


**Electrical Load Calculation for One-Family Dwelling with or without Secondary Suite
in combination with Laneway House**

Parcel Address: _____

Please complete the appropriate table cells and check boxes accordingly. Review the load summary table, footnotes and figures attached to this form.

Revised January 10, 2023

CE Code Rule 8-200 2)		A	B	C	Supplementary requirements and noteworthy details
Rule 8-200 1) a)		One-Family Dwelling / Principal	Secondary Suite	Laneway House	
Rule 8-110, total living area of single dwelling		m ²	The total living area and basic load for a one-family dwelling to include secondary suite	m ²	BC Hydro may restrict 400A services in some areas. An accurate detailed load calculation with careful planning may help to limit your total service size to 200A
i) a basic load of 5000 W for the first 90 m ² or less of living area; plus					
ii) 1000 W for each 90 m ² or portion thereof; plus					
iii) any electric space-heating loads using the demand factors from Rule 62-118. Baseboard heat: 100% of the first 10kW, plus 75% for any amount over 10 kW. Electric thermal storage heating system, duct heater, or electric furnace: 100%; plus any air-conditioning loads with demand factor of 100%, subject to Rule 8-106 3); or any heat pump motor loads with demand factors as permitted in Section 28; plus		Baseboard Heaters: Other:	Baseboard Heaters: Other:	Baseboard Heaters: Other:	Other heating loads includes: - Heating cable sets - Heating panel sets - Heat pump auxiliary element - Patio heaters - Duct heaters - Electric furnace
iv) any electric range load: 6000 W for a single range plus 40% of any amount by which the rating of the range exceeds 12 kW; plus		See footnote (a)	See footnote (a)	See footnote (a)	Provide actual air conditioner or heat pump motor loads: Calculate NAMEPLATES FLA x Volts = Watts
v) any electric <i>tankless</i> water heaters or electric water heaters for steamers, swimming pools, hot tubs, or spas with a demand factor of 100%; plus			See load summary table		Specify if gas range is provided Specify if load is controlled. See load summary table
vi) except as permitted by Rule 8-106 11), any electric vehicle supply equipment loads with a demand factor of 100%; plus		See footnote (b)	See footnote (b)	See footnote (b)	EVSE loads may be controlled by a means as per CE Code. See load summary table.
vii) any loads provided for that have a rating in excess of 1500 W, 25% of the rating of each load, if an electric range has been provided for, or 100% of the combined load up to 6000 W, plus 25% of the combined load that exceeds 6000 W, if an electric range has not been provided for.		Dryer: HWT: Other: Total:	Dryer: HWT: Other: Total:	Dryer: HWT: Other: Total:	Load controllers to control two or more loads shall be permitted, provided that a deviation has been allowed in accordance with Rule 2-030. See load summary table, footnote (f).
Secondary suite load from column B ADDED to column A when un-metered		From B	 Add total un-metered load below to column A		See load summary table, footnote (c).
Total Calculated Loads Add un-metered secondary suite load to principal unit		W		W	W
Main Circuit Breaker – Amps (No greater than calculated) See footnote (c)		100 <input type="checkbox"/> 125 <input type="checkbox"/> 150 <input type="checkbox"/> 200 <input type="checkbox"/> Other <input type="checkbox"/> _____	60 <input type="checkbox"/> 100 <input type="checkbox"/> See load summary table and footnote (c) Other _____ <input type="checkbox"/>	100 <input type="checkbox"/> 125 <input type="checkbox"/> 150 <input type="checkbox"/> 200 <input type="checkbox"/> Other <input type="checkbox"/> _____	Precise rating or next higher standard rating of O/C must be used, if not, size the service for the anticipated ampere rating of devices. See footnote (c)
Type & size of service and/or feeder AWG / kcmil Cu / Al					Select cable size from 75 °C column of Table 2 or 4
Calculated load for the main consumer's service supplying the dwelling units, plus service installation details					
Meters	1	100% heaviest load:	exclude any electric space heating, air-conditioning/heat pump	Service Characteristics: Type & Size of service conductors Main Consumer's Service:	Overhead <input type="checkbox"/> Underground <input type="checkbox"/> AWG/kcmil cu/Al 200 A <input type="checkbox"/> 400 A <input type="checkbox"/> Other: See footnote (d)
	2	65% next unit load:	exclude any electric space heating, air-conditioning/heat pump		
	3	65% next unit load:	exclude any electric space heating, air-conditioning/heat pump		
Footnotes		Baseboard heating load, 100% of the first 10kW plus 75% for any amount over 10 kW:		Voltage: _____ Phase: _____ # of Electric Meters: _____	
		Electric space-heating loads: As per Section 62		*** FSR to obtain BC Hydro acceptance PRIOR to permit application *** DECLARATION: I declare that the information contained within this Document is correct. (Inaccuracies may cause permit delays) *** I have confirmed the supply service electrical characteristics, service equipment and pole location with BC Hydro. See footnote (e) *** I have confirmed above data with BC Hydro acceptance <input type="checkbox"/> Yes	
	(a)	Air-conditioning loads: Subject to Rule 8-106 3)			
		Heat Pump Motor Loads: Subject to Rule 8-106 3)			
(b)	EVEMS deduction - as approved by the City Electrician only. Identify specific deducted loads; equal or greater. Submit a detailed proposal.	minus			
Amps:		Total Watts:			
This form captures the essence of the CE Code requirements. If deviating from the prescriptive CE Code requirements, select here.					<input type="checkbox"/> Yes
If yes, submit a complete application for a special permission in accordance with Bulletin 2009-004-EL . Also, see Bulletin 2020-007-EL .					<input type="checkbox"/> Yes

DOC/2023/005692

Electrical Contractor Name & License Number _____

Email _____

Phone Number _____

FSR Name & Registration Number _____

Signature _____

Date _____

Load summary table for the purpose of CE Code Rule 8-200 (2/3 electric meters)

Descriptions	One-Family Dwelling with Secondary Suite in combination with Laneway House			
	Principal Dwelling	Secondary Suite		Laneway House
	Metered	Unmetered	Metered	Metered
Basic load	as per 8-200 1) a) i) ii)	not required	not required	as per 8-200 1) a) i) ii)
EVEMS See footnote (b)	Installation of EVEMS is subject to the City Electrician's approval.			
Interlocks – electric space-heating and AC loads See footnote (a)	permitted by 8-106 3)			
Interlocks - electric dryers, EVSE loads, or any non-essential loads See footnote (f)	permitted by 8-106 2)			
Electric range	6000 W plus 40% of rating exceeds 12 kW; as per 8-200 1) a) iv); plus vii) A)	use a 25% demand factor for the subsequent range and other loads; as per 8-200 1) a) vii) A)	6000 W plus 40% rating exceeds 12 kW; as per 8-200 1) a) iv); plus vii)A)	6000 W plus 40% rating exceeds 12 kW; as per 8-200 1) a) iv); plus vii) A)
	no electric range, gas range provided: use a 25% demand factor for each load (i.e. dryer); as per 8-200 1) a) vii) A)	6000 W plus 40% of rating exceeds 12 kW; as per 8-200 1) a) iv); plus vii)A)	no electric range, gas range provided: any provided loads as per 8-200 1) a) vii)B)	no electric range, gas range provided: any provided loads as per 8-200 1) a) vii)B)
	6000 W plus 40% of rating exceeds 12 kW; as per 8-200 1) a) iv); plus vii) A)	no electric range, gas range provided: use a 25% demand factor for each load (i.e. dryer); as per 8-200 1) a) vii) A)		
	no electric ranges, gas ranges provided: any provided loads (i.e. dryers); as per 8-200 1) a) vii) B). 100% of the combined load up to 6000 W, plus 25% of the combined load that exceeds 6000 W			
Ampere rating of main circuit breaker, panelboard See footnote (c)	oversized overcurrent device is not permitted	shall be the greater of the calculated load or 60 A	shall be the greater of the calculated load or 60 A	oversized overcurrent device is not permitted
	A panelboard shall be installed in every secondary suite. (Re: BULLETIN 2020-001-BU/EL)			
	The ampere rating of services, feeders and main circuit breakers must be based on the calculated loads connected to these services, feeders, or main circuit breakers. If the calculated current value does not correspond to a standard rating of circuit breaker, the next higher rating is permitted. Except as permitted by this table, oversized overcurrent devices are not permitted.			
8-200 1) b)	not required			

Footnotes: (Also see table above)

(a) CE Code Rule 8-200 1) a) iii) specifies the use of demand factor permitted by Rule 8-106 3), for the purpose of these Rules, interlocks must be installed for the operation of electric space-heating and air-conditioning loads, so that only one can be used at a time, and the load providing the greater demand shall be used to determine the calculated load.

(b) Two or more EV chargers (EVSE loads) may be supplied by the same branch circuit connected to an electric vehicle energy management system (EVEMS) provided that the EVEMS is installed in accordance with Rule 86-300 and Rule 8-500.

It is important to note that

- Rule 8-200 1) a) vi) does not specify requirements where EVSE loads are controlled by an EVEMS in accordance with Rule 8-106 10) or Rule 86-300 2).
- So far, a dedicated certification / product standard does not exist for the electrical equipment comprising EVEMS.
- If the EVEMS is intended to represent a complete system containing pieces of approved equipment, such system standard also does not exist.
- EVEMS must be capable to meet all relevant requirements of Subrule 8-106 10) or Subrule 8-106 11) of the CE Code.

Installation of EVEMS is subject to the City Electrician's approval.

(c) The ampere rating of services, feeders and main circuit breakers must be based on the calculated loads connected to these services, feeders, or main circuit breakers. If the calculated current value does not correspond to a standard rating of circuit breaker, the next higher rating is permitted. Except as permitted by the table above, oversized overcurrent devices are not permitted.

The ampere rating of main circuit breaker of laneway house shall be based on the greater of the calculated load or 60 A.

(d) Upload a single-line diagram with your application in POSSE. (Re: [BULLETIN 2001-008-BU/EL](#))

(e) BC Hydro should be consulted on the number of meters, and the number and location of supply services. ([BULLETIN 2020-007-EL](#))

(f) CE Code Rule 8-200 does not specify the use of demand factor permitted by Rule 8-106 2), for the purpose of these Rules, interlocks must not be installed for any essential loads.

Essential loads	Non-essential loads
electric hot water heater/tank, electric space-heating except as permitted by 8-106 3), any loads as may be prescribed by the City Electrician	electric range, dryer, sauna heater, water heater for steamer, swimming pool, hot tub, or spa, EVSE, AC

Electrical By-law requirements and noteworthy information:

Review the [Electrical By-law No. 5563](#).

Review the [electrical bulletins](#) ([BULLETIN 2020-007-EL](#), [BULLETIN 2020-001-BU/EL](#), [BULLETIN 2019-006-BU/EL](#), etc.)

Examples of service and distribution arrangement:

Figure 1: One-Family Dwelling and Laneway House

Consumer's service conductors to be sized in accordance with Rule 8-200(2) of the CE Code

A BC Hydro connection point (a single set of O/H or U/G supply service conductors by BC Hydro)

200A; 120/240V duplex meter base

Amperage of conductors is based on Rule 8-200(1) of the CE Code

Typical Combination Panelboard (located in respective dwelling unit)

Laneway House Main Dwelling

Figure 2: One-Family Dwelling with Secondary Suite

For additional clarification, see [Bulletin 2020-001-BU/EL](#)

Separate Metering of Each Unit

200A; 120/240V duplex meter base

Consumer's service conductors to be sized in accordance with CE Code Rule 8-200 2)

Conductors to be sized in accordance with CE Code Rule 8-200 1) a)

Conductors to be sized in accordance with CE Code Rule 8-200 1)

Secondary Suite Panelboard (located in the suite)

Main Dwelling Panelboard (located in the main dwelling unit)

Figure 3: One-Family Dwelling with Secondary Suite

For additional clarification, see [Bulletin 2020-001-BU/EL](#)

Must comply with CE Code Rule 26-602.

Single Metering of Two Panelboards

Branch circuit breaker for the Secondary Suite panel

Consumer's service conductors to be sized in accordance with CE Code Rule 8-200 & Section 7.3.5 of the Electrical By-law No.5563

Conductors to be sized in accordance with CE Code Rule 8-200 1) a)

Additional Combination Panelboard

Main Service Combination Panelboard

NOTES:
 1) Main service combination panelboard may be located in the main dwelling, or in the secondary suite
 2) Additional combination panelboard may be installed in the secondary suite or in the main dwelling

Figure 4: One-Family Dwelling with Secondary Suite

For additional clarification, see [Bulletin 2020-001-BU/EL](#)

Must comply with CE Code Rule 26-602.
 (Note: the main combination panelboard must be located in a common area in the building that is accessible from both dwelling units)

Single Metering of the Entire Building

Consumer's service conductors to be sized in accordance with CE Code Rule 8-200 & Section 7.3.5 of the Electrical By-law No.5563

Panelboard must be located in a common area accessible to both suites (main & secondary)

Main Dwelling Unit Combination Panelboard