

| CSA STANDARD F280-12 COMPLIANCE                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                   |  | CSA F280-12<br>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 <b>BC MINISTRY OF HOUSING</b>                                                         |                                                                                                                                                                                                                                                                                      |                                                                   |  | <b>PROJECT #</b>                                                                                                                                       |            |
| and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red. |                                                                                                                                                                                                                                                                                      |                                                                   |  | 1                                                                                                                                                      | ADU3-SOUTH |
| BUILDING LOCATION                                                                                                           |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| Model: ADU-03                                                                                                               |                                                                                                                                                                                                                                                                                      | 3 Site: SOUTH                                                     |  | 6                                                                                                                                                      |            |
| Address:                                                                                                                    |                                                                                                                                                                                                                                                                                      | 4 Lot:                                                            |  | 7                                                                                                                                                      |            |
| City & Province: VANCOUVER, BC                                                                                              |                                                                                                                                                                                                                                                                                      | 5 Postal Code:                                                    |  | 8                                                                                                                                                      |            |
| COMPLIANCE <small>(See page 2 for input summary and page 3 for room by room values)</small>                                 |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| Submittal is for:                                                                                                           |                                                                                                                                                                                                                                                                                      | Units:                                                            |  |                                                                                                                                                        |            |
| <input type="checkbox"/> Whole house<br>aw                                                                                  |                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> Room by Room<br>ar            |  | <input checked="" type="checkbox"/> Imperial<br>b                                                                                                      |            |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| HEATING                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| <b>Minimum Heating Capacity:</b>                                                                                            |                                                                                                                                                                                                                                                                                      | <b>12,825</b>                                                     |  | <b>BTUH</b> (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                                                                                                                     |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| <b>Nominal Cooling Capacity:</b>                                                                                            |                                                                                                                                                                                                                                                                                      | <b>15,136</b>                                                     |  | <b>BTUH</b> (Nominal Cooling Capacity as per 6.3.1)                                                                                                    |            |
| <b>Minimum Cooling Capacity:</b>                                                                                            |                                                                                                                                                                                                                                                                                      | <b>12,109</b>                                                     |  | <b>BTUH</b> e                                                                                                                                          |            |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                   |  | <b>Maximum Cooling Capacity:</b>                                                                                                                       |            |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      | <b>18,920</b>                                                     |  | <b>BTUH</b> 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                                                                                                          |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| <input checked="" type="checkbox"/> Design Summary g                                                                        |                                                                                                                                                                                                                                                                                      | <input checked="" type="checkbox"/> Room by Room Results h        |  | Other: i                                                                                                                                               |            |
| Other: j                                                                                                                    |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| Notes: k                                                                                                                    |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| CALCULATIONS PERFORMED BY                                                                                                   |                                                                                                                                                                                                                                                                                      |                                                                   |  |                                                                                                                                                        |            |
| Name: TODD BACKUS 55                                                                                                        |                                                                                                                                                                                                                                                                                      | Designers Signature, Stamp Imprint<br>or other certification mark |  | l,                                                                                                                                                     |            |
| 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                                                                                                                                  |            |
|                                                                                                                             |                                                                                                                                                                                                                                                                                      | 68 Page: 1 of 3                                                   |  |                                                                                                                                                        |            |
|                                           |                                                                                                                                                                                                                                                                                      | <b>TECA HEAT LOSS &amp; HEAT GAIN CALCULATOR</b>                  |  |  <b>HVAC DESIGNERS OF CANADA</b><br><b>VERIFIED F280 SOFTWARE</b> |            |

| CSA F280-12 INPUT SUMMARY                                                                                                                                                                                                                                                                                                                                              |  |                                            |                                                            |                              |  |                                                                                                                                                                                                                                                                    |  |                    |  | CSA F280-12<br>Form Set Ver 24.10 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------|------------------------------------------------------------|------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|--|-----------------------------------|--|
| These documents issued for the use of <u>BC MINISTRY OF HOUSING</u>                                                                                                                                                                                                                                                                                                    |  |                                            |                                                            |                              |  |                                                                                                                                                                                                                                                                    |  |                    |  | PROJECT #:                        |  |
| and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.                                                                                                                                                                                                                                            |  |                                            |                                                            |                              |  |                                                                                                                                                                                                                                                                    |  |                    |  | ADU3-SOUTH                        |  |
| BUILDING LOCATION                                                                                                                                                                                                                                                                                                                                                      |  |                                            |                                                            |                              |  |                                                                                                                                                                                                                                                                    |  |                    |  |                                   |  |
| Model: ADU-03                                                                                                                                                                                                                                                                                                                                                          |  |                                            | Site: SOUTH                                                |                              |  | 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: Detached                                                                                                                                                                                                                                                                                                                                                   |  |                                            | Front Facing: W                                            |                              |  | Assumed? Yes                                                                                                                                                                                                                                                       |  |                    |  |                                   |  |
| # of Stories: 2 (3 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: <input checked="" type="checkbox"/> Imperial <input type="checkbox"/> 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                                                                                                                                                                                                                                         |  | Range: 7°C, 44.6°F |  |                                   |  |
| Soil Cond. Normal conductivity: dry sand, loam, clay                                                                                                                                                                                                                                                                                                                   |  | Water Table Depth: Normal (7-10m, 23-33ft) |                                                            | Slab Fluid Temp: None        |  | 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 assumptions)) custom, USI: 1.3, SHGC: 0.25                                                                                                                                                                                                                                                                                         |  |                                            |                                                            |                              |  | ID 1:                                                                                                                                                                                                                                                              |  |                    |  |                                   |  |
| 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 |  |                                            |                                                            |                              |  |                                                                                                                                                                                                                                                                    |  |                    |  |                                   |  |
| Issued: August 22, 2025                                                                                                                                                                                                                                                                                                                                                |  |                                            |                                                            |                              |  | Page: 2-2 of 3                                                                                                                                                                                                                                                     |  |                    |  |                                   |  |
|  <b>TECA HEAT LOSS &amp; HEAT GAIN CALCULATOR</b>                                                                                                                                                                                                                                    |  |                                            |                                                            |                              |  |  <b>HVAC DESIGNERS OF CANADA</b><br><b>VERIFIED F280 SOFTWARE</b>                                                                                                             |  |                    |  |                                   |  |

|                                                                                                                                    |                         |        |              |                                                                                                                                                       |                                                 |               |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------|
| CSA F280-12 INPUT SUMMARY                                                                                                          |                         |        |              |                                                                                                                                                       | CSA F280-12<br>Form Set Ver 24.10               |               |
| These documents issued for the use of <u>BC MINISTRY OF HOUSING</u> 1                                                              |                         |        |              |                                                                                                                                                       | PROJECT #: 2                                    |               |
| and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.        |                         |        |              |                                                                                                                                                       | ADU3-SOUTH                                      |               |
| Model: ADU-03                                                                                                                      |                         | 3      | Site: SOUTH  |                                                                                                                                                       | 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        |        | 2,876        |                                                                                                                                                       | 53                                              |               |
| 2                                                                                                                                  | (#2)100-ENTRY & STAIRS  |        | 1,723        |                                                                                                                                                       | 909                                             |               |
| 4                                                                                                                                  | (#4)102-POWDER ROOM     |        | 85           |                                                                                                                                                       | 6                                               |               |
| 5                                                                                                                                  | (#5)103-LIVING          |        | 930          |                                                                                                                                                       | 3,699                                           |               |
| 6                                                                                                                                  | (#6)104-KITCHEN/DINING  |        | 2,345        |                                                                                                                                                       | 5,848                                           |               |
| 7                                                                                                                                  | (#7)200-PRIMARY BEDROOM |        | 1,257        |                                                                                                                                                       | 1,180                                           |               |
| 8                                                                                                                                  | (#8)201-PRIMARY ENSUITE |        | 74           |                                                                                                                                                       | 60                                              |               |
| 9                                                                                                                                  | (#9)202-BEDROOM 1       |        | 581          |                                                                                                                                                       | 357                                             |               |
| 10                                                                                                                                 | (#10)203-BEDROOM 2      |        | 1,085        |                                                                                                                                                       | 1,109                                           |               |
| 11                                                                                                                                 | (#11)204-WASHROOM       |        | 72           |                                                                                                                                                       | 59                                              |               |
| 12                                                                                                                                 | (#12)205-STUDY          |        | 737          |                                                                                                                                                       | 499                                             |               |
| 13                                                                                                                                 | (#13)206-LANDING        |        | 1,060        |                                                                                                                                                       | 1,357                                           |               |
| Ventilation Loss (if separate):                                                                                                    |                         | 883    | BTUH         | 74                                                                                                                                                    | Latent Gain (if separate, value or multiplier): | 3,493 BTUH 75 |
| Total Building Heat Loss (5.2.7):                                                                                                  |                         | 12,825 | BTUH         | Nominal Cooling System Capacity (6.3.1):                                                                                                              |                                                 | 15,136 BTUH   |
| See page 1 for heating & Cooling System Capacity Limits                                                                            |                         |        |              | Issued: August 22, 2025                                                                                                                               | 76                                              | Page: 3 of 3  |
|  <b>TECA HEAT LOSS &amp; HEAT GAIN CALCULATOR</b> |                         |        |              |  <b>HVAC DESIGNERS OF CANADA</b><br><b>VERIFIED F280 SOFTWARE</b> |                                                 |               |