

CSA STANDARD F280-12 COMPLIANCE		CSA F280-12 Form Set Ver 24.10			
NBC 2015: 9.33.5.1.; 9.36.3.2. & 9.36.5.15; NBC 2020; 9.33.5.1.; 9.36.3.2.; 9.36.5.15 (5); 9.36.8.9. (1);					
These documents issued for the use of BC MINISTRY OF HOUSING		PROJECT #			
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.		1 QPLX2-U2-EAST 2			
BUILDING LOCATION					
Model: QPLX-02-UNIT 2	3 Site: EAST	6			
Address:	4 Lot:	7			
City & Province: VANCOUVER, BC	5 Postal Code:	8			
COMPLIANCE (See page 2 for input summary and page 3 for room by room values)					
Submittal is for: ☐ Whole house ☒ Room by Room		Units: ☒ Imperial ☐ Metric			
HEATING					
Minimum Heating Capacity:		12,584 BTUH (total building heat loss as per 5.2.7)			
5.3.1	The total heat output capacity of all heating systems installed in a building shall not be less than 100% of the total building heat loss as determined in Clause 5.2.7.				
5.3.2	The combined heating delivery of the heating systems that serve a room or space shall not be less than 100% of the space heat loss , as determined in Clause 5.2.6.. (If room by room submittal, see page 2 for individual space heating requirements)				
COOLING					
Nominal Cooling Capacity:		12,849 BTUH (Nominal Cooling Capacity as per 6.3.1)			
Minimum Cooling Capacity:		10,279 BTUH			
		Maximum Cooling Capacity:			
		16,061 BTUH			
6.3.2	Except as provided in Clause 6.3.3., the cooling system capacity shall not be less than 80% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.. In no case shall it be less than the nominal cooling capacity of the building minus 1800 W (0.51 tons)				
6.3.3	Where the cooling system is added to an existing heating system, it's capacity in Watts shall not exceed 18 times the capacity of the air-handling capacity of the existing system in L/s. (Cooling capacity in Tons not more than 1.0 per 400 CFM of air handling capacity)				
6.3.4	Except for ground-source and water source heat pumps used for cooling, and as permitted in Clause 6.3.5, the installed cooling capacity shall not exceed 125% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.				
6.3.5	If the nominal cooling system capacity for the building, as determined in Clause 6.3.1. is less than 6,000 W (1.7 tons), the installed cooling system capacity may exceed the nominal cooling system capacity for the building by up to 1750 W (0.49 tons).				
ATTACHED DOCUMENTS					
☒ Design Summary		☒ Room by Room Results			
Other:		Other:			
Notes:					
CALCULATIONS PERFORMED BY					
Name:	TODD BACKUS	55			
Company:	TECA	56			
Address:	PO BOX 73105, EVERGREEN RO	57			
City & Prov.:	SURREY, BC	58			
Postal Code:	V3R 0J2	59			
Phone:	604-594-5956	60			
Fax:	-	61			
E-mail:	TBACKUS@TECA.CA	62			
 TECA HEAT LOSS & HEAT GAIN CALCULATOR		Designers Signature, Stamp Imprint or other certification mark			
				I, _____	
				have reviewed and take responsibility for the design work described in this document & I am qualified in the appropriate categories. 63	
				Accreditation Reference 1 _____ 64 Accreditation Reference 2 _____ 65 Issued for: _____ 66 (date) Issued for: _____ 67 (date)	
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 HVAC DESIGNERS OF CANADA VERIFIED F280 SOFTWARE					

CSA F280-12 INPUT SUMMARY						CSA F280-12 Form Set Ver 24.10	
These documents issued for the use of <u>BC MINISTRY OF HOUSING</u>						PROJECT #:	
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BUILDING LOCATION							
Model: QPLX-02-UNIT 2		Site: EAST		Lot:			
Address:		City/ Prov: VANCOUVER, BC		Post. Code:			
CALCULATION BASED ON (See Following Page For Results)							
Dimensional Info Based On:		drawings done by: Leckie Studio Architecture + Design Inc.					
Attachment: Row House - Middle Unit		Front Facing: N		Assumed?		Yes	
# of Stories: 3 (4 total floors)		Air Tightness: 1.5		Assumed?		Yes	
Weather Location: Vancouver (city hall)		Internal Shading: No		Assumed?		Yes	
Wind Exposure, Site: Low crops, x/H > 20		Occupants: 4		Assumed?		Yes	
Wind Sheltering, Building: Light local shielding		Ventilated? Non-dedicated HRV		HRV/ERV?		Yes	
Units: ☒ Imperial ☐ Metric		HRV ASE %: 65%		HRV ATRE %:		0%	
HEATING DESIGN CONDITIONS				COOLING DESIGN CONDITIONS			
Outdoor Temp: -7°C, 19.4°F		Indoor Temp: 22°C, 71.6°F		Mean Soil Temp: 11°C, 51.8°F		Outdoor Temp: 28°C, 82.4°F	
Soil Cond. Normal conductivity: dry sand, loam, clay		Water Table Depth: Normal (7-10m, 23-33ft)		Slab Fluid Temp: None		Range: 7°C, 44.6°F	
Indoor Temp: 24°C, 75.2°F				Latitude: 49.25			
ABOVE GRADE WALLS				BELOW GRADE WALLS			
ID 1: 1/ (TYP. EXT. WALL: R-22), inside wall, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 16"OC, R20 (5.5"), // Sheathing materials, Softwood plywood, // Insulation, Mineral wool and glass fibre, // Cladding materials, Vinyl siding, outside air; 22.42R-VALUE				ID 1:			
FLOOR HEADERS				CEILINGS			
ID 1: 1/ (TYP. HEADER: R-22); 22R-VALUE				ID 1: 1/ (TYP. ROOF: R-32), inside ceilings, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 24"OC, custom insulation, // Sheathing materials, Softwood plywood, // Roofing materials, Built-up roofing, outside air; 32.01R-VALUE			
WINDOWS				EXPOSED FLOORS			
ID 1: 1/ (Windows (Energy Modelling Requirements)) custom, USI: 1.3, SHGC: 0.25				ID 1: 1/ (TYP. EXPOSED FLOOR), inside floor, // Finished floor w/ underlay, // 3/4" ply, // framing w/ cavity insulation: softwood (default), 2x12 joists @ 16"OC, R35 (9.25") // Exterior finished material. // outside air: 30.98R-VALUE			
SKYLIGHTS				DOORS			
ID 1: 1/ (SKYLIGHT) double glazed, Fixed — Wood/Vinyl, insulating, low-E, 13mm Air, USI: 1.96, SHGC: 0.47				ID 1: 1/ (EXT. DOOR) Insulated metal — Polyurethane core, without storm door, USI: 0.91			
FOUNDATIONS							
ID 1: 1/ [Heated Crawlpace] Concrete Slab & Walls, insulation: below slab = 2.64RSI, interior wall = 2.11RSI, exterior wall = 2.11RSI (configuration #69) // any first storey construction type, interior surface of wall insulated over full-height, exterior surface of wall insulated over full-height, sub-surface of floor slab fully insulated but no insulation							
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 TECA HEAT LOSS & HEAT GAIN CALCULATOR				 HVAC DESIGNERS OF CANADA VERIFIED F280 SOFTWARE			

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These documents issued for the use of <u>BC MINISTRY OF HOUSING</u> 1					PROJECT #: QPLX2-U2-EAST 2	
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Model: QPLX-02-UNIT 2		3	Site: EAST		6	
Address:		4	Lot:		7	
City & Province: VANCOUVER, BC		5	Postal Code:		8	
CALCULATION RESULTS - ROOM BY ROOM (BTUH)						
#	ROOM NAME	71	HEATING	72	TOTAL COOLING	73
1	(#1)HEATED CRAWL - U2		2,313		41	
2	(#2)104-ENTRY		981		383	
3	(#3)105-POWDER ROOM		105		23	
4	(#4)106-LIVING ROOM		1,103		3,458	
5	(#5)107-KITCHEN/DINING		1,609		3,234	
6	(#6)204-BEDROOM 1		1,179		1,167	
7	(#7)205-BEDROOM 2		1,026		393	
9	(#9)207-LANDING		677		543	
10	(#10)300-STUDY		1,216		1,366	
11	(#11)301-BEDROOM 3		1,085		591	
12	(#12)302-WASHROOM		71		61	
13	(#13)303-LANDING		1,219		1,589	
Ventilation Loss (if separate):		1,177	BTUH	74	Latent Gain (if separate, value or multiplier):	2,965 BTUH 75
Total Building Heat Loss (5.2.7):		12,584	BTUH	Nominal Cooling System Capacity (6.3.1):		12,849 BTUH
See page 1 for heating & Cooling System Capacity Limits				Issued: August 22, 2025	76	Page: 3 of 3
 TECA HEAT LOSS & HEAT GAIN CALCULATOR				 HVAC DESIGNERS OF CANADA VERIFIED F280 SOFTWARE		