

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 TOWN1-U3-NORTH 2	
BUILDING LOCATION					
Model: TOWN-01-UNIT 3		3 Site: NORTH		6	
Address:		4 Lot:		7	
City & Province: PRINCE RUPERT, 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 aw		☒ Room by Room ar		Units: ☒ Imperial ☐ Metric b	
HEATING					
Minimum Heating Capacity:		11,382		BTUH (total building heat loss as per 5.2.7) c	
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:		7,920		BTUH (Nominal Cooling Capacity as per 6.3.1) d	
Minimum Cooling Capacity:		6,336		BTUH e	
		Maximum Cooling Capacity:		9,899 BTUH f	
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 g		☒ Room by Room Results h		Other: i	
Other: j					
Notes: j					
CALCULATIONS PERFORMED BY					
Name: TODD BACKUS 55		Designers Signature, Stamp Imprint or other certification mark		I, _____	
Company: TECA 56				have reviewed and take responsibility for the design	
Address: PO BOX 73105, EVERGREEN RO 57				work described in this document & I am qualified in the	
City & Prov.: SURREY, BC 58				appropriate categories. 63	
Postal Code: V3R 0J2 59				Accreditation Reference 1 64	
Phone: 604-594-5956 60				Accreditation Reference 2 65	
Fax: - 61				Issued for: (date) 66	
E-mail: TBACKUS@TECA.CA 62				Issued for: (date) 67	
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		TECA HEAT LOSS & HEAT GAIN CALCULATOR		 HVAC DESIGNERS OF CANADA VERIFIED F280 SOFTWARE	

CSA F280-12 INPUT SUMMARY						CSA F280-12 Form Set Ver 24.10	
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BUILDING LOCATION							
Model: TOWN-01-UNIT 3		3 Site: NORTH		6 Lot:		7	
Address:		4 City/ Prov: PRINCE RUPERT, BC		5 Post. Code:		8	
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		10 Front Facing: S		16 Assumed? Yes		17	
# of Stories: 2 (3 total floors)		11 Air Tightness: 1.5		18 Assumed? Yes		19	
Weather Location: Prince Rupert		12 Internal Shading: No		21 Assumed? Yes		21a	
Wind Exposure, Site: Low crops, x/H > 20		20 Occupants: 3		22 Assumed? Yes		22a	
Wind Sheltering, Building: Light local shielding		20a Ventilated? Non-dedicated HRV		13 HRV/ERV? Yes		14	
Units: ☒ Imperial bi ☐ Metric bm		HRV ASE %: 65%		15 HRV ATRE %: 0%		15a	
HEATING DESIGN CONDITIONS				COOLING DESIGN CONDITIONS			
Outdoor Temp: -13°C, 8.6°F		24 Indoor Temp: 22°C, 71.6°F		25 Mean Soil Temp: 10°C, 50°F		26 Outdoor Temp: 19°C, 66.2°F	
27 Range: 6°C, 42.8°F		28 Indoor Temp: 24°C, 75.2°F		29 Latitude: 54.32		30	
Soil Cond. Normal conductivity: dry sand, loam, clay		26a Water Table Depth: Normal (7-10m, 23-33ft)		26b Slab Fluid Temp: None			
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:		31a	
FLOOR HEADERS				CEILINGS			
ID 1:		1/ (TYP. HEADER: R-22); 22R-VALUE		ID 1:		32a	
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		ID 1:		40a	
WINDOWS				EXPOSED FLOORS			
ID 1:		1/ (Windows (Energy Modelling Requirements)) custom, USI: 1.3, SHGC: 0.25		ID 1:		49a	
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		ID 1:		43a	
SKYLIGHTS				DOORS			
ID 1:		1/ (SKYLIGHT) double glazed, Fixed — Wood/Vinyl, insulating, low-E, 13mm Air, USI: 1.96, SHGC: 0.47		ID 1:		52a	
ID 1:		1/ (EXT. DOOR) Insulated metal — Polyurethane core, without storm door, USI: 0.91		ID 1:		46a	
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					
ID 1:		53a					
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Model: <u>TOWN-01-UNIT 3</u>		3	Site: <u>NORTH</u>		6	
Address:		4	Lot:		7	
City & Province: <u>PRINCE RUPERT, BC</u>		5	Postal Code:		8	
CALCULATION RESULTS - ROOM BY ROOM (BTUH)						
#	ROOM NAME	71	HEATING	72	TOTAL COOLING	73
1	(#1)HEATED CRAWL - U3		2,530		0	
2	(#2)108-ENTRY		1,060		422	
3	(#3)109-POWDER ROOM		114		0	
4	(#4)110-LIVING ROOM		834		2,456	
5	(#5)111-KITCHEN/DINING		3,032		3,566	
6	(#6)208-BEDROOM 1		1,370		475	
7	(#7)209-BEDROOM 2		1,085		227	
8	(#8)210-WASHROOM		91		24	
9	(#9)211-LANDING		1,264		749	
Ventilation Loss (if separate):		1,065	BTUH	74	Latent Gain (if separate, value or multiplier):	1,828 BTUH 75
Total Building Heat Loss (5.2.7):		11,382	BTUH		Nominal Cooling System Capacity (6.3.1):	7,920 BTUH
See page 1 for heating & Cooling System Capacity Limits				Issued: August 22, 2025	76	Page: 3 of 3
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