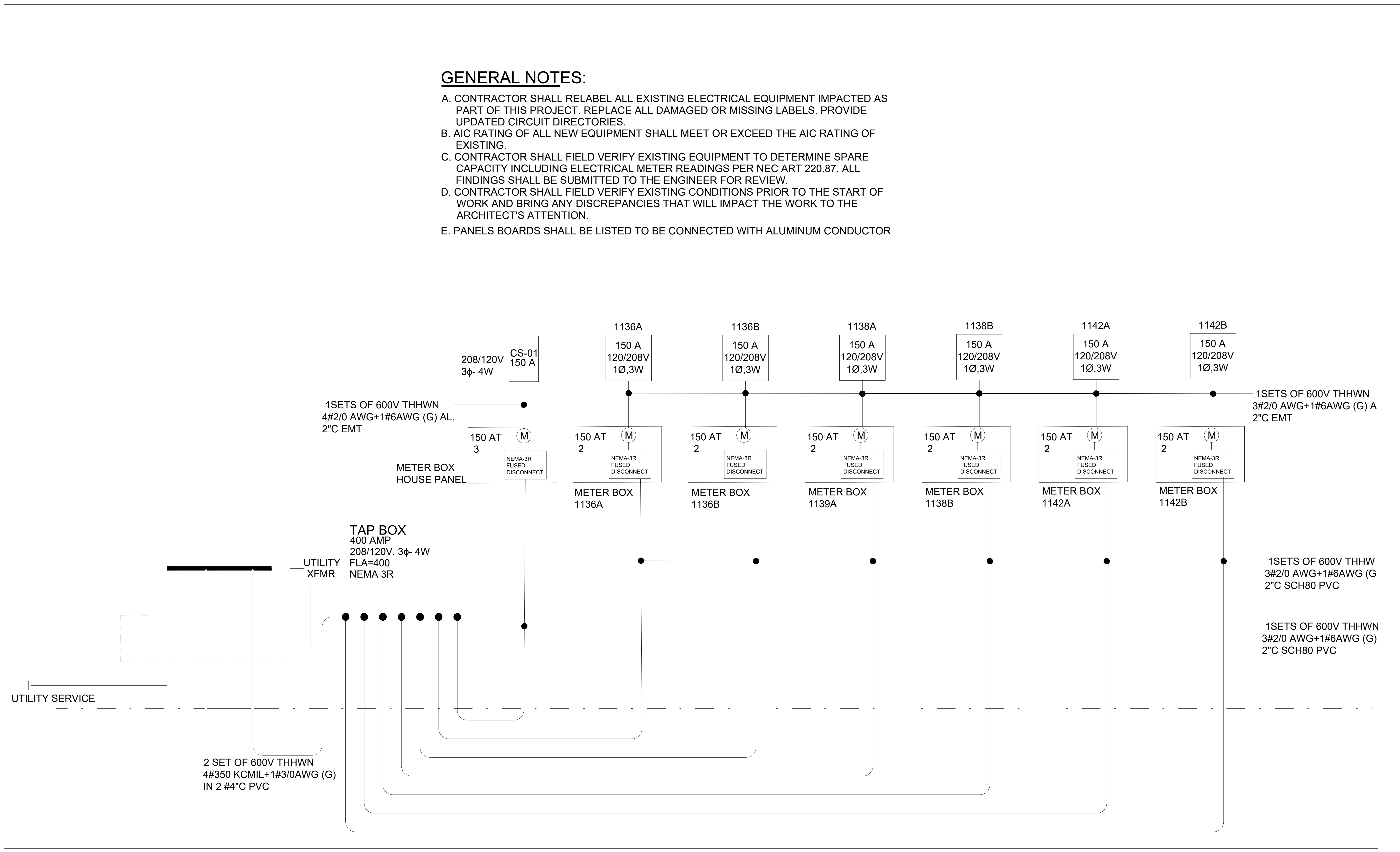
NO	REFERENCE	ISSUED



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**GENERAL NOTES:**

- A. CONTRACTOR SHALL RELABEL ALL EXISTING ELECTRICAL EQUIPMENT IMPACTED AS PART OF THIS PROJECT. REPLACE ALL DAMAGED OR MISSING LABELS. PROVIDE UPDATED CIRCUIT DIRECTORIES.
- B. AIC RATING OF ALL NEW EQUIPMENT SHALL MEET OR EXCEED THE AIC RATING OF EXISTING.
- C. CONTRACTOR SHALL FIELD VERIFY EXISTING EQUIPMENT TO DETERMINE SPARE CAPACITY INCLUDING ELECTRICAL METER READINGS PER NEC ART 220.87. ALL FINDINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.
- D. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO THE START OF WORK AND BRING ANY DISCREPANCIES THAT WILL IMPACT THE WORK TO THE ARCHITECT'S ATTENTION.
- E. PANELS BOARDS SHALL BE LISTED TO BE CONNECTED WITH ALUMINUM CONDUCTOR



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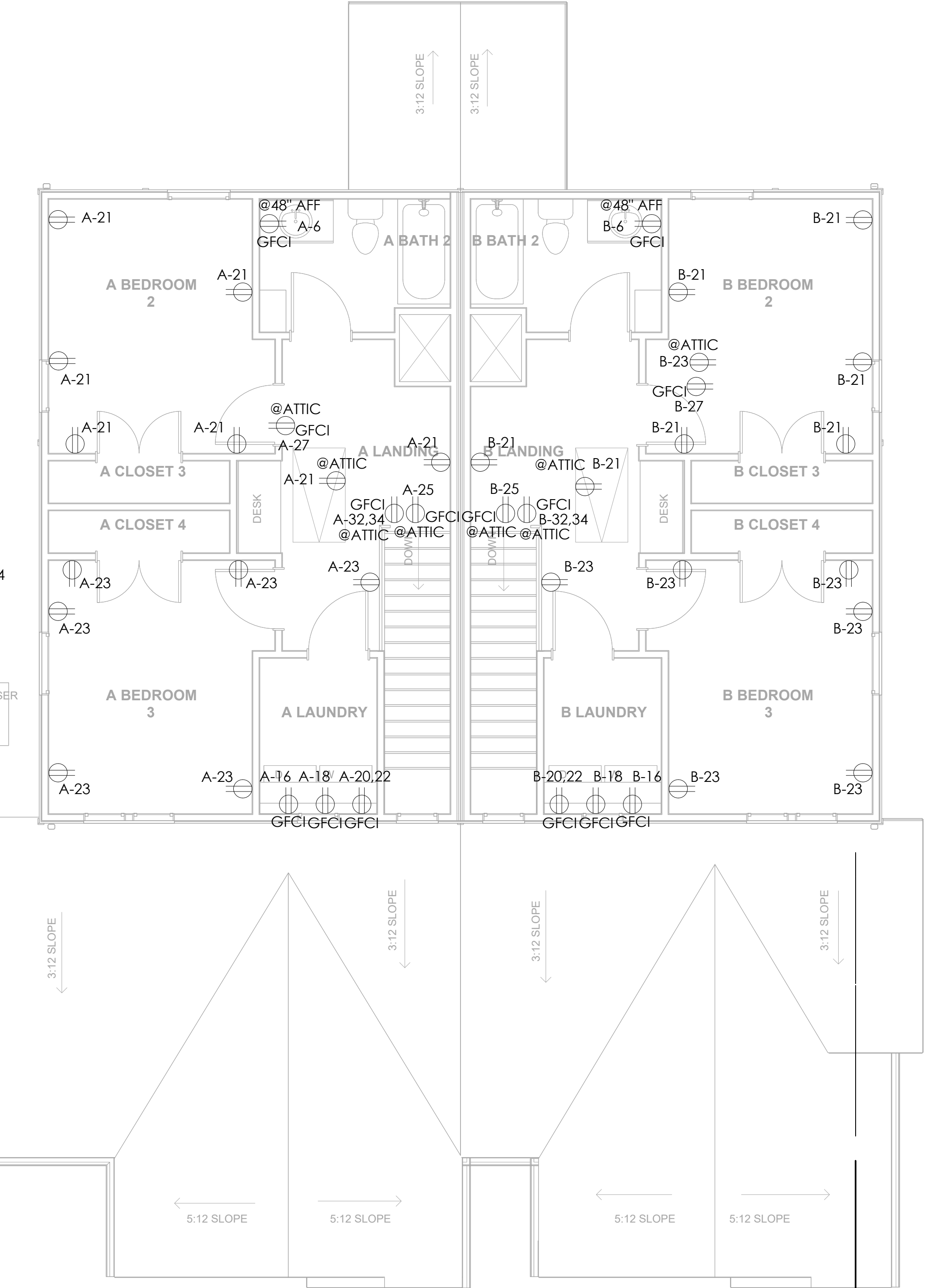
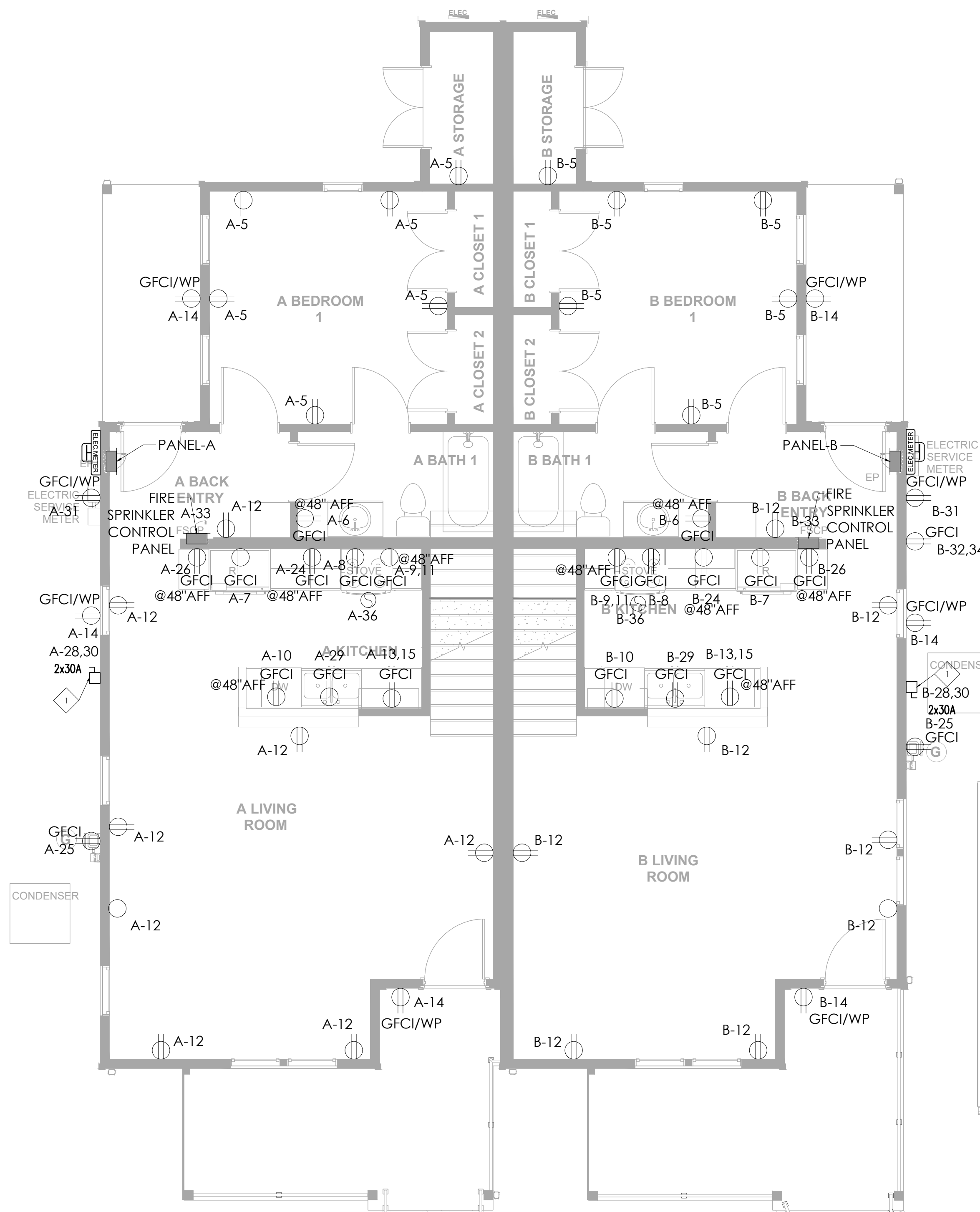


ISSUE DATE: 31 JAN 2024  
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**ELECTRICAL LEGEND**

	DUPLEX RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED GFCI DENOTES: GROUND FAULT PROTECTION
	DUPLEX RECEPTACLE - FLOOR MOUNTED IG DENOTES: IG TYPE
	QUADRIPLEX RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED GFCI DENOTES: GROUND FAULT PROTECTION
	NON-FUSED DISCONNECT SWITCH - SIZE AS INDICATED
	WALL MOUNTED ELECTRIC JUNCTION BOX

- GENERAL NOTES:**
1. AFCI" (ARC-FAULT CIRCUIT INTERRUPTER) TO BE PROVIDED AT ALL OUTLETS (RECEPTACLES, LIGHTS, ETC.) IN KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS. (NEC SECTION 210.12)
  2. ALL DWELLING UNIT RECEPTACLE OUTLETS SHALL BE LISTED "TAMPER-RESISTANT" RECEPTACLES.

2 October 2023  
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