

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

| A. Project Information   |                               |                                |                                      |
|--|-------------------------------|--------------------------------|--------------------------------------|
| Building number, street name<br>47 Fire Route 82b, Kasshabog Lake  |                               | Unit no.                       | Lot/con.                             |
| Municipality<br>Havelock – Belmont - Methuen   | Postal code                   | Plan number/ other description |                                      |
| B. Individual who reviews and takes responsibility for design activities   |                               |                                |                                      |
| Name<br>Dennis Jenkins   |                               | Firm<br>Northern Designs       |                                      |
| Street address<br>93 Milroy Drive  |                               | Unit no.                       | Lot/con.                             |
| Municipality<br>Peterborough   | Postal code<br>K9H 7T2        | Province<br>ON                 | E-mail<br>dennis@northerndesigns.biz |
| Telephone number<br>(705 )743-3728   | Fax number<br>( )             |                                | Cell number<br>(705 )930-6882        |
| C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]  |                               |                                |                                      |
| House  | <b>HVAC – House</b>           | Building Structural            |                                      |
| Small Buildings  | Building Services             | Plumbing – House               |                                      |
| Large Buildings  | Detection, Lighting and Power | Plumbing – All Buildings       |                                      |
| Complex Buildings  | Fire Protection               | On-site Sewage Systems         |                                      |
| Description of designer's work<br>Heat loos. Heat gain, Duct designs, Ventilation  |                               |                                |                                      |
| D. Declaration of Designer   |                               |                                |                                      |
| I _____ Dennis Jenkins _____ declare that (choose one as appropriate):<br>(print name)   |                               |                                |                                      |
| <p>I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.</p> <p>Individual BCIN: <u>21995</u></p> <p>Firm BCIN: <u>27927</u></p> <p>I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.</p> <p>Individual BCIN: _____</p> <p>Basis for exemption from registration: _____</p> <p>The design work is exempt from the registration and qualification requirements of the Building Code.</p> <p>Basis for exemption from registration and qualification: _____</p> |                               |                                |                                      |
| I certify that:  |                               |                                |                                      |
| <ol style="list-style-type: none"> <li>1. The information contained in this schedule is true to the best of my knowledge.</li> <li>2. I have submitted this application with the knowledge and consent of the firm.</li> </ol>   |                               |                                |                                      |
| January 19, 2016   |                               |                                |                                      |
| Date   | Signature of Designer         |                                |                                      |

**NOTE:**

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c). of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

# RESIDENTIAL MECHANICAL VENTILATION RECORD

*For Certification of Design and Performance of Residential Ventilation Systems (CSA F326)*

**W2**

|   |  |  |                                  |   |           |                                     |   |   |                       |                      |
|---|--|--|----------------------------------|---|-----------|-------------------------------------|---|---|-----------------------|----------------------|
| <b>A</b>  | HEATING SYSTEM/<br>COMBUSTION APPLIANCES | <input type="checkbox"/> Forced Air <input type="checkbox"/> Non Forced air<br><input type="checkbox"/> Electric <input type="checkbox"/> Gas <input type="checkbox"/> Oil <input type="checkbox"/> Other  |                                  | Roll #:   | Permit #: | LOCATION<br><b>H</b>                |   |   |                       |                      |
|   |  | No Combustion Appliances <i>No Depressurization Limit</i><br>Solid Fuel (including Fireplaces) <i>5 Pa. Depressurization Limit</i><br>Direct Vent (sealed combustion) <i>No Depressurization Limit</i><br>Positive Venting Induced Draft _____ <i>5 Pa. Depress. Limit</i><br>Natural Draft or B-Vent Atmospheric <i>5 Pa. depressurization limit</i><br>Lowest Depressurization Limit _____ Pa. |                                  | Lot & Plan:<br>Civic address:<br>Name: _____ House ID#: _____<br>Address: _____<br>City: _____ P.C. _____<br>Phone: _____ Fax: _____<br>Email Address: _____  |           |                                     | BUILDER<br><b>I</b>   |   |                       |                      |
|   |  | <b>B</b>   | EXHAUST<br>EQUIPMENT             | <input type="checkbox"/> Clothes Dryer(s) (150 cfm default)<br><input type="checkbox"/> Downdraft Cook Top (220 cfm default)<br><input type="checkbox"/> Other (exhaust) (over 150 cfm)   |           |                                     |   | Name: _____ HRAI #:<br>Address: _____<br>City: _____ P.C. _____<br>Phone: _____ Fax: _____  |                       | DESIGNER<br><b>J</b> |
|   |  |  |                                  | Depressurization test/Calc. Required?    Yes    No  |           |                                     |   | Email Address: _____ Other # _____<br>I certify this ventilation system design to be in accordance with:<br><input type="checkbox"/> CSA F326 M-91<br><input type="checkbox"/> R-2000<br>Signature: _____ Date: _____ |                       |                      |
| <b>C</b>  | TOTAL VENTILATION<br>CAPACITY (TVC)      | Bsmt & Master Bedroom _____ @ 20 cfm _____ cfm<br>Other Bedrooms _____ @ 10 cfm _____ cfm<br>Bathrooms & Kitchens _____ @ 10 cfm _____ cfm<br>Other Hab. Rooms _____ @ 10 cfm _____ cfm<br>Total Ventilation Capacity (TVC) _____ cfm  |                                  | Controls Functioning <input type="checkbox"/> Fans operating and clean<br>Filters Clean <input type="checkbox"/> Flow measuring stations<br>Dampers Accessible <input type="checkbox"/> Insulated ducts sealed<br>Drain loop and connection <input type="checkbox"/> Label supply/exhaust hood<br>Distribution to all habitable rooms (non forced air)<br>Forced air system <input type="checkbox"/> Continuous mode <input type="checkbox"/> Interlocked<br>Kitchen intake grease filter <input type="checkbox"/> Kitchen exh. 40" to range<br>Exhaust 4" above grade <input type="checkbox"/> Supply 18" above grade<br>Supply intake 6' from exhaust ( <i>recommended</i> )<br>Supply intake 3' from other exhaust |           | INSTALLATION CHECKLIST<br><b>K</b>  |   |   |                       |                      |
|   |  | <b>D</b>   | EXHAUST CAPACITY                 | Continuous<br>Minimum Continuous Exhaust<br>Kitchen(s) _____ @ 60 cfm = _____ cfm<br>Bathroom(s) _____ @ 20 cfm = _____ cfm<br>Total _____ cfm  |           |                                     | TVC system SUPPLY airflow measured<br>_____ cfm High    _____ cfm Low<br>TVC system EXHAUST airflow measured<br>_____ cfm High    _____ cfm Low |   |                       |                      |
| Intermittent<br>Minimum Intermittent Exhaust<br>Kitchen(s) _____ @ 100 cfm = _____ cfm<br>Bathroom(s) _____ @ 50 cfm = _____ cfm<br>Total _____ cfm |  |  |                                  |   |           |                                     |   |   |                       |                      |
| <b>E</b>  | <b>F</b>                                 | Location: _____<br>Manufacturer/Model: _____ HVI rated<br>Design Airflow _____ cfm high    _____ cfm low<br>HRV/ERV _____ % Sensible Efficiency @ 0°C    _____ watts<br>HRV/ERV _____ % Sensible Efficiency @ -25°C    _____ watts   |                                  | Name: _____ HRAI #:<br>Address: _____<br>City: _____ P.C. _____<br>Phone: _____ Fax: _____<br>Email Address: _____  |           | MEASURED<br>TVC SYSTEMS<br><b>L</b> |   |   |                       |                      |
|   |  | <b>G</b>   | ADDITIONAL<br>(exhaust)EQUIPMENT | 1 Location: _____ cfm    _____ Sones<br>Manufacturer/Model: _____ TVC HVI   |           |                                     | I certify this ventilation system install to be in accordance with:<br>CSA F326 M-91<br>R-2000<br>Signature: _____ Date: _____                  |   | INSTALLER<br><b>M</b> |                      |
| 2 Location: _____ cfm    _____ Sones<br>Manufacturer/Model: _____ TVC HVI   |  |  |                                  |   |           |                                     |   |   |                       |                      |
| 3 Location: _____ cfm    _____ Sones<br>Manufacturer/Model: _____ TVC HVI   |  |  |                                  |   |           |                                     |   |   |                       |                      |
| 4 Location: _____ cfm    _____ Sones<br>Manufacturer/Model: _____ TVC HVI   |  |  |                                  |   |           |                                     |   |   |                       |                      |

|              |         |                           |
|--------------|---------|---------------------------|
| Prepared By: | HRAI #: | Job Name:                 |
| Signature:   | Date:   | Job #:      Official Use: |





# Load Short Form

## Entire House

### Northern Designs

Job:  
Date: October 20, 2015  
By: DJ

Cert.#: 12905(RHLG, RASD)

93 Milroy Drive, Peterborough, ON K9H 7T2 Phone: 705-743-3728 Email: dennis@northerndesigns.biz Web: www.northerndesigns.biz

## Project Information

For:

## Design Information

|                             | Htg | Clg | Infiltration          |                            |
|-----------------------------|-----|-----|-----------------------|----------------------------|
| Outside db (°F)             | -9  | 86  | Method                | F280-12                    |
| Inside db (°F)              | 72  | 75  | Exposure category     | Light local shielding      |
| Design TD (°F)              | 81  | 11  | Construction category | Present (1961-) (ACH=3.57) |
| Daily range                 | -   | M   | Number of stories     | 1.0                        |
| Inside humidity (%)         | 50  | 50  |                       |                            |
| Moisture difference (gr/lb) | 56  | 40  |                       |                            |

### HEATING EQUIPMENT

Make Keeprite  
Trade HEIL,COMFORTMAKER,DAY & NIGHT,...  
Model G9MVE0601714A  
AHRI ref 5551820

Efficiency 96 AFUE  
Heating input 60000 Btuh  
Heating output 58000 Btuh  
Temperature rise 56 °F  
Actual air flow 955 cfm  
Air flow factor 0.020 cfm/Btuh  
Static pressure 0.60 in H2O  
Space thermostat

### COOLING EQUIPMENT

Make Keeprite  
Trade KEEPRITE  
Cond CCA924GKA2\*  
Coil FVM4X36\*\*\*\*  
AHRI ref 5840146  
Efficiency 14.0 EER, 18 SEER  
Sensible cooling 17780 Btuh  
Latent cooling 7620 Btuh  
Total cooling 25400 Btuh  
Actual air flow 750 cfm  
Air flow factor 0.037 cfm/Btuh  
Static pressure 0.60 in H2O  
Load sensible heat ratio 0.77

| ROOM NAME      | Area (ft²) | Htg load (Btuh) | Clg load (Btuh) | Htg AVF (cfm) | Clg AVF (cfm) |
|----------------|------------|-----------------|-----------------|---------------|---------------|
| Crawlspace     | 1952       | 15824           | 332             | 312           | <b>12</b>     |
| Kitchen/Dining | 320        | 4456            | 1206            | 88            | <b>45</b>     |
| Foyer          | 113        | 2327            | 1074            | 46            | <b>40</b>     |
| Bedroom #4     | 145        | 1835            | 738             | 36            | <b>27</b>     |
| Living Room    | 396        | 7487            | 10955           | 147           | <b>408</b>    |
| Bath           | 55         | 783             | 349             | 15            | <b>13</b>     |
| Master Bedroom | 216        | 3510            | 2082            | 69            | <b>77</b>     |
| Hall           | 171        | 0               | 0               | 0             | <b>0</b>      |
| Mech Room      | 260        | 6779            | 543             | 133           | <b>20</b>     |
| Pwdr           | 26         | 126             | 44              | 2             | <b>2</b>      |
| Sitting Area   | 229        | 2914            | 1472            | 57            | <b>55</b>     |
| Bedroom #3     | 145        | 1245            | 681             | 25            | <b>25</b>     |
| Bedroom #2     | 142        | 1225            | 677             | 24            | <b>25</b>     |

*Bold/italic values have been manually overridden*

|                   |   |      |       |       |     |            |
|-------------------|---|------|-------|-------|-----|------------|
| Entire House      | d | 4168 | 48511 | 20154 | 955 | <b>750</b> |
| Other equip loads |   |      | 2308  | 891   |     |            |
| Equip. @ 1.00 RSM |   |      |       | 21045 |     |            |
| Latent cooling    |   |      |       | 6313  |     |            |
| <b>TOTALS</b>     |   | 4168 | 50818 | 27358 | 955 | <b>750</b> |

Sample Report  
Northern Designs

*Bold/italic values have been manually overridden*



# Building Analysis Entire House Northern Designs

Job:  
Date: October 20, 2015  
By: DJ

Cert.#: 12905(RHLG, RASD)

93 Milroy Drive, Peterborough, ON K9H 7T2 Phone: 705-743-3728 Email: dennis@northerndesigns.biz Web: www.northerndesigns.biz

## Project Information

For:

## Design Conditions

### Location:

Campbellford, ON, CA  
Elevation: 479 ft  
Latitude: 44 °N

### Outdoor:

Dry bulb (°F)  
Daily range (°F)  
Wet bulb (°F)  
Wind speed (mph)

### Heating

-9  
-  
-  
8.1

### Cooling

86  
22 ( M )  
74  
5.6

### Indoor:

Indoor temperature (°F)  
Design TD (°F)  
Relative humidity (%)  
Moisture difference (gr/lb)

### Heating

72  
81  
50  
55.9

### Cooling

75  
11  
50  
39.8

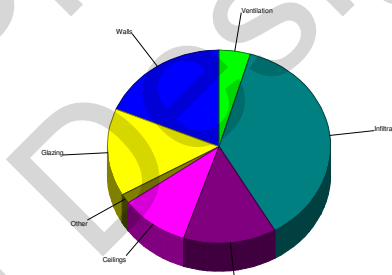
### Infiltration:

Method  
Exposure category  
Construction category  
Number of stories

F280-12  
Light local shielding  
Present (1961-) (ACH=3.57)  
1.0

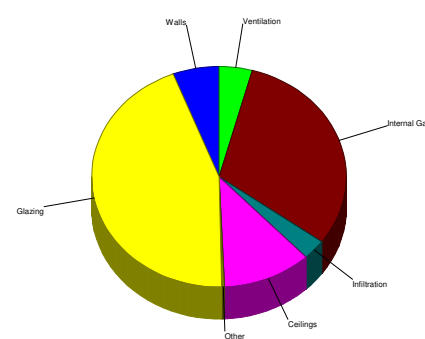
## Heating

| Component      | Btuh/ft² | Btuh         | % of load    |
|----------------|----------|--------------|--------------|
| Walls          | 1.2      | 9480         | 18.7         |
| Glazing        | 22.8     | 7437         | 14.6         |
| Doors          | 7.2      | 811          | 1.6          |
| Ceilings       | 2.3      | 5074         | 10.0         |
| Floors         | 3.1      | 6843         | 13.5         |
| Infiltration   | 42.9     | 18864        | 37.1         |
| Ducts          |          | 0            | 0            |
| Hydronic       |          | 0            | 0            |
| Humidification |          | 0            | 0            |
| Ventilation    |          | 2308         | 4.5          |
| Adjustments    |          | 0            | 0            |
| <b>Total</b>   |          | <b>50818</b> | <b>100.0</b> |



## Cooling

| Component      | Btuh/ft² | Btuh         | % of load    |
|----------------|----------|--------------|--------------|
| Walls          | 0.2      | 1232         | 5.9          |
| Glazing        | 28.7     | 9360         | 44.5         |
| Doors          | 0.7      | 79           | 0.4          |
| Ceilings       | 1.1      | 2369         | 11.3         |
| Floors         | 0        | 0            | 0            |
| Infiltration   | 1.4      | 634          | 3.0          |
| Ducts          |          | 0            | 0            |
| Ventilation    |          | 891          | 4.2          |
| Internal gains |          | 6480         | 30.8         |
| Blower         |          | 0            | 0            |
| Adjustments    |          | 0            | 0            |
| <b>Total</b>   |          | <b>21045</b> | <b>100.0</b> |



Latent Cooling Load = 6313 Btuh  
Overall U-value = 0.031 Btuh/ft²-°F

Data entries checked.



**F280 Infiltration Report**  
**Entire House**  
**Northern Designs**

Job:  
 Date: October 20, 2015  
 By: DJ

Cert.#: 12905(RHLG, RASD)

93 Milroy Drive, Peterborough, ON K9H 7T2 Phone: 705-743-3728 Email: dennis@northerndesigns.biz Web: www.northerndesigns.biz

**Project Information**

For:

**Design Conditions**

|                             |                       |
|-----------------------------|-----------------------|
| House type                  | Detached              |
| Site                        | Suburban, forest      |
| Wall shielding              | Light local shielding |
| Storeys                     | 1.0 (w/o basement)    |
| Highest ceiling height (ft) | 18.0                  |
| Foundation                  | Crawl Space           |

**Air Leakage**

Air tightness Present (1961-) (ACH=3.57)

**Flues**

|               |                       |    |    |    |
|---------------|-----------------------|----|----|----|
| Shielding     | Light local shielding |    |    |    |
| Diameter (in) | #1                    | #2 | #3 | #4 |
|               | 8                     | 0  | 0  | 0  |

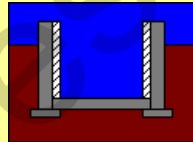
**Summary**

| Heating              |                       | Cooling              |                       |
|----------------------|-----------------------|----------------------|-----------------------|
| Infiltration area    | 4168 ft <sup>2</sup>  | Infiltration area    | 4168 ft <sup>2</sup>  |
| Infiltration volume  | 28368 ft <sup>3</sup> | Infiltration volume  | 28368 ft <sup>3</sup> |
| Winter AC/hr         | 0.45                  | Summer AC/hr         | 0.11                  |
| Heating infiltration | 215 cfm               | Cooling infiltration | 53 cfm                |

## Project Information

For:

| Weather Station                |                    |
|--------------------------------|--------------------|
| Province<br>Region             | ON<br>Campbellford |
| Foundation Dimensions          |                    |
| Floor length (ft)              | 91.3               |
| Floor width (ft)               | 24.2               |
| Exposed perimeter (ft)         | 231.0              |
| Wall height (ft)               | 5.0                |
| Depth below grade (ft)         | 3.0                |
| Window area (ft <sup>2</sup> ) | 0                  |
| Door area (ft <sup>2</sup> )   | 0                  |
| Radiant Slab                   |                    |
| Heated fraction                | 0                  |
| Design Months                  |                    |
| Heating month                  | 1                  |
| Foundation Loads               |                    |
| Heating load (Btuh)            | 5541               |

| Site  |  |
|---|--|
| Soil conductivity<br>Water table  | Normal - dry sand, loam, clay<br>Normal (23-33 ft) |
| Insulation Configuration  |  |
| Configuration   | BCIN_1   |
| Int wall insul (ft <sup>2</sup> - °F/Btuh)  | 12.00  |
|   |  |
| <ul style="list-style-type: none"> <li>- concrete walls and floor</li> <li>- interior surface of wall insulated over full-height</li> <li>- any first storey construction type</li> </ul> |  |

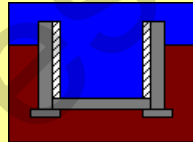
## Load Allocation

| Room       | Exposed perimeter (ft) | Heating load (Btuh) |
|------------|------------------------|---------------------|
| Crawlspace | 186.8                  | 5541                |

## Project Information

For:

| Weather Station                |                    |
|--------------------------------|--------------------|
| Province<br>Region             | ON<br>Campbellford |
| Foundation Dimensions          |                    |
| Floor length (ft)              | 91.3               |
| Floor width (ft)               | 24.2               |
| Exposed perimeter (ft)         | 231.0              |
| Wall height (ft)               | 7.0                |
| Depth below grade (ft)         | 0.0                |
| Window area (ft <sup>2</sup> ) | 0                  |
| Door area (ft <sup>2</sup> )   | 36.0               |
| Radiant Slab                   |                    |
| Heated fraction                | 0                  |
| Design Months                  |                    |
| Heating month                  | 1                  |
| Foundation Loads               |                    |
| Heating load (Btuh)            | 1303               |

| Site  |  |
|---|--|
| Soil conductivity<br>Water table  | Normal - dry sand, loam, clay<br>Normal (23-33 ft) |
| Insulation Configuration  |  |
| Configuration   | BCIN_1   |
| Int wall insul (ft <sup>2</sup> - °F/Btuh)  | 20.00  |
|   |  |
| <ul style="list-style-type: none"> <li>- concrete walls and floor</li> <li>- interior surface of wall insulated over full-height</li> <li>- any first storey construction type</li> </ul> |  |

## Load Allocation

| Room      | Exposed perimeter (ft) | Heating load (Btuh) |
|-----------|------------------------|---------------------|
| Mech Room | 44.3                   | 1303                |

# Heat loss and gain calculation summary sheet

CSA-F280-M12  
Standard Form No. 1

These documents issued for the use of **Northern Designs** and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.

Project no.

## Building location

|                    |              |
|--------------------|--------------|
| Model:             | Site:        |
| Address:           | Lot:         |
| City and Province: | Postal code: |

## Calculations based on

|                                   |                      |                   |                            |                |                       |
|-----------------------------------|----------------------|-------------------|----------------------------|----------------|-----------------------|
| Dimensional information based on: |                      |                   |                            |                |                       |
| Attachment:                       | Detached             | Front facing:     | Northwest                  | Assumed?       | No                    |
| Number of storeys:                | 1 + basement         | Air tightness:    | Present (1961-) (ACH=3.57) | Assumed?       | Yes                   |
| Weather location:                 | Campbellford, ON, CA | Ventilated:       | Included                   | Wind exposure: | Light local shielding |
| HRV?                              |                      | Internal shading: | (none)                     | Occupants:     | 5                     |
| Recovery %:                       | 65 %                 | Units:            | Imperial (I-P)             |                |                       |

## Heating design conditions

## Cooling design conditions

|               |       |              |       |                 |       |               |       |              |       |           |       |         |       |
|---------------|-------|--------------|-------|-----------------|-------|---------------|-------|--------------|-------|-----------|-------|---------|-------|
| Outdoor temp: | -9 °F | Indoor temp: | 72 °F | Mean soil temp: | 48 °F | Outdoor temp: | 86 °F | Indoor temp: | 75 °F | Latitude: | 44 °N | SRange: | 22 °F |
|---------------|-------|--------------|-------|-----------------|-------|---------------|-------|--------------|-------|-----------|-------|---------|-------|

## Above grade walls

## Below grade walls

|          |   |          |   |
|----------|---|----------|---|
| Style A: | ne,se,sw,nw - Blk wall, 2"x4" wood int frm, 8" thk, r-14 cav ins  | Style A: | BCIN_1: Bsmnt, 3 ft BG, conc fndatn, wall R-12, fir unis    |
| Style B: | ne,se,sw,nw - Frm wall, vnl ext, 1/2" wood shth, r-25 cav ins, 1/2" gypsum board int fsh, 2"x6" wood frm, 16" o.c. stud | Style B: | BCIN_1: Bsmnt, 0.01 ft BG, conc fndatn, wall R-20, fir unis |
| Style C: |   | Style C: |   |
| Style D: |   | Style D: |   |

## Floors on soil

## Ceilings

|          |   |          |   |
|----------|---|----------|---|
| Style A: | BCIN_1: Bsmnt, 3 ft BG, conc fndatn, wall R-12, fir unis HLR=5541 Btuh    | Style A: | 10A21 (Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board int fsh)              |
| Style B: | BCIN_1: Bsmnt, 0.01 ft BG, conc fndatn, wall R-20, fir unis HLR=1303 Btuh | Style B: | 12A14 (Rf/clg ceiling, asphalt shingles roof mat, frm cons, 3/4" wood int fsh, 6" thkns, r-19 ceil ins) |
|          |   | Style C: | C part ceiling, r-30 ins, frm fir, 12" thkns  |

## Exposed floors

## Doors

|          |  |          |  |
|----------|--|----------|--|
| Style A: |  | Style A: | ne,nw,n - 23E0 (Door, mtl pur core type) |
| Style B: |  | Style B: |  |

## Windows

## Skylights

|          |  |          |  |
|----------|--|----------|--|
| Style A: | se,sw,nw,n - U-Value 16 (2 glazing, clr low-e outr, argon gas, vnl frm mat, clr innr, 1/4" gap, 1/8" thk; 6.67 ft head ht) | Style A: |  |
| Style B: |  | Style B: |  |
| Style C: |  | Style C: |  |
| Style D: |  | Style D: |  |

Attached documents:

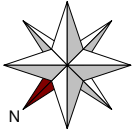
Notes:

## Calculations performed by

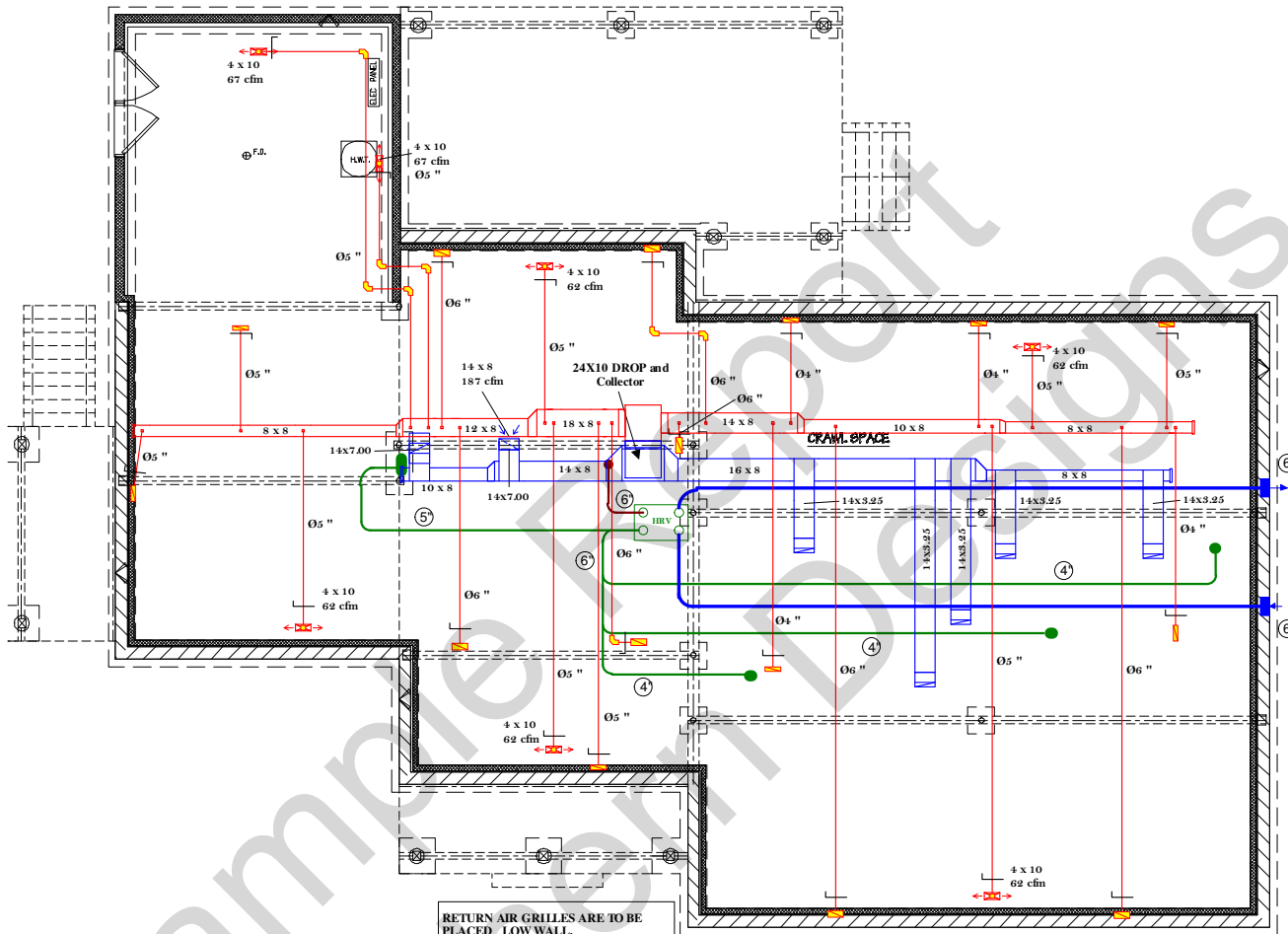
|                    |                            |
|--------------------|----------------------------|
| Name:              | DJ                         |
| Company:           | Northern Designs           |
| Address:           | 93 Milroy Drive            |
| City and Province: | Peterborough ON            |
| Postal code:       | K9H 7T2                    |
| Telephone:         | 705-743-3728               |
| Fax:               |                            |
| E-mail:            | dennis@northerndesigns.biz |



HRAI cert.#: 12905 (Loads, Ducts)



Basement



RETURN AIR GRILLES ARE TO BE PLACED LOW WALL.  
If no interior walls, return to be dropped in front of jack posts.

**IMPORTANT:**  
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**Job #:**  
Performed by DJ for:

**Northern Designs**

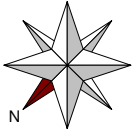
93 Milroy Drive  
Peterborough, ON K9H 7T2  
Phone: 705-743-3728

www.northerndesigns.biz dennis@northerndesigns...

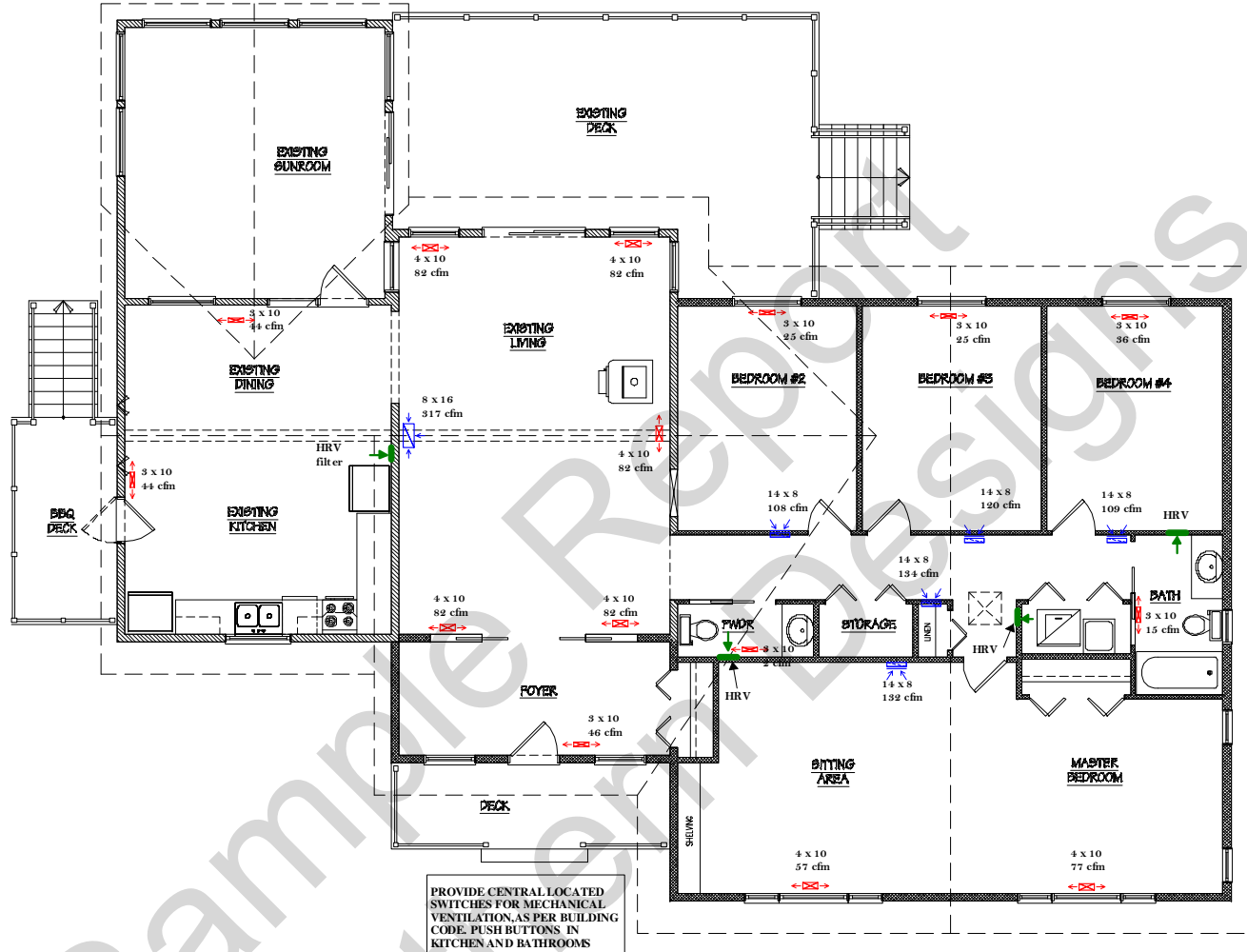
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Main Floor

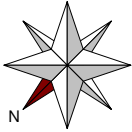


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**Notes**

ALL DUCT WORK IS TO BE SEALED WITH EITHER FOIL TAPE OR MASTIC.  
 ALL PLUMBING AND ELECTRICAL HOLES ARE TO BE SEALED.  
 FLEX CONNECTORS ARE TO BE INSTALLED TO ISOLATE EQUIPMENT.  
 VOLUME DAMPERS TO BE INSTALLED IN EACH SUPPLY BRANCH, AND BALANCING DAMPERS AFTER PTO'S.  
 DUCT WORK TO BE CORRECT DISTANCE DOWN FROM WOOD JOIST. IE GAS FURNACE SUPPLY TRUNK 1" DOWN. SEE OWNERS MANUAL FOR DETAILS

| Furnace and A/C Specifications   | Ventilation Specifications  |
|--|---|
| Furnace Make: KEEPRITE - Gas Furnace (96 AFUE)<br>2 Stage with ECM Motor | Type: HRV Direct Vented   |
| Model: G9MVE0601714A,<br>60,000 BTU                                      | Model: VANE 100H with Control Switches Located in All Bathrooms and Kitchen |
| Heating Design: 955CFM @ 0.6 ESP   | Balance: PVC 75 CFM   |
| A/C Make: KEEPRITE - 18 SEER 2 Stage                                     | SITE LOCATE HRV HOODS AS PER OBC 9.3.2.3.12                                 |
| A/C Model: CCA924GKA2*   |   |
| Cooling Design: 750CFM @ 0.6 ESP   |   |
| 2 STAGE FURNACE TO HAVE FIRST STAGE RUN AS LONG AS POSSIBLE              |   |

**Job #:**  
**Performed by DJ for:**

**Northern Designs**

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 Peterborough, ON K9H 7T2  
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