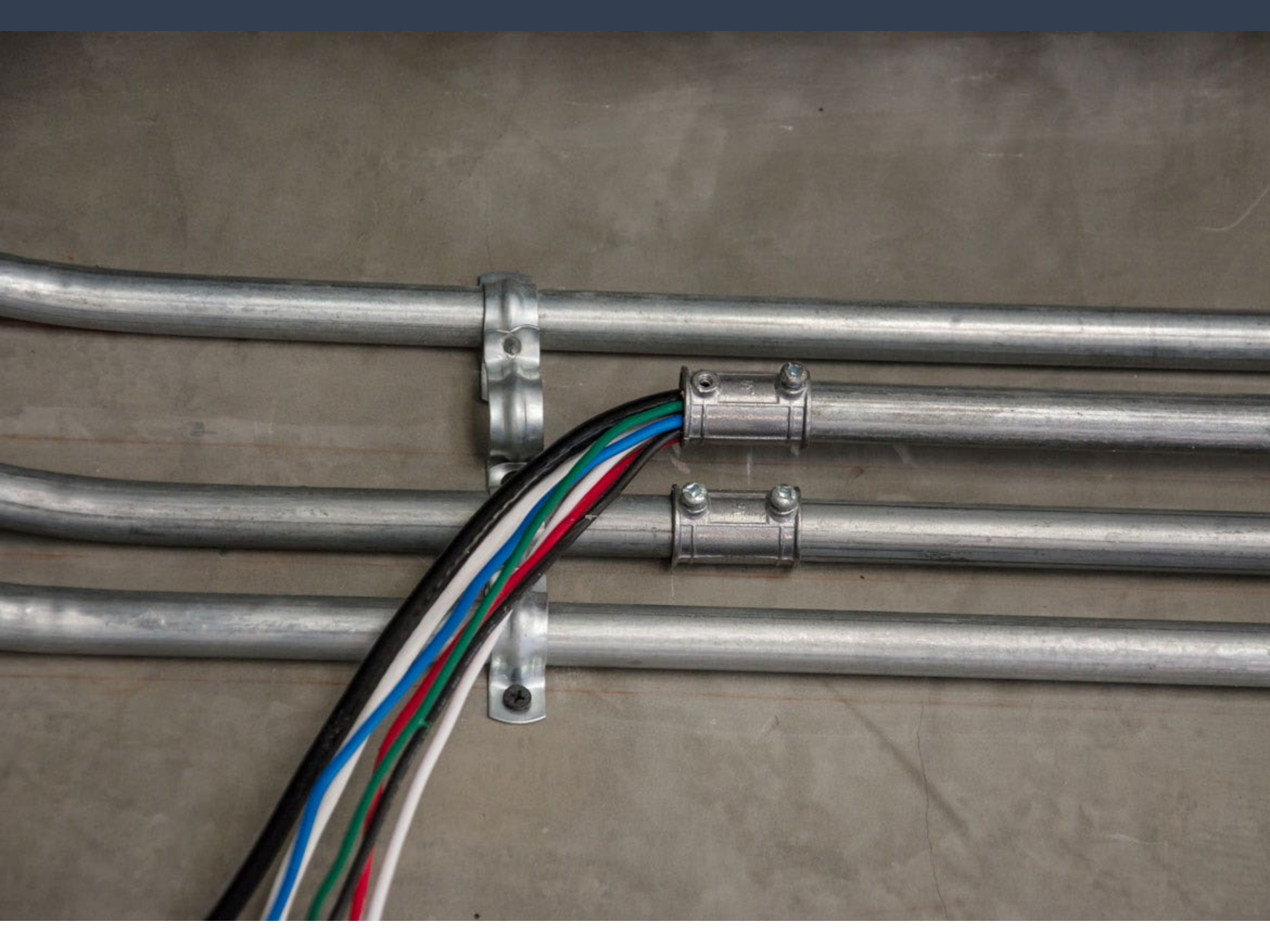


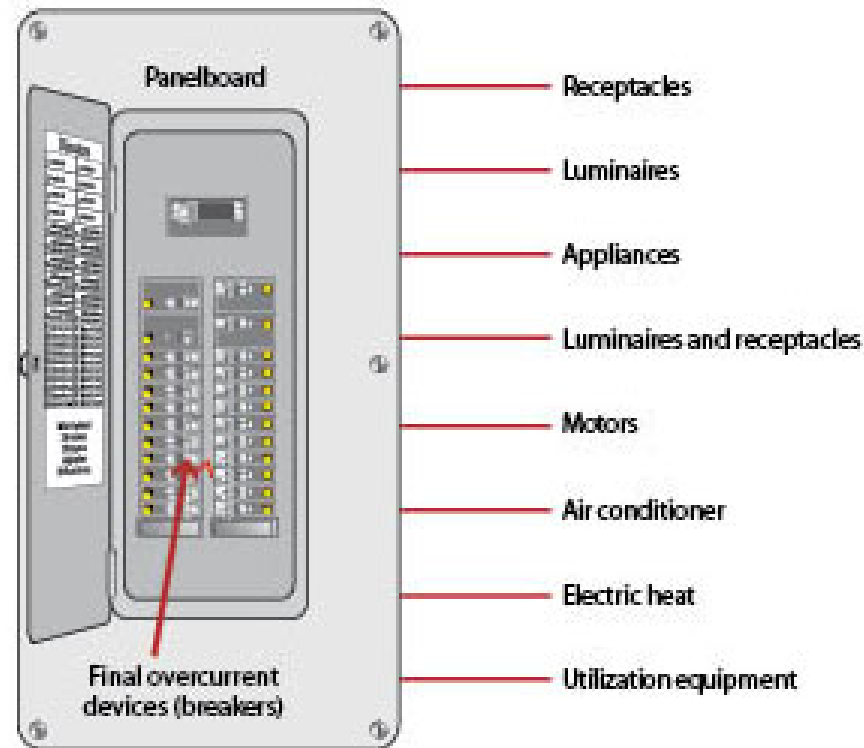
# Commercial Building Electrical Systems - Power





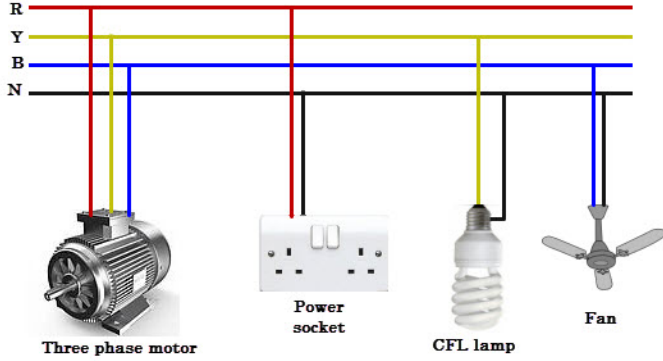
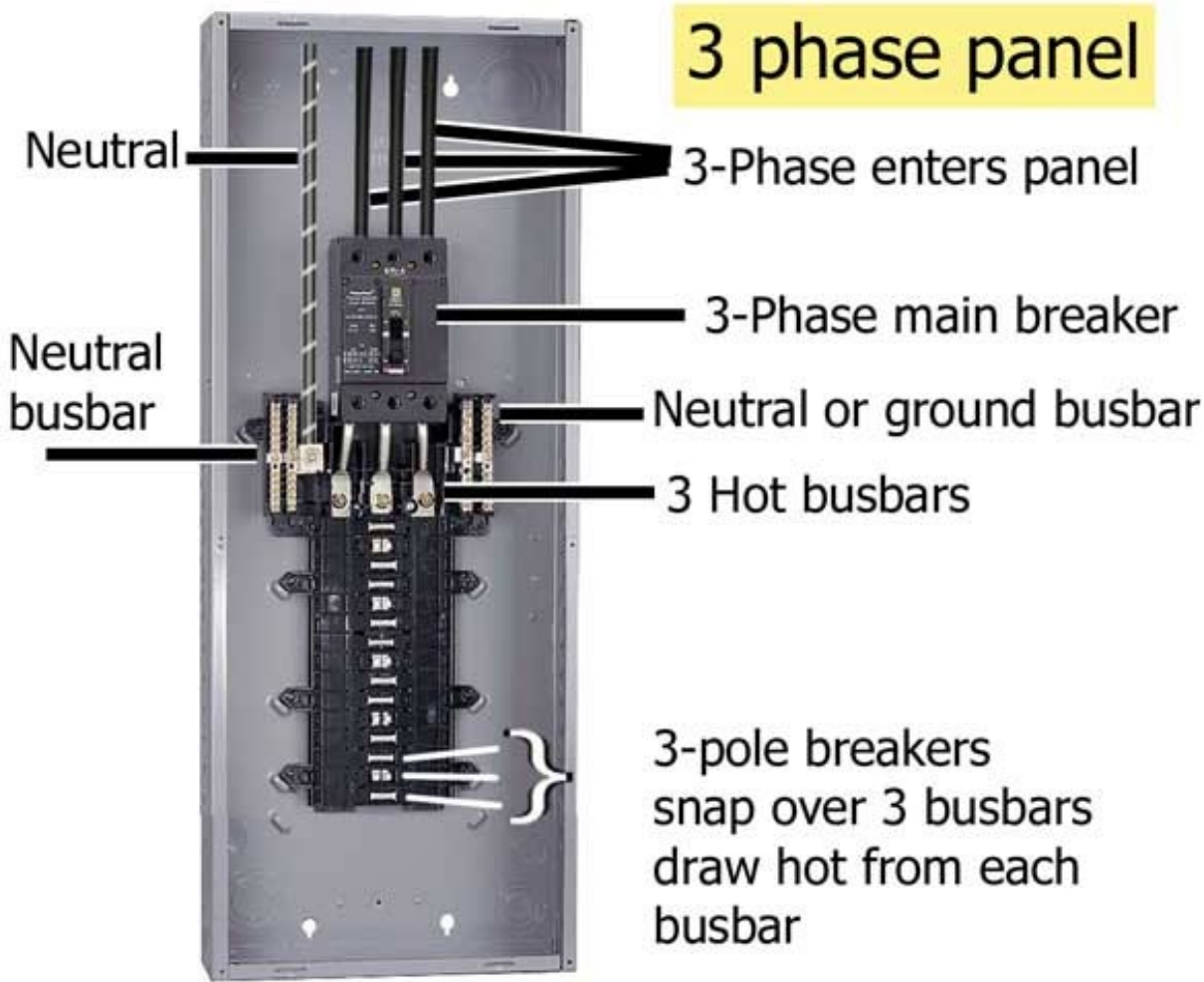
# Commercial Building Electrical Systems - Power

FIGURE 1 BRANCH CIRCUIT



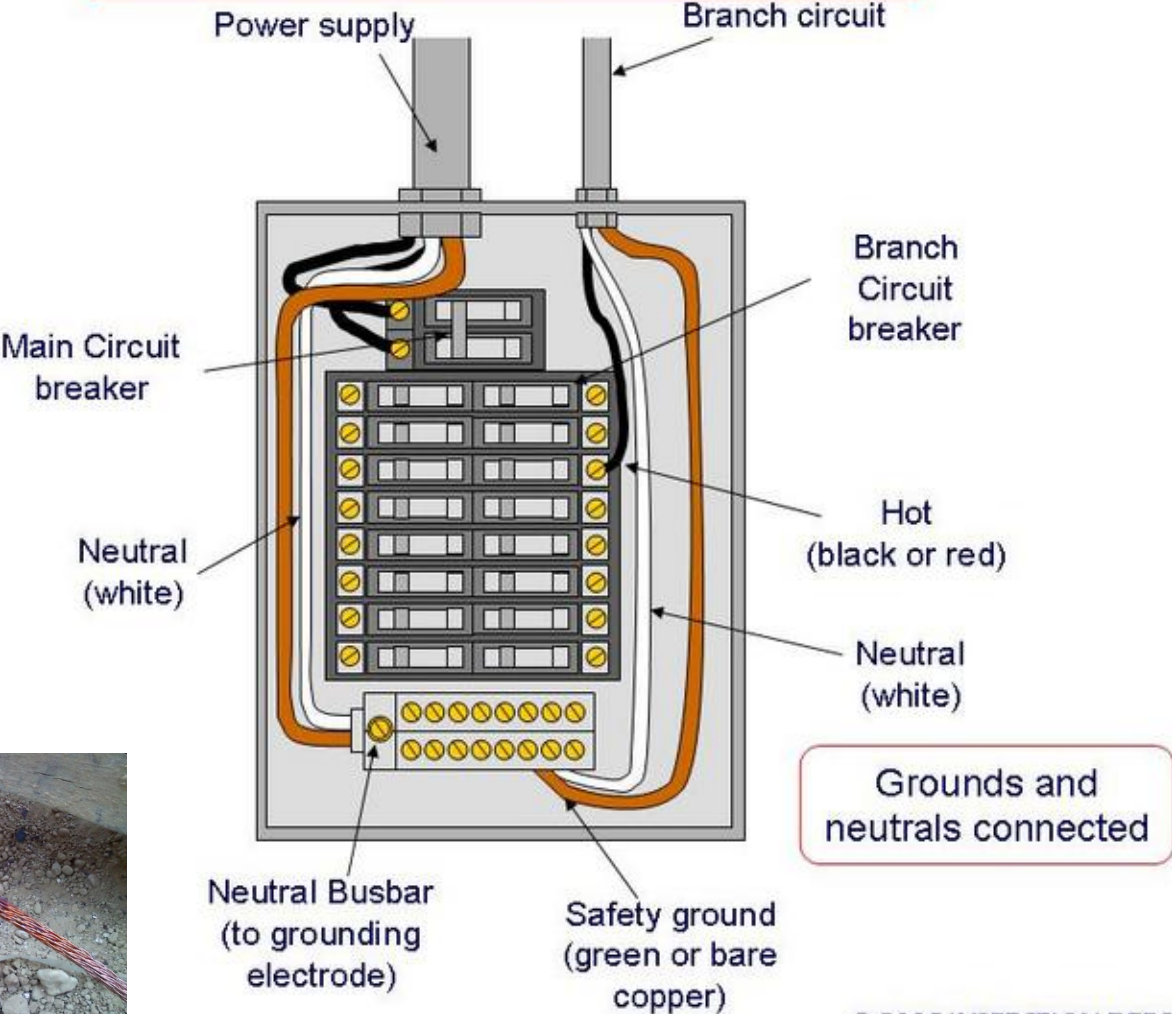
A branch circuit, as defined in Article 100, is the circuit conductor between the final overcurrent device protecting the circuit and the outlet(s). Branch circuits are divided into four categories: appliance, general purpose, individual and multiwire.

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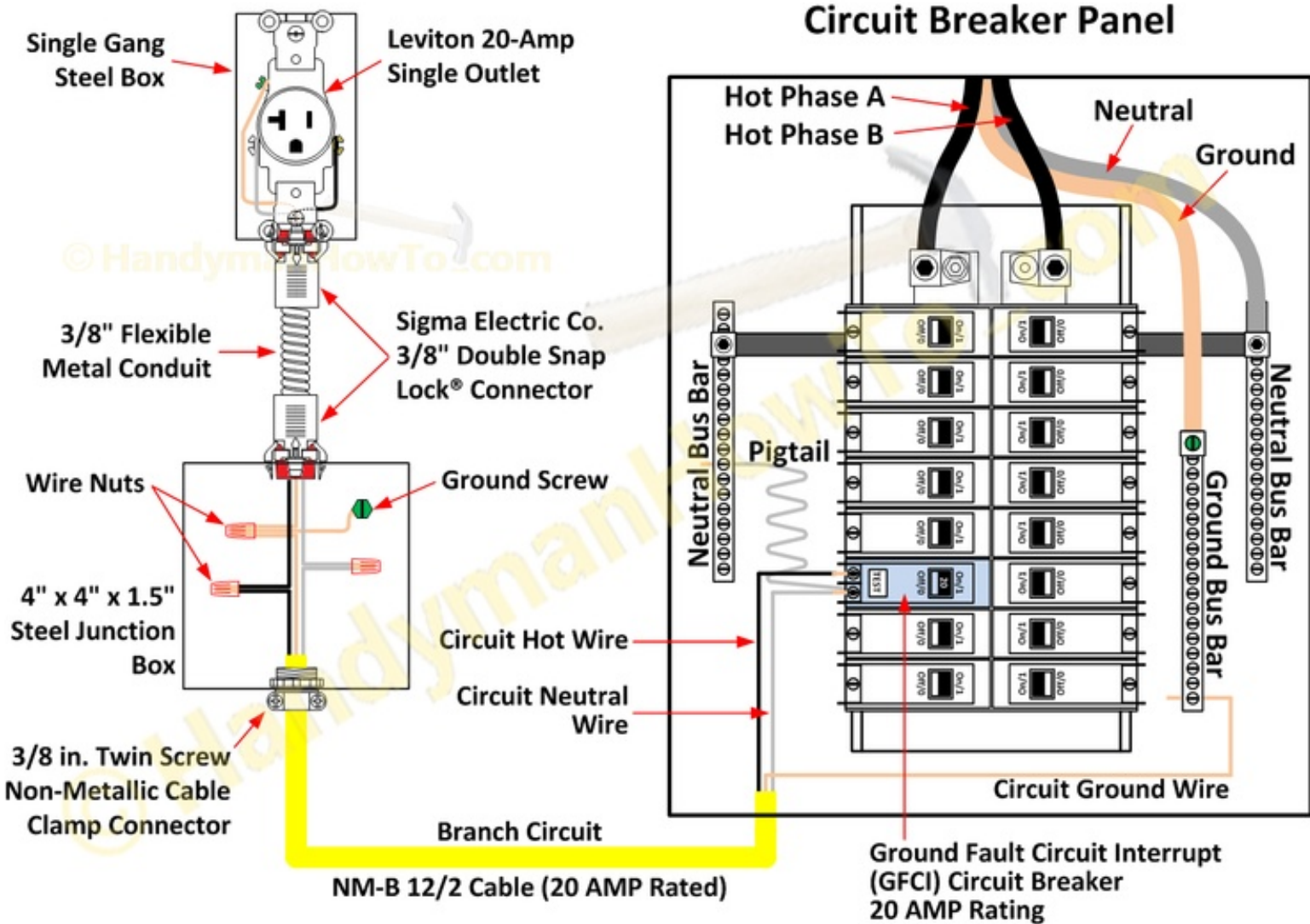


# Commercial Building Electrical Systems - Power

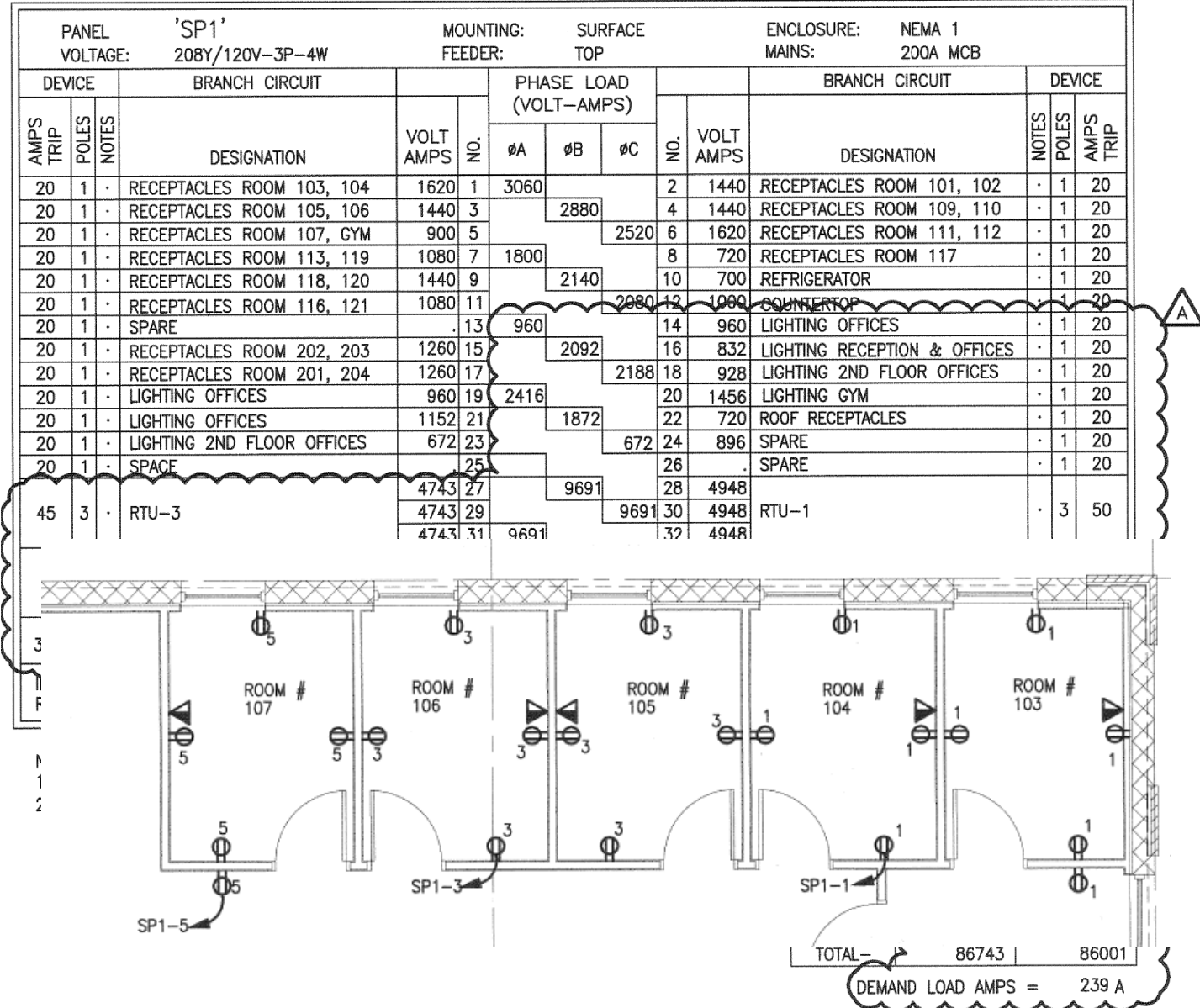
## Main Panel Hot Wire & Breaker Connection



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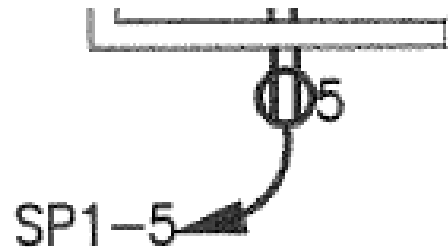
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## Electrical Homerun

- ❑ An electrical homerun is a wiring run that connects directly to a building's electrical panel (source).
- ❑ It is usually shown on a plan using an arrow with the panel name and circuit number(s) it connects to.





# Commercial Building Electrical Systems - Power

## Raceway Fill

Table C.1 Continued

		CONDUCTORS									
Type	Conductor Size (AWG kcmil)	Metric Designator (Trade Size)									
		16 (½)	21 (¾)	27 (1)	35 (1¼)	41 (1½)	53 (2)	63 (2½)	78 (3)	91 (3½)	103 (4)
RHH*, RHW*, RHW-2*, TW, THW, THHW, THW-2	6	1	3	4	8	11	18	32	48	63	81
	4	1	1	3	6	8	13	24	36	47	60
	3	1	1	3	5	7	12	20	31	40	52
	2	1	1	2	4	6	10	17	26	34	44
	1	1	1	1	3	4	7	12	18	24	31
	1/0	0	1	1	2	3	6	10	16	20	26
	2/0	0	1	1	1	3	5	9	13	17	22
	3/0	0	1	1	1	2	4	7	11	15	19
	4/0	0	0	1	1	1	3	6	9	12	16
	250	0	0	1	1	1	3	5	7	10	13
	300	0	0	1	1	1	2	4	6	8	11
	350	0	0	0	1	1	1	4	6	7	10
	400	0	0	0	1	1	1	3	5	7	9
	500	0	0	0	1	1	1	3	4	6	7
	600	0	0	0	1	1	1	2	3	4	6
	700	0	0	0	0	1	1	1	3	4	5
	750	0	0	0	0	1	1	1	3	4	5
	800	0	0	0	0	1	1	1	3	3	5
	900	0	0	0	0	0	1	1	2	3	4
	1000	0	0	0	0	0	1	1	2	3	4
1250	0	0	0	0	0	1	1	1	2	3	
1500	0	0	0	0	0	1	1	1	1	2	
1750	0	0	0	0	0	0	1	1	1	2	
2000	0	0	0	0	0	0	1	1	1	1	
THHN, THWN,	14	12	22	35	61	84	138	241	364	476	608
THWN-2	12	9	16	26	45	61	101	176	266	347	443
	10	5	10	16	28	38	63	111	167	219	279
	8	3	6	9	16	22	36	64	96	126	161
	6	2	4	7	12	16	26	46	69	91	116
	4	1	2	4	7	10	16	28	43	56	71
	3	1	1	3	6	8	13	24	36	47	60
	2	1	1	3	5	7	11	20	30	40	51
	1	1	1	1	4	5	8	15	22	29	37
	1/0	1	1	1	3	4	7	12	19	25	32
	2/0	0	1	1	2	3	6	10	16	20	26
	3/0	0	1	1	1	3	5	8	13	17	22
	4/0	0	1	1	1	2	4	7	11	14	18
	250	0	0	1	1	1	3	6	9	11	15
	300	0	0	1	1	1	3	5	7	10	13
	350	0	0	1	1	1	2	4	6	9	11
	400	0	0	0	1	1	1	4	6	8	10
	500	0	0	0	1	1	1	3	5	6	8
	600	0	0	0	1	1	1	2	4	5	7
	700	0	0	0	1	1	1	2	3	4	6
	750	0	0	0	0	1	1	1	3	4	5
	800	0	0	0	0	1	1	1	3	4	5
900	0	0	0	0	1	1	1	3	3	4	
1000	0	0	0	0	1	1	1	2	3	4	

# Round House Combinations

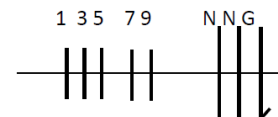
House	Hot	Hot	Hot	N	GND	Hot	Hot	Hot	N	GND
	1	3	5			2	4	6		
	7	9	11			8	10	12		
	13	15	17			14	16	18		
	19	21	23			20	22	24		
	25	27	29			26	28	30		
	31	33	35			32	34	36		
	37	39	41			38	40	42		
	43	45	47			44	46	48		
	49	51	53			50	52	54		
	55	57	59			56	58	60		
	61	63	65			62	64	66		
	67	69	71			68	70	72		
	73	75	77			74	76	78		
	79	81	83			80	82	84		
	85	87	89			86	88	90		
	91	93	95			92	94	96		
	97	99	101			98	100	102		
	103	105	107			104	106	108		
	109	111	113			110	112	114		
	115	117	119			116	118	120		
	121	123	125			122	124	126		

Examples:

Round House

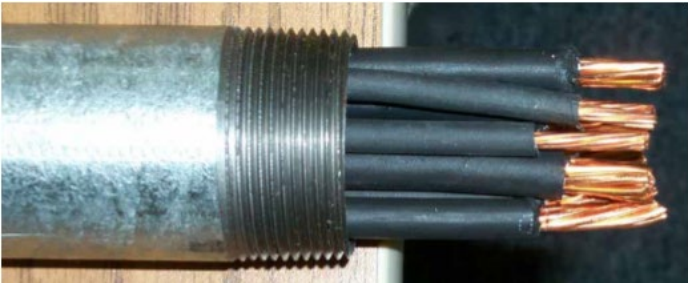
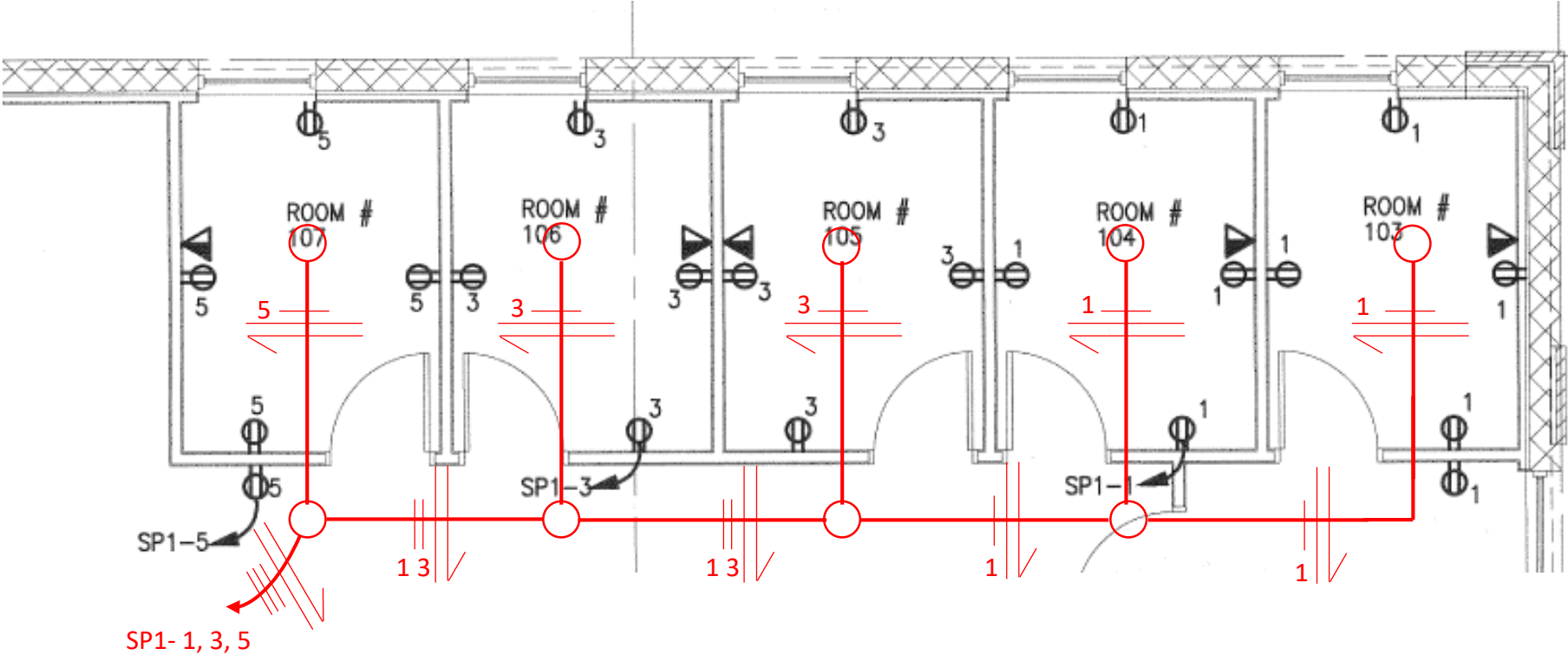


Round House + CKCT 7 & 9 - ADD N



# Commercial Building Electrical Systems - Power

## Branch Power



# Commercial Building Electrical Systems - Power

## Branch Lighting

