



RESIDENTIAL ELECTRICAL LOAD CALCULATIONS Option #1

Address: _____ Date: _____

APN: _____ Owner: _____

Prepared by: _____

OPTION #1 Standard Method 2023 NEC Art. 220-

General Lighting Load Sq Ft. _____ x 3 VA = _____ VA
Small Appliance Circuits @ 1500 VA ea. (min. 2) = _____ VA
Laundry Circuits @ 1500 VA ea (min 1) = _____ VA
Sub total = _____ VA

First 3,000 VA of Lighting, Small Appliance, Laundry load @ 100% NEC Tbl. 220.45 = **3000** VA
From 3,001 to 120,000 VA @ 35% _____ x .35 = _____ VA
Over 120,000 VA @ 25% _____ x .25 = _____ VA
Dryer (5000VA) Use 5K or nameplate of dryer, whichever is greater. NEC 220.54 = _____ VA
Elect water heater (4500VA) or nameplate rating, whichever is greater. NEC 220.53 = _____ VA
Electric Vehicle charging (7200VA) or nameplate whichever is greater. NEC 220.57 = _____ VA
Range/Oven (9600VA) Use 9.6K or nameplate, whichever is greater. NEC 220.55 = _____ VA
Sub Total (1) = _____ VA

Heating/AC- List Type and VA at 100% NEC 220.53

(H) heat pump	(G) AC + FAU fan (1500VA/ton + 900VA)	(S) heat strip	(A) Cir fans
() _____	() _____	() _____	() _____
() _____	() _____	() _____	() _____

Sub Total (2) = _____ VA

Fixed appliances- 1-3 appliances 100%, 4 or more 75% of nameplate rating. Use factors below or nameplate rating, whichever is greater. NEC 220.53

Microwave	1400VA ea _____	Hood	400VA ea _____
Dishwasher	1400VA ea _____	Disposal (1hp)	800VA ea _____
Refrigerator	1200VA ea _____	Freezer	800VA ea _____
Instant hot	1200VA ea _____	Trash Comp	1800 VA ea _____
Garage door opener ½ hp	800 VA ea _____	Central Vac	1800 VA ea _____
jacuzzi w/o heat	1500 VA ea _____	Jacuzzi w/heat nameplate	_____
Pool equipment nameplate VA	_____	Hot tub nameplate VA	_____
Other	_____	Other	_____

Appliance sub total = _____ x (100%) or (75%) if 4 or more appliances **Sub total (3)** _____ VA

Miscellaneous motor loads- Add 25% of largest motor, including AC compressor.

Name motor _____ VA of largest motor _____ x .25= **Sub total (4)** _____ VA

Add sub totals 1, 2, 3, 4 for Grand total VA _____

Grand sub total divide by 240 Volts = _____ **AMPS**

MINIMUM SERVICE PANEL SIZE REQUIRED = _____

SIZE OF EXISTING SERVICE PANEL= _____



RESIDENTIAL ELECTRICAL LOAD CALCULATIONS Option #2

Address: _____ Date: _____

APN: _____ Owner: _____

Prepared by: _____

OPTION #2 Optional method 2023 NEC Art. 220.83- Existing Dwellings

General Lighting Load Sq Ft. _____	x 3 VA	=	_____ VA
Small Appliance Circuits @ 1500 VA ea. (min. 2)		=	_____ VA
Laundry Circuits @ 1500 VA ea (min 1)		=	_____ VA
Dryer (5000VA) Use 5K or nameplate of dryer, whichever is greater. NEC 220.54		=	_____ VA
Elect water heater (4500VA) or nameplate rating, whichever is greater. NEC 220.53		=	_____ VA
Range/Oven (9600VA) Use 9.6K or nameplate, whichever is greater. NEC 220.55		=	_____ VA
Electric Vehicle charging (7200VA) or nameplate whichever is greater. NEC 220.57		=	_____ VA
Microwave 1400VA ea		=	_____ VA
Hood 400VA ea	-----	=	_____ VA
Dishwasher 1400VA ea		=	_____ VA
Disposal (1hp) 800VA ea	-----	=	_____ VA
Refrigerator 1200VA ea		=	_____ VA
Freezer 800VA ea	-----	=	_____ VA
Instant hot 1200VA ea		=	_____ VA
Trash Comp 1800 VA ea	-----	=	_____ VA
Garage door opener ½ hp 800 VA ea		=	_____ VA
Central Vac 1800 VA ea	-----	=	_____ VA
jacuzzi w/o heat 1500 VA ea		=	_____ VA
Jacuzzi w/heat nameplate	-----	=	_____ VA
Pool equipment nameplate VA		=	_____ VA
Hot tub nameplate VA	-----	=	_____ VA
Other _____			_____ VA
Other _____			_____ VA

General load total = _____ **=** _____ **VA**

General load total = _____
100% 1st 10,000 VA - _____ 8,000VA
Remainder @ 40% = _____

Remainder + 10,000VA = **General Lighting and appliance loads** _____ **VA Sub total (1)**

Heating/AC- List Type and VA at 100% NEC 220.83 reductions are allowed for elect. space heating (not heat pump).

(H) heat pump	(G) AC + FAU fan (1500VA/ton + 900VA)	(S) heat strip	(A) Cir fans
() _____	() _____	() _____	() _____
() _____	() _____	() _____	() _____

Select the Largest of heating and AC loads only. _____ **VA**

Add sub total (1) + largest Heating/ AC load = _____ **VA divide by 240 volts =** _____ **Amps**

MINIMUM SERVICE PANEL SIZE REQUIRED = _____

SIZE OF EXISTING SERVICE PANEL= _____