

# Service 2026

# Instructions

# User's Manual



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Durand & Associates

# SERVICE 2026

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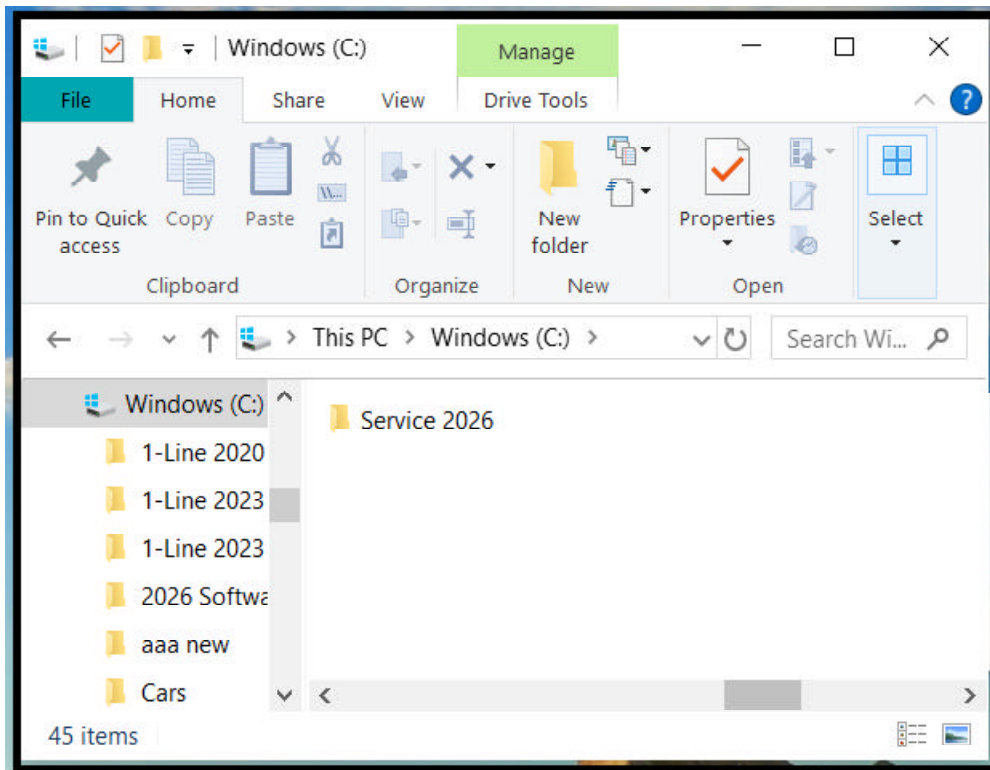
The **Service 2026** software is a spreadsheet template software program for calculating main service panel size, feeder sizes and single family 1-Line drawings. The **Service 2026** software is for reference purposes only, and Durand & Associates cannot assume any responsibility for the accuracy of the program contents. In using this program the user agrees to hold harmless and wave all claims against Durand & Associates.

## SOFTWARE REQUIREMENTS

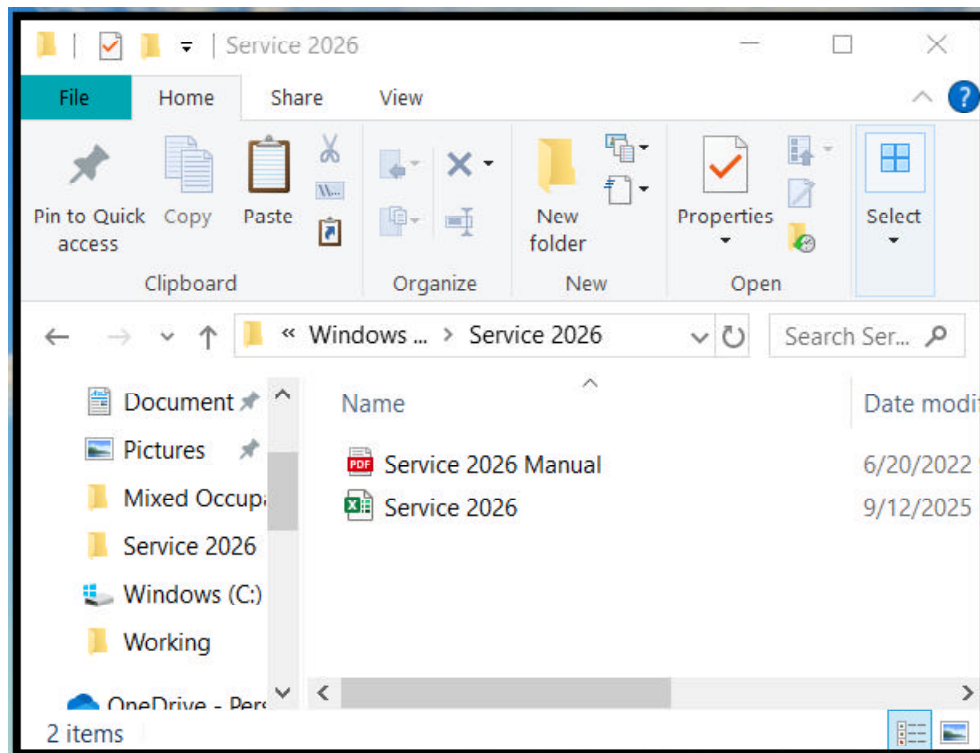
Service 2026 was created with Microsoft Excel 2007. To use these templates you must have Microsoft Excel, Version 2007 or later, installed on your computer.

## SERVICE 2026 TEMPLATE

To use the template start your Excel program and select File Open (Ctrl + O ). Then navigate to the “Service 2026” folder.



Double click on the “Service 2026” folder which will display the folder’s contents.



Then double click on the Service 2026 icon to open the template.

Service 2025 - Excel

File Menus Home Insert Draw Page Layout Formulas Data Review View Help

Clipboard Font Alignment Number Styles

Service 2025 (Version 26.0A) Single Family Optional Calculation Method Copyright 2025 Durand & Associates

GENERAL INFORMATION		VOLTAGE DROP CALCS	
PROJECT NAME	SAMPLE	HIGH VOLTAGE	YES
ADDRESS	123 MAIN	LOW VOLTAGE	240
CITY/STATE/ZIP	FOLSOM, CA 95630	FAULT CURRENT CALCS	120
CODE YEAR	2026	AVAILABLE FAULT CURRENT	YES
DISPLAY 1 LINE YES / NO	YES	PANEL NAME	25,134
OVERHEAD / UNDERGROUND	OVERHEAD	PANEL NAME	PANEL A
METER MAIN PANEL	METER	PHASE	1
MAIN PANEL	MAIN	TOTAL SQUARE FOOTAGE	1,600
RISER CONDUIT SIZE	3"	APPLIANCE CIRCUITS	2
CONDUIT TYPE	EMT	LAUNDRY CIRCUITS	1

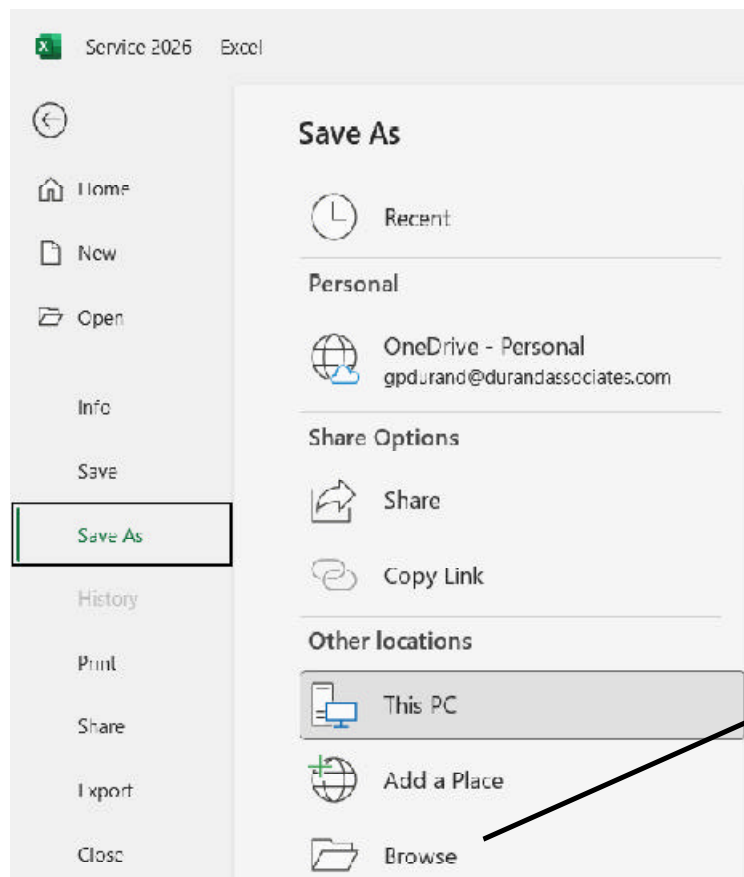
FEEDER	
FEEDER TYPE	CONDUIT
LENGTH	25
WIRE CUAL	AL

FEEDER	
1 1 1/2" EMT	
2 #10 THHN AL	
1 #10 THHN AL (N)	
1 #2 AL GND	

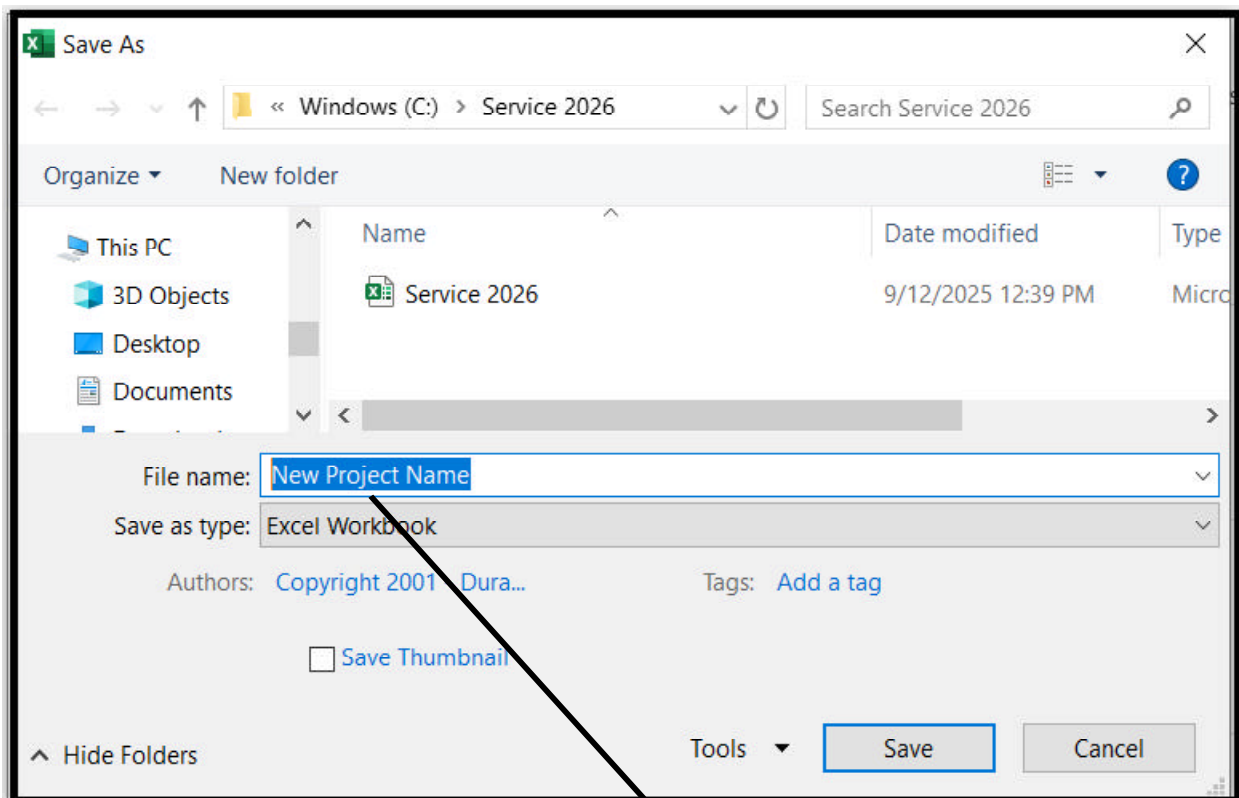
ARC AT THIS PANEL	
13,651 CLO	

MINIMUM AMPS	
% FACTOR	100
GROUND WIRE YES / NO	95
SELECT WIRE TYPE	YES
CONDUIT TYPE	THHN
VOLTAGE DROP % FACTOR	EMT
GOUNDING ELECTRODE WIRE	1%
NEUTRAL SIZING	CU
	FULL

Once the template is open, use the "File Save As" command to save the file as a new project.



Then click on Browse  
And enter a new file name.



## TABS



Located at the bottom of the screen are 4 tabs. One marked Input one marked Calcs one mark Dir Input and the other marked Dir Print.

The Input tab is used to enter your project's information.

The Calcs tab is used to view and print your load calculations.

The Dir Input is used to enter your circuit directory.

The Dir Print is used to print your circuit directory.

## GENERAL ENTRIES

GENERAL INFORMATION	
PROJECT NAME	SAMPLE
ADDRESS	123 MAIN
CITY/STATE/ZIP	FOLSOM, CA 95630
CODE YEAR	2026
DISPLAY 1-LINE YES / NO	YES
OVERHEAD / UNDERGROUND	OVERHEAD
METER-MAIN.PANEL	METER
MAIN-PANEL	MAIN
RISER CONDUIT SIZE	3"
CONDUIT TYPE	EMT

### CODE YEAR

Select 2017, 2020, 2023 or 2026

### DISPLAY 1-LINE

This will turn on or off the 1-Line drawing on the load calcs.

### OVERHEAD / UNDERGROUND

Selecting overhead will display an overhead service on the 1-Line, and selecting underground will display an under ground conduit on the 1-Line.

### METER MAIN PANEL

METER - Will display a single meter.

METER MAIN - Will display a meter main combination.

METER MAIN PANEL - Will display a meter main & panel combination.

### MAIN PANEL

MAIN - Will display a separate main breaker.

MAIN PANEL - Will display a panel with a main breaker.

### CONDUIT SIZE

Select none or the desired conduit size for your riser or underground conduit.

### CONDUIT TYPE

Select the type of conduit.

## GENERAL ENTRIES (continued)

FEEDER	
FEEDER TYPE	CONDUIT
LENGTH	25'
WIRE CU/AL	AL
MINIMUM AMPS	100
% FACTOR	0%
GROUND WIRE YES / NO	YES
SELECT WIRE TYPE	THHN
CONDUIT TYPE	EMT
VOLTAGE DROP % FACTOR	0%
GROUNDING ELECTRODE WIRE	CU
NEUTRAL SIZING	FULL

FEEDER TYPE	Enter Conduit, SER or MC
LENGTH	Enter the one way length of the feeder.
WIRE CU/AL	Enter CU or AL.
MINIMUM AMPS	Enter number between 100 & 400.
% FACTOR	Enter % for future use. Example if the load is 150 amps and you enter 10% the design load will be 165 amps.
SELECT WIRE TYPE	Select wire type.
GROUND WIRE YES/NO	Enter YES or NO.
CONDUIT TYPE	Select conduit type.
VOLTAGE DROP % FACTOR	Enter the % factor to increase the wire size. Example if you enter 10% the program will increase wire size 10% which will reduce the voltage drop.
GROUND ELECTRODE WIRE	Enter CU or AL
NEUTRAL SIZING	Enter FULL or AUTO. NOTE This option only appears when using conduit.

## GENERAL ENTRIES (continued)

DESCRIPTION	QTY	KVA EACH
RANGE(S) & OVEN(S)	1	12
CLOTHES DRYER(S)	1	5
WATER HEATER(S)	1	2.5

RANGE(S) & OVEN(S) Enter number of ranges, ovens, and KVA rating.

CLOTHES DRYER(S) Enter number of dryers and KVA rating.

WATER HEATER(S) Enter number of water heaters and KVA rating.

**HEATING/COOLING**

1 ENTER 100% OF THE NAMEPLATE RATING(S) OF THE AIR CONDITIONING AND COOLING EQUIPMENT. ENTER KVA  
6

2 ENTER 100% OF THE NAMEPLATE RATING(S) OF THE HEAT PUMP WHEN THE HEAT PUMP IS USED WITHOUT ANY SUPPLEMENTAL ELECTRIC HEATING. ENTER KVA  
0

3 ENTER 100% OF THE NAMEPLATE RATING(S) IN KVA OF THE HEAT PUMP COMPRESSOR. ENTER KVA  
0

ENTER 100% OF THE SUPPLEMENTARY ELECTRIC HEAT USED WITH THE HEAT PUMP. NOTE: PROGRAM WILL AUTOMATICALLY ADJUST THIS AMOUNT TO 65%. ENTER KVA  
0

4 ENTER 100% OF THE NAMEPLATE RATING(S) OF ELECTRIC SPACE HEATING IF LESS THAN FOUR SEPARATELY CONTROLLED UNITS. ENTER KVA  
0

NOTE: PROGRAM WILL AUTOMATICALLY ADJUST THIS AMOUNT TO 65%.

5 ENTER 100% OF THE NAMEPLATE RATING(S) OF ELECTRIC SPACE HEATING IF FOUR OR MORE SEPARATELY CONTROLLED UNITS. ENTER KVA  
0

NOTE: PROGRAM WILL AUTOMATICALLY ADJUST THIS AMOUNT TO 100%.

6 ENTER 100% OF THE NAMEPLATE RATING(S) OF ELECTRIC THERMAL STORAGE AND OTHER HEATING SYSTEMS WHERE THE USUAL LOAD IS EXPECTED TO BE CONTINUOUS, AT THE FULL NAMEPLATE VALUE. SYSTEMS QUALIFYING UNDER THIS SELECTION SHALL NOT BE CALCULATED UNDER ANY OTHER SELECTION. ENTER KVA  
0

Enter heating & cooling loads listed above.



## GENERAL ENTRIES (continued)

EV Chargers (Only applies to Code years 2023 and 2026)

### ELECTRIC VEHICLE SUPPLY EQUIPMENT 120.57

EV CHARGER(S) YES / NO	QTY	WATTAGE
YES	1	7,200

Enter the description, number of units, and the amps for each item.

### MISC. 120 VOLT LOADS 220.82(B)(4)

	DESCRIPTION	QTY.	AMPS EACH
1	DISHWASHER	1	12
2	DISPOSAL	1	4.5
3	MICROWAVE	1	11
4			

### MISC. 208 or 240 VOLT LOADS 220.82(B)(4)

	DESCRIPTION	QTY.	AMPS EACH
1	POOL PUMP	1	7.5
2			
3			
4			
5			
6			
7			
8			
9			
10			

Enter the description, number of units, amps, and the phase for each item.

NOTE: Phase column only appears when using a 3-Phase panel.

## PRINTING

When your project is complete click on the Calcs tab.

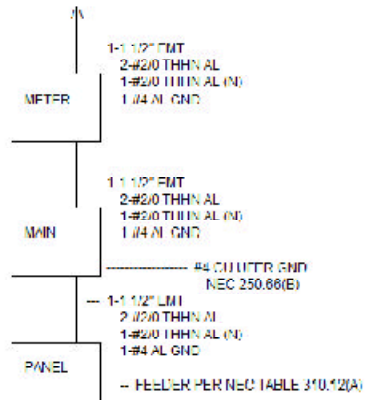


This will display the load calculations

### SINGLE FAMILY OPTIONAL SERVICE LOAD CALCULATIONS BASED ON THE 2020 NEC SECTION 120.82

<b>GENERAL LOADS NEC 120.82(B)</b>	
TOTAL VOLTAGE (1,000 VA @ 120 V) =	8,000 VA
APPLIANCE CIRCUITS (2 X 1,500 VA) =	3,000 VA
LAUNDRY CIRCUITS (1 X 1,500 VA) =	1,500 VA
RANGES NEC 120.82(B)(5)(F)	
RANGE (1 RANGE X 12,000 VA) =	12,000 VA
DRYERS NEC 120.82(B)(5)(G)	
DRYER (1 DRYER X 3,000 VA) =	3,000 VA
WATER HEATERS - NEC 120.82(B)(5)(D)	
WATER HEATER (1 X 2,500 VA) =	2,500 VA
MISC LOADS NEC 120.82(B)(4)	
DISHWASHER (1 X 12A X 120 V) =	1,440 VA
DISPOSAL (1 X 4.6A X 120 V) =	540 VA
MICROWAVE (1 X 11A X 120 V) =	1,320 VA
POOL PUMP (1 X 7.5A X 240 V) =	1,800 VA
<b>TOTAL GENERAL LOAD</b>	<b>32,100 VA</b>
FIRST 8 KVA @ 100%	8,000 VA
REMAINING VA AT 40% (24,100 VA X 0.40) =	9,640 VA
<b>SUB TOTAL GENERAL LOAD</b>	<b>17,640 VA</b>
<b>HEATING &amp; COOLING LOADS - NEC 120.82(C)</b>	
(1) A/C LOAD (0.000 VA X 100%) = 0.000 VA	
(2) HEAT PUMPS NO FURN (0 VA X 100%) = 0 VA	
(3) HEAT PUMPS (0 VA X 100%) = 0 VA	
(4) ELECTRIC SPACE (0 VA X 100%) = 0 VA	
LESS THAN FOUR SEPARATELY CONTROLLED UNITS	
(5) SPACE HEATING (0 VA X 40%) = 0 VA	
MORE THAN FOUR SEPARATELY CONTROLLED UNITS	
(6) SPACE HEATING (0 VA X 100%) = 0 VA	
CONTINUOUS AT THE FULL NAMEPLATE VA IF LARGEST HEATING OR COOLING LOAD	0.000 VA
EV CHARGERS - NEC 120.84(C)(3)(v)	
EV CHARGER (1 X 7,200 VA) =	7,200 VA
<b>TOTAL KVA</b>	<b>30.840 KVA</b>
TOTAL AMPS (30,840 VA ÷ 240 V) =	128 A
FUTURE AMPS (0%)	0 A
<b>DESIGN AMPS</b>	<b>128 A</b>

<b>PROJECT NAME</b>	<b>SAMPLE</b>
<b>DWELLING UNIT</b>	<b>PANEL A</b>
<b>NEUTRAL LOAD NEC 120.81</b>	
TOTAL VOLTAGE (1,000 VA @ 120 V) =	8,000 VA
APPLIANCE CIRCUITS (2 X 1,500 VA) =	3,000 VA
LAUNDRY CIRCUITS (1 X 1,500 VA) =	1,500 VA
TOTAL CONNECTED NEUTRAL LOAD	7,000 VA
FIRST 3,000 VA @ 100% (3,000 VA X 1.00) =	3,000 VA
3,000-120,000 VA @ 35% (4,500 VA X 0.35) =	1,575 VA
OVER 120,000 VA @ 25% (0 VA X 0.25) =	0 VA
<b>SUB TOTAL</b>	<b>4,575 VA</b>
<b>RANGE DEMAND</b>	
TABLE 120.55 COLUMN C	
70% OF TABLE 120.55 (8,000 VA X 0.70) =	5,600 VA
<b>DRYER DEMAND</b>	
TABLE 120.54	
70% OF TABLE 120.54 (3,000 VA X 0.70) =	2,100 VA
<b>UNBALANCED MISC LOADS</b>	<b>2,700 VA</b>
<b>NEUTRAL LOAD VA</b>	<b>18,475 VA</b>
<b>NEUTRAL LOAD (18,475 VA ÷ 240 V) =</b>	<b>77 A</b>
<b>UNITILIER DEMAND FACTOR - NEC 120.81(D)(2)</b>	
FIRST 200 A @ 100% (68 A X 1.00) =	68 A
REMAINING @ 70% (0 A X 0.70) =	0 A
<b>MINIMUM NEUTRAL CONDUCTOR CAPACITY</b>	<b>68 A</b>
<b>VOLTAGE DROP CALCULATIONS</b>	
(2 X 25' X 3.1500 R X 128.0 A ÷ 1,000) = 1.0 VD	
(1.0 VD ÷ 240 V X 100) = 0.4 % VD	
<b>FAULT CURRENT CALCULATIONS</b>	
((25,121 AFC X 1.10 UA) ÷ 0 MC) = 27,837 AFC	
(2 X 25' L X 2.784 / A @ 1) ÷ (1.767 / Ω X 1 IN X 240 V) = 0.001 CM	
(1) ÷ (1 ÷ 0.001 CM) = 0.001 CM	
(27,837 AFC X 0.001 CM) = 27.837 CM	



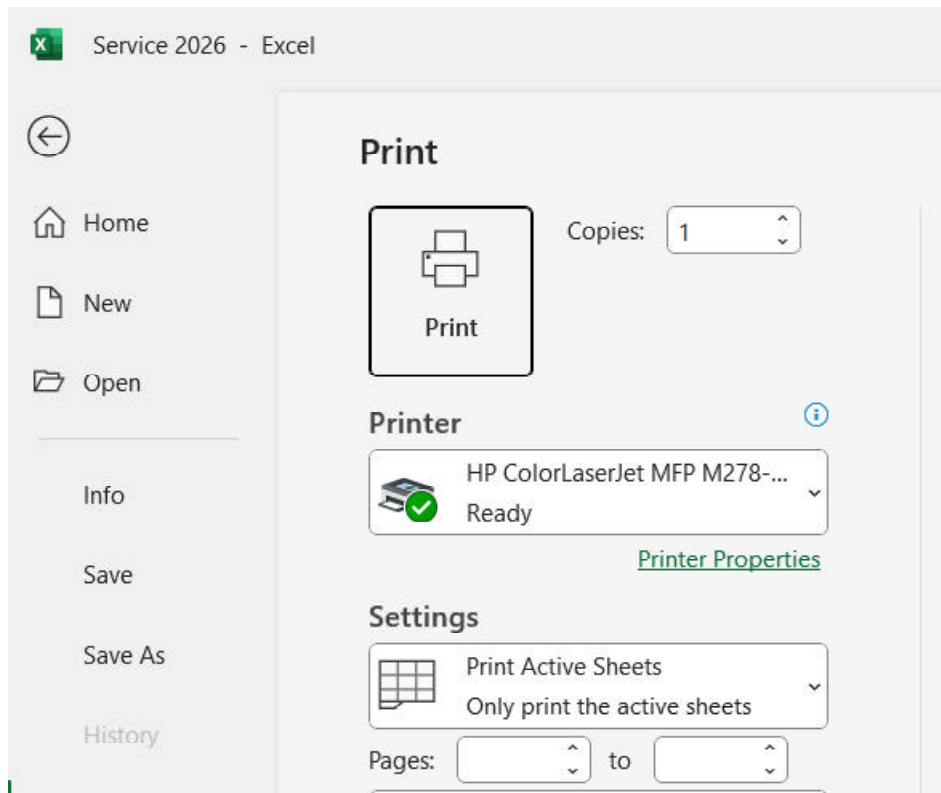
MAIN DISCONNECT MUST BE LOCATED OUTSIDE  
PER NEC 230.70

SURGE PROTECTION DEVICE REQUIRED  
PER NEC 230.97

<b>KEY</b>	(N) - Neutral A - Amps AFC - Available Fault Current AL - Aluminum C - Conductor Constant CF - Conductor Factor	CLC - Conductor Let Through Current CM - Conductor Multiplier CU - Copper GND - Ground L - Length MC - Motor Contribution	M - Number of Conductors R - Resistance UA - Utility Adjustment V - Volts VA - Volt Amps VD - Voltage Drop
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## PRINTING

Hold down the Ctrl + P to bring up the print command



If the calculations print on more than one page, go to the “File Page Setup Command” and reduce the percentage.