


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 <div style="text-align: center;">THWU-12</div> | | | | Lot: <div style="text-align: center;">Lot/con.</div> | |
| Municipality <div style="text-align: center;">Bradford</div> | | Postal code | Plan number/ other description | | |
| B. Individual who reviews and takes responsibility for design activities | | | | | |
| Name <div style="text-align: center;">David DaCosta</div> | | | Firm <div style="text-align: center;">gtaDesigns Inc.</div> | | |
| Street address <div style="text-align: center;">2985 Drew Road, Suite 202</div> | | | | Unit no. | Lot/con. |
| Municipality <div style="text-align: center;">Mississauga</div> | | Postal code <div style="text-align: center;">L4T 0A4</div> | Province <div style="text-align: center;">Ontario</div> | E-mail <div style="text-align: center;">dave@gtadesigns.ca</div> | |
| Telephone number <div style="text-align: center;">(905) 671-9800</div> | | Fax number <div style="text-align: center;">(647) 494-9643</div> | Cell number <div style="text-align: center;">(416) 268-6820</div> | | |
| C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C] | | | | | |
| <input type="checkbox"/> House | | <input checked="" type="checkbox"/> HVAC – House | | <input type="checkbox"/> Building Structural | |
| <input type="checkbox"/> Small Buildings | | <input type="checkbox"/> Building Services | | <input type="checkbox"/> Plumbing – House | |
| <input type="checkbox"/> Large Buildings | | <input type="checkbox"/> Detection, Lighting and Power | | <input type="checkbox"/> Plumbing – All Buildings | |
| <input type="checkbox"/> Complex Buildings | | <input type="checkbox"/> Fire Protection | | <input type="checkbox"/> On-site Sewage Systems | |
| Description of designer's work | | | | Model Certification | |
| | | | | Project #: | PJ-00204 |
| | | | | Layout #: | JB-04876 |
| Heating and Cooling Load Calculations | | Main | X | Builder | Bayview Wellington |
| Air System Design | | Alternate | | Project | Green Valley |
| Residential mechanical ventilation Design Summary | | Area Sq ft: | 1762 | Model | THWU-12 |
| Residential System Design per CAN/CSA-F280-12 | | | | SB-12 | Package A1 |
| Residential New Construction - Forced Air | | | | | |
| D. Declaration of Designer | | | | | |
| <p>I, <u>David DaCosta</u> declare that (choose one as appropriate):</p> <p style="text-align: center;">(print name)</p> <p><input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 Division C of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.</p> <p style="margin-left: 150px;">Individual BCIN: _____</p> <p style="margin-left: 150px;">Firm BCIN: _____</p> <p><input checked="" type="checkbox"/> 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 style="margin-left: 150px;">Individual BCIN: <u>32964</u></p> <p style="margin-left: 150px;">Basis for exemption from registration: <u>Division C 3.2.4.1. (4)</u></p> <p><input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.</p> <p style="margin-left: 150px;">Basis for exemption from registration and qualification:</p> | | | | | |
| <p>I certify that:</p> <ol style="list-style-type: none"> The information contained in this schedule is true to the best of my knowledge. I have submitted this application with the knowledge and consent of the firm. | | | | | |
| <u>December 12, 2023</u> Date | | |  Signature of Designer | | |

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d), of Division C, Article 3.2.5.1. of Division C and all other persons who are exempt from qualifications under Subsections 3.2.4 . and 3.2.5. of Division C.
- Schedule 1 does not require to be completed a holder of a license, temporary license, or a certificate of authorization, 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 licence to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

REVIEWED

| Heat loss and gain calculation summary sheet | | | | CSA-F280-M12 Standard Form No. 1 | |
|---|--|---|--|--|--|
| These documents issued for the use of Bayview Wellington | | | | Layout No. | |
| and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red. | | | | JB-04876 | |
| Building Location | | | | | |
| Address (Model): THWU-12 | | | Site: Green Valley | | |
| Model: | | | Lot: | | |
| City and Province: Bradford | | | Postal code: | | |
| Calculations based on | | | | | |
| Dimensional information based on: | | | VA3 DESIGN22/May/2018 | | |
| Attachment: Townhome | | Front facing: East/West | | Assumed? Yes | |
| No. of Levels: 3 Ventilated? Included | | Air tightness: 1961-Present (ACH=3.57) | | Assumed? Yes | |
| Weather location: Bradford | | Wind exposure: Sheltered | | | |
| HRV? LifeBreath RNC155 | | Internal shading: Light-translucent | | Occupants: 4 | |
| Sensible Eff. at -25C 71% | | Apparent Effect. at -0C 84% | | Units: Imperial Area Sq ft: 1762 | |
| Sensible Eff. at -0C 75% | | | | | |
| Heating design conditions | | | Cooling design conditions | | |
| Outdoor temp -9.4 Indoor temp: 72 Mean soil temp: 48 | | | Outdoor temp 86 Indoor temp: 75 Latitude: 44 | | |
| Above grade walls | | | Below grade walls | | |
| Style A: As per OBC SB12 Package A1 R 22 | | | Style A: As per OBC SB12 Package A1 R 20ci | | |
| Style B: Existing Walls (When Applicable) R 12 | | | Style B: | | |
| Style C: | | | Style C: | | |
| Style D: | | | Style D: | | |
| Floors on soil | | | Ceilings | | |
| Style A: As per Selected OBC SB12 Package A1 | | | Style A: As per Selected OBC SB12 Package A1 R 60 | | |
| Style B: | | | Style B: As per Selected OBC SB12 Package A1 R 31 | | |
| Exposed floors | | | Style C: | | |
| Style A: As per Selected OBC SB12 Package A1 R 31 | | | Doors | | |
| Style B: | | | Style A: As per Selected OBC SB12 Package A1 R 4.00 | | |
| Windows | | | Style B: | | |
| Style A: As per Selected OBC SB12 Package A1 R 3.55 | | | Style C: | | |
| Style B: Existing Windows (When Applicable) R 1.99 | | | Skylights | | |
| Style C: | | | Style A: As per Selected OBC SB12 Package A1 R 2.03 | | |
| Style D: | | | Style B: | | |
| Attached documents: As per Shedule 1 | | Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values | | | |
| Notes: Residential New Construction - Forced Air | | | | | |
| Calculations performed by | | | | | |
| Name: David DaCosta | | | Postal code: L4T 0A4 | | |
| Company: gtaDesigns Inc. | | | Telephone: (905) 671-9800 | | |
| Address: 2985 Drew Road, Suite 202 | | | Fax: (416) 268-6820 | | |
| City: Mississauga | | | E-mail dave@gtadesigns.ca | | |

Builder: Bayview Wellington

Date: December 12, 2023

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under Division C subsection 3.2.5. of the Building Code.

Page 3

Project: Green Valley

Model: THWU-12

System 1

Individual BCIN: 32964

David DaCosta

Project # PJ-00204
Layout # JB-04876

| DESIGN LOAD SPECIFICATIONS | | | | AIR DISTRIBUTION & PRESSURE | | | | FURNACE/AIR HANDLER DATA: | | | | BOILER/WATER HEATER DATA: | | | | A/C UNIT DATA: | | | |
|--------------------------------|--------|-------|--|--|--------|----------|--|---------------------------|---------------|---------|--|---------------------------|------|-------|-------|---------------------------------|-----|-----|--|
| Level 1 Net Load | 9,604 | btu/h | | Equipment External Static Pressure | 0.5 | "w.c. | | Make | Amana | | | Make | Type | Amana | 1.5 | Ton | | | |
| Level 2 Net Load | 8,672 | btu/h | | Additional Equipment Pressure Drop | 0.225 | "w.c. | | Model | AMEC960403ANA | | | Model | | Cond. | ----- | 1.5 | | | |
| Level 3 Net Load | 7,639 | btu/h | | Available Design Pressure | 0.275 | "w.c. | | Input Btu/h | 40000 | | | Input Btu/h | | Coil | ----- | 1.5 | | | |
| Level 4 Net Load | 0 | btu/h | | Return Branch Longest Effective Length | 300 | ft | | Output Btu/h | 38400 | | | Output Btu/h | | | | | | | |
| Total Heat Loss | 25,914 | btu/h | | R/A Plenum Pressure | 0.138 | "w.c. | | E.s.p. | 0.50 | " W.C. | | Min.Output Btu/h | AWH | | | | | | |
| Total Heat Gain | 15,714 | btu/h | | S/A Plenum Pressure | 0.14 | "w.c. | | Water Temp | | deg. F. | | Blower DATA: | | | | | | | |
| Combo System HL + 10% | 28,506 | Btu/h | | Heating Air Flow Proportioning Factor | 0.0298 | cfm/btuh | | AFUE | 96% | | | Blower Speed Selected: | W2 | | | Blower Type | ECM | | |
| Building Volume Vb | 20307 | ft³ | | Cooling Air Flow Proportioning Factor | 0.0491 | cfm/btuh | | Aux. Heat | | | | | | | | (Brushless DC OBC 12.3.1.5.(2)) | | | |
| Ventilation Load | 895 | Btu/h | | R/A Temp | 70 | deg. F. | | SB-12 Package | Package A1 | | | Heating Check | 772 | cfm | | Cooling Check | 772 | cfm | |
| Ventilation PVC | 63.6 | cfm | | S/A Temp | 116 | deg. F. | | | | | | | | | | | | | |
| Supply Branch and Grill Sizing | | | | Diffuser loss | 0.01 | "w.c. | | Temp. Rise>>> | 46 | deg. F. | | Selected cfm> | 772 | cfm | | Cooling Air Flow Rate | 772 | cfm | |

| | Level 1 | | | | | | | | | | | | | | Level 2 | | | | | | | | | | | | | |
|--------------------------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|------|------|------|------|------|------|------|------|--|--|
| S/A Outlet No. | 1 | 2 | 3 | 4 | | | | | | | | | | | 5 | 6 | 7 | 8 | | | | | | | | | | |
| Room Use | BASE | BASE | BASE | BASE | | | | | | | | | | | FAM/KIT | FAM/KIT | PWD | FOY | | | | | | | | | | |
| Btu/Outlet | 2401 | 2401 | 2401 | 2401 | | | | | | | | | | | 2635 | 2635 | 456 | 2945 | | | | | | | | | | |
| Heating Airflow Rate CFM | 72 | 72 | 72 | 72 | | | | | | | | | | | 79 | 79 | 14 | 88 | | | | | | | | | | |
| Cooling Airflow Rate CFM | 37 | 37 | 37 | 37 | | | | | | | | | | | 112 | 112 | 3 | 42 | | | | | | | | | | |
| Duct Design Pressure | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | | |
| Actual Duct Length | 33 | 24 | 4 | 15 | | | | | | | | | | | 35 | 37 | 4 | 34 | | | | | | | | | | |
| Equivalent Length | 70 | 80 | 120 | 110 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 80 | 110 | 110 | 130 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | | |
| Total Effective Length | 103 | 104 | 124 | 125 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 115 | 147 | 114 | 164 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | | |
| Adjusted Pressure | 0.13 | 0.13 | 0.10 | 0.10 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.11 | 0.09 | 0.11 | 0.08 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | | |
| Duct Size Round | 5 | 5 | 5 | 5 | | | | | | | | | | | 6 | 6 | 3 | 6 | | | | | | | | | | |
| Outlet Size | 3x10 | 3x10 | 3x10 | 3x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 3x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | | |
| Trunk | A | A | C | C | | | | | | | | | | | B | B | A | C | | | | | | | | | | |

| | Level 3 | | | | | | | | Level 4 | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---------|------|------|-------|-------|------|------|------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|--|--|--|--|--|
| S/A Outlet No. | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Room Use | MAST | MAST | LAUN | BED 3 | BED 2 | BATH | ENS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Btu/Outlet | 1294 | 1294 | 121 | 2164 | 2208 | 353 | 205 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Heating Airflow Rate CFM | 39 | 39 | 4 | 64 | 66 | 11 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cooling Airflow Rate CFM | 59 | 59 | 50 | 100 | 80 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Duct Design Pressure | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | | | | | | | |
| Actual Duct Length | 55 | 54 | 30 | 39 | 36 | 29 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Equivalent Length | 130 | 120 | 120 | 120 | 140 | 110 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | | | | | | | |
| Total Effective Length | 185 | 174 | 150 | 159 | 156 | 169 | 135 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | | | | | | | |
| Adjusted Pressure | 0.07 | 0.07 | 0.09 | 0.08 | 0.08 | 0.08 | 0.10 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | | | | | | | | |
| Duct Size Round | 5 | 5 | 5 | 6 | 6 | 3 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outlet Size | 3x10 | 3x10 | 3x10 | 4x10 | 4x10 | 3x10 | 3x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | 4x10 | | | | | | | |
| Trunk | B | B | A | C | C | C | A | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Return Branch And Grill Sizing | | | | | | | | | | | | Grill Pressure Loss | | | | 0.02 "w.c. | | | |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|---------------------|--|--|--|------------|--|--|--|
| R/A Inlet No. | 1R | 2R | 3R | 4R | 5R | 6R | 7R | 8R | 9R | 10R | 11R | | | | | | | | |
| Inlet Air Volume CFM | 143 | 374 | 105 | 150 | | | | | | | | | | | | | | | |
| Duct Design Pressure | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | | | | | | | | |
| Actual Duct Length | 5 | 13 | 36 | 31 | | | | | | | | | | | | | | | |
| Equivalent Length | 110 | 170 | 125 | 180 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | | | | | | | |
| Total Effective Length | 115 | 183 | 161 | 211 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | | | | | | | | |
| Adjusted Pressure | 0.10 | 0.06 | 0.07 | 0.06 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | | | | | | | | |
| Duct Size Round | 7.0 | 11.0 | 6.0 | 8.0 | | | | | | | | | | | | | | | |
| Inlet Size | FLC | 6 | 8 | 8 | | | | | | | | | | | | | | | |
| " " | x | x | x | x | x | x | x | x | x | x | x | | | | | | | | |
| Inlet Size | | 30 | 14 | 14 | | | | | | | | | | | | | | | |
| Trunk | Z | Z | Z | | | | | | | | | | | | | | | | |

| Return Trunk Duct Sizing | | | | | Supply Trunk Duct Sizing | | | | |
|--------------------------|-----|--------|-------|------------|--------------------------|-----|--------|-------|------------|
| Trunk | CFM | Press. | Round | Rect. Size | Trunk | CFM | Press. | Round | Rect. Size |
| Drop | 772 | 0.06 | 14.0 | 24x10 | A | 400 | 0.07 | 11.0 | 14x8 10x10 |
| Z | 667 | 0.06 | 13.5 | 20x8 16x10 | B | 234 | 0.07 | 9.0 | 8x8 10x7 |
| Y | | | | | C | 372 | 0.08 | 10.0 | 12x8 10x10 |
| X | | | | | D | | | | |
| W | | | | | E | | | | |
| V | | | | | F | | | | |
| U | | | | | G | | | | |
| T | | | | | H | | | | |
| S | | | | | I | | | | |
| R | | | | | J | | | | |
| Q | | | | | K | | | | |

| Return Trunk Duct Sizing | | | | | Supply Trunk Duct Sizing | | | | |
|--------------------------|-----|--------|-------|------------|--------------------------|-----|--------|-------|------------|
| Trunk | CFM | Press. | Round | Rect. Size | Trunk | CFM | Press. | Round | Rect. Size |
| Drop | 772 | 0.06 | 14.0 | 24x10 | A | 400 | 0.07 | 11.0 | 14x8 10x10 |
| Z | 667 | 0.06 | 13.5 | 20x8 16x10 | B | 234 | 0.07 | 9.0 | 8x8 10x7 |
| Y | | | | | C | 372 | 0.08 | 10.0 | 12x8 10x10 |
| X | | | | | D | | | | |
| W | | | | | E | | | | |
| V | | | | | F | | | | |
| U | | | | | G | | | | |
| T | | | | | H | | | | |
| S | | | | | I | | | | |
| R | | | | | J | | | | |
| Q | | | | | K | | | | |

REVIEWED

2012 OBC

Builder: Bayview Wellington

Date: December 12, 2023

Project: Green Valley

Model: THWU-12

System 1

Weather Data Bradford 44 -9.4 86 22 48.2

Heat Loss ^T 81.4 deg. F Ht gain ^T 11 deg. F GTA: 1762

Project #
Layout #

Level 1

| | | | | | | | | | | | | | | |
|------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Run ft. exposed wall A | 62 | A | A | A | A | A | A | A | A | A | A | A | A | A |
| Run ft. exposed wall B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| Ceiling height | 3.5 | AG | 3.5 | AG | 3.5 | AG | 3.5 | AG | 3.5 | AG | 3.5 | AG | 3.5 | AG |
| Floor area | 704 | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area |
| Exposed Ceilings A | A | A | A | A | A | A | A | A | A | A | A | A | A | A |
| Exposed Ceilings B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| Exposed Floors | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr |
| Gross Exp Wall A | 217 | | | | | | | | | | | | | |
| Gross Exp Wall B | | | | | | | | | | | | | | |

| Components | R-Values | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain |
|--------------------------------|---------------------------|--------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| North Shaded | 3.55 | 22.93 | 10.91 | 23 | 527 | 629 | | | | | | | | | | | |
| East/West | 3.55 | 22.93 | 27.35 | | | | | | | | | | | | | | |
| South | 3.55 | 22.93 | 20.89 | | | | | | | | | | | | | | |
| WOB Windows | 3.15 | 25.84 | 28.32 | | | | | | | | | | | | | | |
| Skylight | 2.03 | 40.10 | 88.23 | | | | | | | | | | | | | | |
| Doors | 4.00 | 20.35 | 2.75 | | | | | | | | | | | | | | |
| Net exposed walls A | 21.13 | 3.85 | 0.52 | 194 | | 101 | | | | | | | | | | | |
| Net exposed walls B | 14.49 | 5.62 | 0.76 | | | | | | | | | | | | | | |
| Exposed Ceilings A | 59.22 | 1.37 | 0.64 | | | | | | | | | | | | | | |
| Exposed Ceilings B | 22.86 | 3.56 | 1.66 | | | | | | | | | | | | | | |
| Exposed Floors | 29.80 | 2.73 | 0.17 | | | | | | | | | | | | | | |
| Foundation Conductive Heatloss | On Grade () or Above () | | | 3990 | | | | | | | | | | | | | |
| Total Conductive | Heat Loss | | | 4517 | | | | | | | | | | | | | |
| Air Leakage | Heat Loss/Gain | 1.0663 | 0.0461 | 4817 | | 34 | | | | | | | | | | | |
| Ventilation | Case 1 | 0.10 | 0.11 | | | | | | | | | | | | | | |
| | Case 2 | 14.07 | 11.88 | | | | | | | | | | | | | | |
| | Case 3 | x | 0.06 | 270 | | 80 | | | | | | | | | | | |
| Heat Gain People | | | 239 | | | | | | | | | | | | | | |
| Appliances Loads | 1 = .25 percent | | 2943 | 2.0 | | 1471 | | | | | | | | | | | |
| Duct and Pipe loss | 10% | | | | | | | | | | | | | | | | |
| Level 1 HL Total | 9,604 | | | 9604 | | | | | | | | | | | | | |
| Level 1 HG Total | 3,010 | | | | | 3010 | | | | | | | | | | | |

Level 2

| | | | | | | | | | | | | | | | | | |
|------------------------|------|------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Run ft. exposed wall A | 39 | A | FAM/KIT | 6 | A | PWD | 17 | A | FOY | A | A | A | A | A | A | A | A |
| Run ft. exposed wall B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| Ceiling height | 10.0 | | 10.0 | | 10.0 | | 13.0 | | 10.0 | | 10.0 | | 10.0 | | 10.0 | | 10.0 |
| Floor area | 573 | Area | 36 | Area | 100 | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area |
| Exposed Ceilings A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A |
| Exposed Ceilings B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| Exposed Floors | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr |
| Gross Exp Wall A | 390 | | 60 | | 221 | | | | | | | | | | | | |
| Gross Exp Wall B | | | | | | | | | | | | | | | | | |

| Components | R-Values | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain |
|--------------------------------|---------------------------|--------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| North Shaded | 3.55 | 22.93 | 10.91 | 80 | 1834 | 2188 | | | | | | | | | | | |
| East/West | 3.55 | 22.93 | 27.35 | | | | | | | | | | | | | | |
| South | 3.55 | 22.93 | 20.89 | | | | | | | | | | | | | | |
| Existing Windows | 1.99 | 40.90 | 22.15 | | | | | | | | | | | | | | |
| Skylight | 2.03 | 40.10 | 88.23 | | | | | | | | | | | | | | |
| Doors | 4.00 | 20.35 | 2.75 | | | | | | | | | | | | | | |
| Net exposed walls A | 17.03 | 4.78 | 0.65 | 310 | 1482 | 200 | 60 | 287 | 39 | 172 | 822 | 111 | | | | | |
| Net exposed walls B | 8.50 | 9.58 | 1.29 | | | | | | | | | | | | | | |
| Exposed Ceilings A | 59.22 | 1.37 | 0.64 | | | | | | | | | | | | | | |
| Exposed Ceilings B | 22.86 | 3.56 | 1.66 | | | | | | | | | | | | | | |
| Exposed Floors | 29.80 | 2.73 | 0.17 | | | | | | | | | | | | | | |
| Foundation Conductive Heatloss | On Grade () or Above () | | | 3316 | | | | 287 | | 1853 | | | | | | | |
| Total Conductive | Heat Loss | | | | | | | | | | | | | | | | |
| | Heat Gain | | | | | | | 2389 | | 566 | | | | | | | |
| Air Leakage | Heat Loss/Gain | 0.5297 | 0.0461 | 1757 | | 110 | | 152 | | 982 | | 26 | | | | | |
| Ventilation | Case 1 | 0.05 | 0.11 | | | | | | | | | | | | | | |
| | Case 2 | 14.07 | 11.88 | | | | | | | | | | | | | | |
| | Case 3 | x | 0.06 | 198 | | 262 | | 17 | | 111 | | 62 | | | | | |
| Heat Gain People | | | 239 | | | | | | | | | | | | | | |
| Appliances Loads | 1 = .25 percent | | 2943 | 1.0 | | 736 | | | | | | | | | | | |
| Duct and Pipe loss | 10% | | | | | | | | | | | | | | | | |
| Level 2 HL Total | 8,672 | | | 5271 | | | | 456 | | 2945 | | 850 | | | | | |
| Level 2 HG Total | 5,454 | | | | | 4546 | | | | | | | | | | | |

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under

Division C subsection 3.2.5. of the Building Code. Individual BCIN:

32964

Dave DaCosta

Dave DaCosta

SB-12 Package

Package A1

| | | |
|-----------------|--------|-------|
| Total Heat Loss | 25,914 | btu/h |
| Total Heat Gain | 15,714 | btu/h |

2012 OBC

Builder: Bayview Wellington

Date: December 12, 2023

Project: Green Valley

Model: THWU-12

System 1

Weather Data Bradford 44 -9.4 86 22 48.2

Heat Loss ^T 81.4 deg. F Ht gain ^T 11 deg. F GTA: 1762

Level 3

| | | | | | | | | | | | | | | | | | | |
|------------------------|----------|------|---------|------|----------|-------|----------|-------|---------|------|----------|-----|------|------|------|------|------|------|
| Run ft. exposed wall A | 19 A | MAST | A | LAUN | A | BED 3 | 14 A | BED 2 | 10 A | BATH | A | ENS | A | A | A | A | A | A |
| Run ft. exposed wall B | B | | B | | B | | B | | B | | B | | B | B | B | B | B | B |
| Ceiling height | 8.0 | | 8.0 | | 8.0 | | 8.0 | | 8.0 | | 8.0 | | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| Floor area | 352 Area | | 61 Area | | 123 Area | | 203 Area | | 61 Area | | 103 Area | | Area | Area | Area | Area | Area | Area |
| Exposed Ceilings A | 352 A | | 61 A | | 123 A | | 203 A | | 61 A | | 103 A | | A | A | A | A | A | A |
| Exposed Ceilings B | B | | B | | B | | B | | B | | B | | B | B | B | B | B | B |
| Exposed Floors | Flr | | Flr | | 23 Flr | | 122 Flr | | 51 Flr | | Flr | | Flr | Flr | Flr | Flr | Flr | Flr |
| Gross Exp Wall A | 152 | | | | 112 | | 80 | | | | | | | | | | | |
| Gross Exp Wall B | | | | | | | | | | | | | | | | | | |

| Components | R-Values | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain |
|--------------------------------|----------------|--------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| North Shaded | 3.55 | 22.93 | 10.91 | | | | | | | | | | | | | | | | |
| East/West | 3.55 | 22.93 | 27.35 | 32 | 734 | 875 | | 33 | 757 | 903 | 22 | 504 | 602 | | | | | | |
| South | 3.55 | 22.93 | 20.89 | | | | | | | | | | | | | | | | |
| Existing Windows | 1.99 | 40.90 | 22.15 | | | | | | | | | | | | | | | | |
| Skylight | 2.03 | 40.10 | 88.23 | | | | | | | | | | | | | | | | |
| Doors | 4.00 | 20.35 | 2.75 | | | | | | | | | | | | | | | | |
| Net exposed walls A | 17.03 | 4.78 | 0.65 | 120 | 574 | 78 | | 79 | 378 | 51 | 58 | 277 | 37 | | | | | | |
| Net exposed walls B | 8.50 | 9.58 | 1.29 | | | | | | | | | | | | | | | | |
| Exposed Ceilings A | 59.22 | 1.37 | 0.64 | 352 | 484 | 226 | 61 | 84 | 39 | 123 | 169 | 79 | 203 | 279 | 130 | 61 | 84 | 39 | 103 |
| Exposed Ceilings B | 22.86 | 3.56 | 1.66 | | | | | | | | | | | | | | | | |
| Exposed Floors | 29.80 | 2.73 | 0.17 | | | | | | | 23 | 63 | 4 | 122 | 333 | 20 | 51 | 139 | 9 | |
| Foundation Conductive Heatloss | | | | | | | | | | | | | | | | | | | |
| Total Conductive | | | | | | | | | | | | | | | | | | | |
| Heat Loss | | | | | | | | | | | | | | | | | | | |
| Heat Gain | | | | 1791 | | | 84 | | | 1366 | | | 1394 | | | 223 | | | 142 |
| Air Leakage | Heat Loss/Gain | 0.3854 | 0.0461 | 690 | 54 | | 32 | 2 | | 526 | 48 | | 537 | 36 | | 86 | 2 | | 55 |
| Case 1 | | 0.04 | 0.11 | | | | | | | | | | | | | | | | |
| Case 2 | | 14.07 | 11.88 | | | | | | | | | | | | | | | | |
| Case 3 | x | 0.06 | 0.11 | | | | | | | | | | | | | | | | |
| Heat Gain People | | | 239 | 2 | 107 | 129 | | 5 | 4 | 1 | 82 | 114 | | 83 | 87 | | 13 | 5 | |
| Appliances Loads | 1 =.25 percent | | 2943 | | | | 1.0 | | 736 | | | | | | | | | | |
| Duct and Pipe loss | | | 10% | | | | | | | 1 | 189 | 128 | 1 | 193 | 103 | 1 | 31 | 5 | |
| Level 3 HL Total | 7,639 | | | 2588 | | | 121 | | | 2164 | | | 2208 | | | | | | 205 |
| Level 3 HG Total | 7,250 | | | | 2393 | | | 1015 | | | 2034 | | | 1632 | | | | | 99 |

Level 4

| | | | | | | | | | | | | | | | | | | | |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Run ft. exposed wall A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A |
| Run ft. exposed wall B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| Ceiling height | | | | | | | | | | | | | | | | | | | |
| Floor area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area | Area |
| Exposed Ceilings A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A |
| Exposed Ceilings B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B |
| Exposed Floors | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr | Flr |
| Gross Exp Wall A | | | | | | | | | | | | | | | | | | | |
| Gross Exp Wall B | | | | | | | | | | | | | | | | | | | |

| Components | R-Values | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain | Loss | Gain |
|--------------------------------|----------------|--------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| North Shaded | 3.55 | 22.93 | 10.91 | | | | | | | | | | | | | | | | |
| East/West | 3.55 | 22.93 | 27.35 | | | | | | | | | | | | | | | | |
| South | 3.55 | 22.93 | 20.89 | | | | | | | | | | | | | | | | |
| Existing Windows | 1.99 | 40.90 | 22.15 | | | | | | | | | | | | | | | | |
| Skylight | 2.03 | 40.10 | 88.23 | | | | | | | | | | | | | | | | |
| Doors | 4.00 | 20.35 | 2.75 | | | | | | | | | | | | | | | | |
| Net exposed walls A | 17.03 | 4.78 | 0.65 | | | | | | | | | | | | | | | | |
| Net exposed walls B | 8.50 | 9.58 | 1.29 | | | | | | | | | | | | | | | | |
| Exposed Ceilings A | 59.22 | 1.37 | 0.64 | | | | | | | | | | | | | | | | |
| Exposed Ceilings B | 22.86 | 3.56 | 1.66 | | | | | | | | | | | | | | | | |
| Exposed Floors | 29.80 | 2.73 | 0.17 | | | | | | | | | | | | | | | | |
| Foundation Conductive Heatloss | | | | | | | | | | | | | | | | | | | |
| Total Conductive | | | | | | | | | | | | | | | | | | | |
| Heat Loss | | | | | | | | | | | | | | | | | | | |
| Heat Gain | | | | | | | | | | | | | | | | | | | |
| Air Leakage | Heat Loss/Gain | 0.0000 | 0.0461 | | | | | | | | | | | | | | | | |
| Case 1 | | 0.00 | 0.11 | | | | | | | | | | | | | | | | |
| Case 2 | | 14.07 | 11.88 | | | | | | | | | | | | | | | | |
| Case 3 | x | 0.06 | 0.11 | | | | | | | | | | | | | | | | |
| Heat Gain People | | | 239 | | | | | | | | | | | | | | | | |
| Appliances Loads | 1 =.25 percent | | 2943 | | | | | | | | | | | | | | | | |
| Duct and Pipe loss | | | 10% | | | | | | | | | | | | | | | | |
| Level 4 HL Total | 0 | | | | | | | | | | | | | | | | | | |
| Level 4 HG Total | 0 | | | | | | | | | | | | | | | | | | |

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under

Division C subsection 3.2.5. of the Building Code. Individual BCIN:

32964

Diana M. Costa

David DaCosta

SB-12 Package

Package A1

| | | |
|-----------------|--------|-------|
| Total Heat Loss | 25,914 | btu/h |
| Total Heat Gain | 15,714 | btu/h |

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under Division C subsection 3.2.5. of the Building Code.

Individual BCIN: 32964

David DaCosta

Package: Package A1

Project: Bradford

Model:

THWU-12

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

For systems serving one dwelling unit & conforming to the Ontario Building Code, O.reg 332/12

Location of Installation

| | |
|----------|----------|
| Lot # | Plan # |
| Township | |
| Bradford | |
| Roll # | Permit # |
| Address | |

Builder

| | |
|--------------------|-----|
| Name | |
| Bayview Wellington | |
| Address | |
| City | |
| Tel | Fax |

Installing Contractor

| | |
|---------|-----|
| Name | |
| Address | |
| City | |
| Tel | Fax |

Combustion Appliances 9.32.3.1(1)

- | | | |
|----|-------------------------------------|--|
| a) | <input checked="" type="checkbox"/> | Direct vent (sealed combustion) only |
| b) | <input type="checkbox"/> | Positive venting induced draft (except fireplaces) |
| c) | <input type="checkbox"/> | Natural draft, B-vent or induced draft fireplaces |
| d) | <input type="checkbox"/> | Solid fuel (including fireplaces) |
| e) | <input type="checkbox"/> | No combustion Appliances |

Heating System

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Forced air |
| <input type="checkbox"/> | Non forced air |
| <input type="checkbox"/> | Electric space heat (if over 10% of heat load) |

House Type 9.32.3.1(2)

- | | | |
|-------|-------------------------------------|---|
| I | <input checked="" type="checkbox"/> | Type a) or b) appliances only, no solid fuel |
| II | <input type="checkbox"/> | Type I except with solid fuel (including fireplace) |
| III | <input type="checkbox"/> | Any type c) appliance |
| IV | <input type="checkbox"/> | Type I or II either electric space heat |
| Other | <input type="checkbox"/> | Type I, II or IV no forced air |

System Design Option

- | | | |
|---------------|-------------------------------------|---|
| 1 | <input type="checkbox"/> | Exhaust only / forced air system |
| 2 | <input type="checkbox"/> | HRV WITH DUCTING / forced air system |
| 3 | <input checked="" type="checkbox"/> | HRV simplified connection to forced air system |
| 4 | <input type="checkbox"/> | HRV full ducting/not coupled to forced air system |
| Part 6 design | | |

Total Ventilation Capacity 9.32.3.3(1)

| | | |
|---------------------|--------------|--------------|
| Bsmt & Master Bdrm | 2 @ 21.2 cfm | 42.4 cfm |
| Other Bedrooms | 2 @ 10.6 cfm | 21.2 cfm |
| Bathrooms & Kitchen | 4 @ 10.6 cfm | 42.4 cfm |
| Other rooms | 3 @ 10.6 cfm | 31.8 cfm |
| Total | | <u>137.8</u> |

Principal Ventilation Capacity 9.32.3.4(1)

| | | |
|----------------|--------------|-------------|
| Master bedroom | 1 @ 31.8 cfm | 31.8 cfm |
| Other bedrooms | 2 @ 15.9 cfm | 31.8 cfm |
| Total | | <u>63.6</u> |

Principal Exhaust Fan Capacity

| Make | Model | Location |
|------------|--------|-----------------|
| LifeBreath | RNC155 | Base |
| 132 cfm | | Sones or Equiv. |

Heat Recovery Ventilator

| | |
|---------------------------------|--------------|
| Make | LifeBreath |
| Model | RNC155 |
| | 132 cfm high |
| | 80 cfm low |
| Sensible efficiency @ -25 deg C | 71% |
| Sensible efficiency @ 0 deg C | 75% |

Note: Installer to balance HRV/ERV to within 10 percent of PVC

Supplemental Ventilation Capacity

| | |
|--------------------------------------|-----------------|
| Total ventilation capacity | 137.8 |
| Less principal exhaust capacity | 63.6 |
| REQUIRED supplemental vent. Capacity | <u>74.2</u> cfm |

Supplemental Fans 9.32.3.5.

| Location | cfm | Model | Sones |
|----------|-----|-------|-------|
| Ens | 50 | XB50 | 0.3 |
| Bath | 50 | XB50 | 0.3 |

all fans HVI listed

Make Broan

or Equiv.

Designer Certification

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name David DaCosta

Signature

HRAI #

5190

BCIN #

32964

Date

December 12, 2023

REVIEWED



2985 Drew Road, Suite 202, Mississauga, Ontario
L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643
e-mail dave@gtadesigns.ca

Energy Efficiency Design Summary: Prescriptive Method (Building Code Part 9, Residential)

Page 7
Project # PJ-00204
Layout # JB-04876

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

REVIEWED

For use by Principal Authority

Application No:

Model/Certification Number

A. Project Information

| | | | |
|--|-------------|--------------------------------------|---------|
| Building number, street name THWU-12 | | Unit number | Lot/Con |
| Municipality Bradford | Postal code | Reg. Plan number / other description | |

B. Prescriptive Compliance [indicate the building code compliance package being employed in the house design]

SB-12 Prescriptive (input design package): Package A1 Table: 3.1.1.2.A

C. Project Design Conditions

| Climatic Zone (SB-1): | Heat. Equip. Efficiency | Space Heating Fuel Source |
|---|---|--|
| <input checked="" type="checkbox"/> Zone 1 (< 5000 degree days) <input type="checkbox"/> Zone 2 (≥ 5000 degree days) | <input checked="" type="checkbox"/> ≥ 92% AFUE <input type="checkbox"/> ≥ 84% < 92% AFUE | <input checked="" type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel <input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy |
| Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area | Other Building Characteristics | |
| Area of Walls = <u>282.23</u> m ² or <u>3037.9</u> ft ² | W,S & G % = <u>7%</u> | <input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement <input type="checkbox"/> Slab-on-ground Walkout Basement <input checked="" type="checkbox"/> Air Conditioning Combo Unit |
| Area of W, S & G = <u>18.859</u> m ² or <u>203.0</u> ft ² | Utilize Window <input type="checkbox"/> Yes Averaging <input checked="" type="checkbox"/> No | <input type="checkbox"/> Air Sourced Heat Pump (ASHP) <input type="checkbox"/> Ground Source Heat Pump (GSHP) |

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

| Energy Efficiency Substitutions | | | | |
|---|--|-----------|--|--------------------|
| <input type="checkbox"/> ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5)) <input type="checkbox"/> Combined space heating and domestic water heating systems (3.1.1.2(7) / 3.1.1.3.(7)) | | | | |
| <input type="checkbox"/> Airtightness substitution(s) Airtightness test required (Refer to Design Guide Attached) | <input type="checkbox"/> Table 3.1.1.4.B Required: Permitted Substitution: <input type="checkbox"/> Table 3.1.1.4.C Required: Permitted Substitution: | | | |
| Building Component | Minimum RSI/R-Values or Maximum U-Value ⁽¹⁾ | | Building Component | Efficiency Ratings |
| Thermal Insulation | Nominal | Effective | Windows & Doors Provide U-Value ⁽¹⁾ or ER rating | |
| Ceiling with Attic Space | 60 | | Windows/Sliding Glass Doors | 1.6 |
| Ceiling without Attic Space | 31 | | Skylights | 2.8 |
| Exposed Floor | 31 | | Mechanicals | |
| Walls Above Grade | 22 | | Heating Equip.(AFUE) | 96% |
| Basement Walls | 20.0ci | | HRV Efficiency (SRE% at 0°C) | 75% |
| Slab (all >600mm below grade) | x | | DHW Heater (EF) | 0.80 |
| Slab (edge only ≤600mm below grade) | 10 | | DWHR (CSA B55.1 (min. 42% efficiency)) | #Showers 2 |
| Slab (all ≤600mm below grade, or heated) | 10 | | Combined Heating System | |

(1) U value to be provided in either W/(m²·K) or Btu/(h·ft²·°F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets building code]

| | | |
|------------------------------|----------------------|---------------|
| Name David DaCosta | BCIN 32964 | Signature |
|------------------------------|----------------------|---------------|

Package: Project: Package A1 Bradford System: Model: System 1 THWU-12

Air Leakage Calculations

| Building Air Leakage Heat Loss | | | | |
|--------------------------------|--------|-------|------|--------|
| B | LRairh | Vb | HL^T | HLleak |
| 0.018 | 0.324 | 20307 | 81.4 | 9634 |

| Building Air Leakage Heat Gain | | | | |
|--------------------------------|--------|-------|------|---------|
| B | LRairh | Vb | HG^T | HG Leak |
| 0.018 | 0.079 | 20307 | 11 | 317 |

| Air Leakage Heat Loss/Gain Multiplier Table (Section 11) | | | | |
|--|-------------------|--------------|----------------------------|----------------------------------|
| Level | Level Factor (LF) | Building Air | Level Conductive Heat Loss | Air Leakage Heat Loss Multiplier |
| Level 1 | 0.5 | 9634 | 4517 | 1.0663 |
| Level 2 | 0.3 | | 5456 | 0.5297 |
| Level 3 | 0.2 | | 5000 | 0.3854 |
| Level 4 | 0 | | 0 | 0.0000 |

| Levels | | | |
|--------|------|------|------|
| 1 | 2 | 3 | 4 |
| (LF) | (LF) | (LF) | (LF) |
| 1.0 | 0.6 | 0.5 | 0.4 |
| | 0.4 | 0.3 | 0.3 |
| | | 0.2 | 0.2 |
| | | | 0.1 |

| HG LEAK | | Air Leakage Heat Gain | |
|-------------------------------|-----|-----------------------|--------|
| | 317 | | 0.0461 |
| BUILDING CONDUCTIVE HEAT GAIN | | | 6881 |

| Levels this Dwelling | |
|----------------------|--|
| 3 | |

Ventilation Calculations

Ventilation Heat Loss

| Ventilation Heat Loss | | | | |
|-----------------------|------|------|-----------|---------|
| C | PVC | HL^T | (1-E) HRV | HLbvent |
| 1.08 | 63.6 | 81.4 | 0.16 | 895 |

Ventilation Heat Gain

| Ventilation Heat Gain | | | |
|-----------------------|------|------|---------|
| C | PVC | HG^T | HGbvent |
| 1.1 | 63.6 | 11 | 756 |

Case 1

Ventilation Heat Loss (Exhaust only Systems)

| Case 1 - Exhaust Only | | | | |
|-----------------------|-----|---------|--------------|------------|
| Level | LF | HLbvent | LVL Cond. HL | Multiplier |
| Level 1 | 0.5 | 895 | 4517 | 0.10 |
| Level 2 | 0.3 | | 5456 | 0.05 |
| Level 3 | 0.2 | | 5000 | 0.04 |
| Level 4 | 0 | | 0 | 0.00 |

Case 1

Ventilation Heat Gain (Exhaust Only Systems)

| Case 1 - Exhaust Only | | Multiplier | |
|-----------------------|------|------------|--|
| HGbvent | 756 | 0.11 | |
| Building | 6881 | | |

Case 2

Ventilation Heat Loss (Direct Ducted Systems)

| C | HL^T | (1-E) HRV | Multiplier |
|------|------|-----------|------------|
| 1.08 | 81.4 | 0.16 | 14.07 |

Case 2

Ventilation Heat Gain (Direct Ducted Systems)

| C | HG^T | Multiplier |
|------|------|------------|
| 1.08 | 11 | 11.88 |

Case 3

Ventilation Heat Loss (Forced Air Systems)

| HLbvent | | Multiplier | |
|------------------------|-----|------------|--|
| Total Ventilation Load | 895 | 0.06 | |

Case 3

Ventilation Heat Gain (Forced Air Systems)

| Vent Heat Gain | | Multiplier | |
|----------------|-----|------------|--|
| HGbvent | 756 | 0.11 | |
| HG*1.3 | 1 | | |

Foundation Conductive Heatloss Level 1

1169 Watts 3990 Btu/h

Foundation Conductive Heatloss Level 2

Watts Btu/h

Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

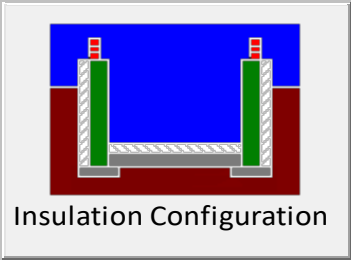
| Weather Station Description | | | | |
|---|-------------------------------------|----|----------------|----|
| Province: | Ontario | | | |
| Region: | Bradford | | | |
| Weather Station Location: | Open flat terrain, grass | | | |
| Anemometer height (m): | 10 | | | |
| Local Shielding | | | | |
| Building Site: | Suburban, forest | | | |
| Walls: | Heavy | | | |
| Flue: | Heavy | | | |
| Highest Ceiling Height (m): | 6.55 | | | |
| Building Configuration | | | | |
| Type: | Semi-Detached | | | |
| Number of Stories: | Two | | | |
| Foundation: | Shallow | | | |
| House Volume (m ³): | 575.08 | | | |
| Air Leakage/Ventilation | | | | |
| Air Tightness Type: | Present (1961-) (ACH=3.57) | | | |
| Custom BDT Data: | ELA @ 10 Pa. 322.44 cm ² | | | |
| | 3.57 ACH @ 50 Pa | | | |
| Mechanical Ventilation (L/s): | Total Supply: | | Total Exhaust: | |
| | 31.8 | | 31.8 | |
| Flue #: | #1 | #2 | #3 | #4 |
| Diameter (mm): | 0 | 0 | 0 | 0 |
| Heating Air Leakage Rate (ACH/H): 0.324 | | | | |
| Cooling Air Leakage Rate (ACH/H): 0.079 | | | | |

REVIEWED
















Residential Foundation Thermal Load Calculator

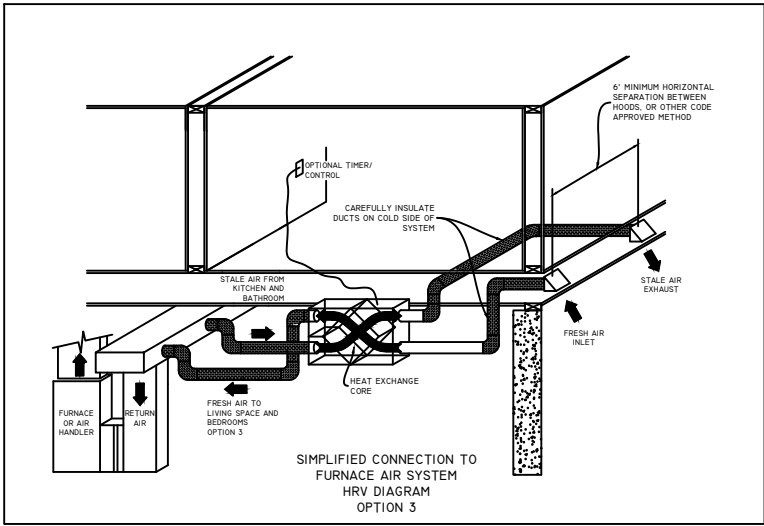
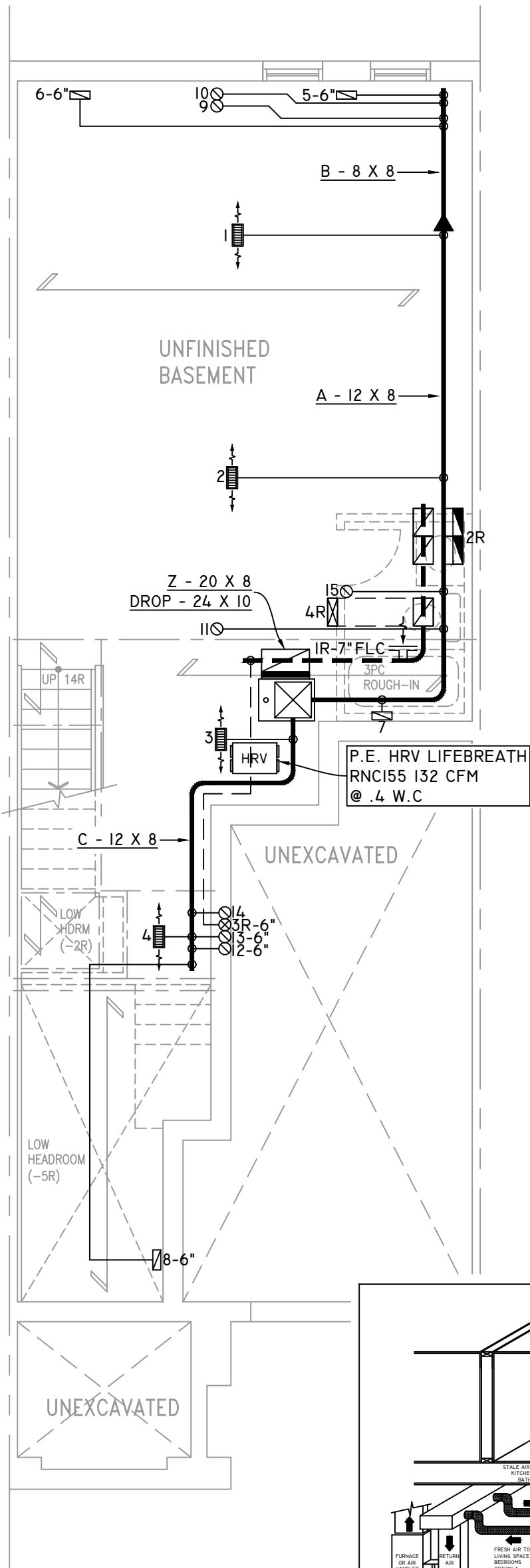
Supplemental tool for CAN/CSA-F280

REVIEWED

| Weather Station Description | | |
|--------------------------------|---------------------------------|---|
| Province: | Ontario ▼ | |
| Region: | Bradford ▼ | |
| Site Description | | |
| Soil Conductivity: | High conductivity: moist soil ▼ | |
| Water Table: | Normal (7-10 m, 23-33 Ft) ▼ | |
| Foundation Dimensions | | |
| Floor Length (m): | 17.62 |  <p>Insulation Configuration</p> |
| Floor Width (m): | 3.72 | |
| Exposed Perimeter (m): | 18.90 | |
| Wall Height (m): | 2.59 | |
| Depth Below Grade (m): | 1.52 | |
| Window Area (m ²): | 2.14 | |
| Door Area (m ²): | 0.00 | |
| Radiant Slab | | |
| Heated Fraction of the Slab: | 0 | |
| Fluid Temperature (°C): | 33 | |
| Design Months | | |
| Heating Month | 1 | |
| Foundation Loads | | |
| Heating Load (Watts): | | 1169 |

REVIEWED

| | | | | | | | | | |
|--|------------------|---|------------------------------------|---|---------------------------------|---|---|---|------------------------------|
|  | FLEX DUCT |  | LOW/HIGH WALL/KICK SUPPLY DIFFUSER |  | DUCT CONNECTION TO JOIST LINING |  | RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) | S.A. | SUPPLY AIR |
|  | RIGID ROUND DUCT |  | HRV EXHAUST GRILLE |  | RETURN AIR PIPE RISER |  | RETURN AIR RISER UP TO FLOOR ABOVE | R.A. | RETURN AIR |
|  | SUPPLY DIFFUSER |  | SUPPLY AIR PIPE RISER |  | RETURN ROUND DUCT |  | RETURN AIR FROM BASEMENT SECOND FLOOR |  | THERMOSTAT |
| | | | VOLUME DAMPER | | | | |  | PRINCIPAL EXHAUST FAN SWITCH |
| | | | | | | | |  | W/R & PRINCIPAL EXHAUST FAN |



OBC 2012

BASEMENT PLAN 'A' & 'B'

ZONE I COMPLIANCE
PACKAGE "A1" REF. TABLE 3.1.1.2.A

FOR THE PURPOSE OF
HEATLOSS/GAIN
CALCULATIONS ALL
ELEVATIONS HAVE BEEN
CONSIDERED

FURNACE EQUIPPED WITH
BRUSHLESS DC MOTOR AS
PER OBC 12.3.1.5 (2)


INSULATE ALL DUCTS IN
UNCONDITIONED
SPACES MIN. R12

ALL DUCTWORK LOCATED IN
CONDITIONED AREAS
MUST BE SEALED TO CLASS
C LEVEL AS PER OBC PART
6-6.2.4.3.(12)

THE UNDERSIGNED HAS REVIEWED AND TAKES RESPONSIBILITY FOR THIS DESIGN ON BEHALF OF GTA DESIGNS INC. AND HAS THE QUALIFICATIONS AND MEETS THE REQUIREMENTS SET OUT IN THE BUILDING CODE TO BE A DESIGNER

QUALIFICATION INFORMATION

REQUIRED UNLESS DESIGN IS EXEMPT UNDER DIVISION C 3.2.5.1 OF THE ONTARIO BUILDING CODE

DAVID DA COSTA  B.C.I.N. 32964
SIGNATURE OF DESIGNER

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.

ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.

PROVIDE BALANCING DAMPERS ON ALL BRANCHES.

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)

INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.

CONTRACTOR MUST WORK FROM APPROVED PLANS.

ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSIBILITY OF GTA DESIGNS.

GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHAUST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING.



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EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA



















| | | |
|----------------------|---------------|-----------|
| HEAT-LOSS | 25,914 | BTU/HR. |
| UNIT MAKE | AMANA | OR EQUAL. |
| UNIT MODEL | AMEC960403ANA | OR EQUAL. |
| UNIT HEATING INPUT | 40,000 | BTU/HR. |
| UNIT HEATING OUTPUT | 38,400 | BTU/HR. |
| A/C COOLING CAPACITY | 1.5 | TONS. |
| FAN SPEED | 772 | CFM |

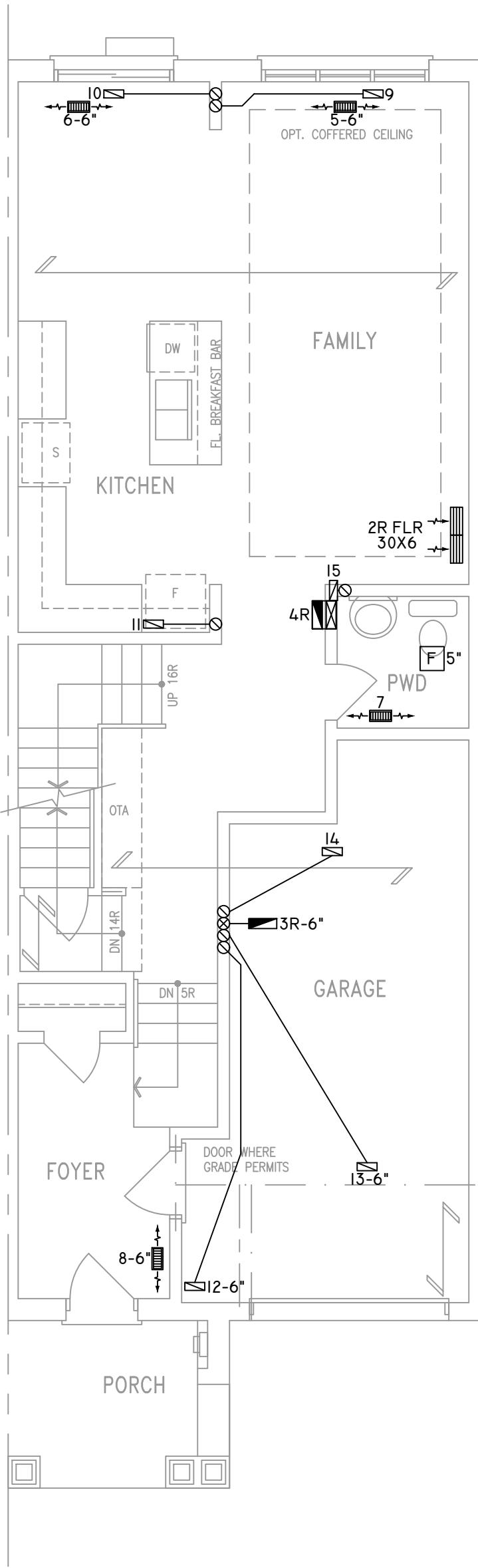
| # OF RUNS | S/A | R/A | FANS |
|-----------|-----|-----|------|
| 3RD FLOOR | | | |
| 2ND FLOOR | 7 | 2 | 3 |
| 1ST FLOOR | 4 | 1 | 2 |
| BASEMENT | 4 | 1 | |

| | |
|-------------|----------|
| FLOOR PLAN: | BASEMENT |
| DRAWN BY: | JL |
| CHECKED: | DD |
| LAYOUT NO: | JB-04876 |
| sqft | 1762 |
| DRAWING NO. | MI |

| | |
|----------|-------------------------------|
| DATE: | DECEMBER 12, 2023 |
| CLIENT: | BAYVIEW WELLINGTON |
| MODEL: | THWU-12 |
| PROJECT: | GREEN VALLEY BRADFORD,ONT. |
| SCALE: | 3/16" = 1'-0" |

REVIEWED

| | | | | | | | | | |
|--|------------------|---|------------------------------------|---|---------------------------------|---|---|---|------------|
|  | FLEX DUCT |  | LOW/HIGH WALL/KICK SUPPLY DIFFUSER |  | DUCT CONNECTION TO JOIST LINING |  | RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) | S.A. | SUPPLY AIR |
|  | RIGID ROUND DUCT |  | HRV EXHAUST GRILLE |  | RETURN AIR PIPE RISER |  | RETURN AIR RISER UP TO FLOOR ABOVE | R.A. | RETURN AIR |
|  | SUPPLY DIFFUSER |  | SUPPLY AIR PIPE RISER |  | RETURN ROUND DUCT |  | RETURN AIR FROM BASEMENT SECOND FLOOR |  | THERMOSTAT |
| | |  | VOLUME DAMPER | | |  | PRINCIPAL EXHAUST FAN SWITCH |  | F |
| | | | | | |  | W/R & PRINCIPAL EXHAUST FAN |  | PE |



KITCHEN EXHAUST
100 CFM MIN. 6"

FOR THE PURPOSE OF
HEATLOSS/GAIN
CALCULATIONS ALL
ELEVATIONS HAVE BEEN
CONSIDERED

CIRCULATION PRINCIPAL
FAN SWITCH
TO BE CENTRALLY
LOCATED

INSULATE ALL DUCTS IN
UNCONDITIONED
SPACES MIN. R12


ALL DUCTWORK LOCATED IN
CONDITIONED AREAS
MUST BE SEALED TO CLASS
C LEVEL AS PER OBC PART
6-6.2.4.3.(12)

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QUALIFICATION INFORMATION

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DAVID DA COSTA



B.C.I.N. 32964

SIGNATURE OF DESIGNER

GROUND FLOOR PLAN 'A'

OBC 2012

ZONE I COMPLIANCE
PACKAGE "A1" REF. TABLE 3.1.1.2.A

NOTES
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.
PROVIDE BALANCING DAMPERS ON ALL BRANCHES.
ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.
CONTRACTOR MUST WORK FROM APPROVED PLANS.
ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSIBILITY OF GTA DESIGNS.
GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHAUST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING.



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L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADISIGNS.CA
WEB: WWW.GTADISIGNS.CA

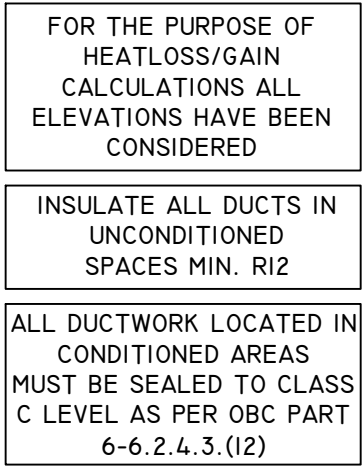
| | | |
|----------------------|----------------|-----------|
| HEAT-LOSS | 25,914 | BTU/HR. |
| UNIT MAKE | AMANA | OR EQUAL. |
| UNIT MODEL | AMEC9604.03ANA | OR EQUAL. |
| UNIT HEATING INPUT | 40,000 | BTU/HR. |
| UNIT HEATING OUTPUT | 38,400 | BTU/HR. |
| A/C COOLING CAPACITY | 1.5 | TONS. |
| FAN SPEED | 772 | CFM |

| # OF RUNS | S/A | R/A | FANS |
|-----------|-----|-----|------|
| 3RD FLOOR | | | |
| 2ND FLOOR | 7 | 2 | 3 |
| 1ST FLOOR | 4 | 1 | 2 |
| BASEMENT | 4 | 1 | |

| | | |
|--------------------------|----------------|-----------|
| FLOOR PLAN: GROUND FLOOR | | |
| DRAWN BY: JL | CHECKED: DD | SQFT 1762 |
| LAYOUT NO. JB-04876 | DRAWING NO. M2 | |

| | |
|----------|----------------------------|
| DATE: | DECEMBER 12, 2023 |
| CLIENT: | BAYVIEW WELLINGTON |
| MODEL: | THWU-I2 |
| PROJECT: | GREEN VALLEY BRADFORD,ONT. |
| SCALE: | 3/16" = 1'-0" |

REVIEWED



DAVID DA COSTA B.C.I.N. 32964
SIGNATURE OF DESIGNER

OBC 2012

ZONE I COMPLIANCE
PACKAGE "AI" REF. TABLE 3.1.1.2.A

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO
BUILDING CODE.
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE
SPECIFIED.
PROVIDE BALANCING DAMPERS ON ALL BRANCHES.
ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT
ALL DOORS 1" MIN.
CONTRACTOR MUST WORK FROM APPROVED PLANS.
ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE
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FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR
WITH IN THE DWELLING.

 **GTADESIGNS**

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EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA



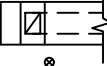













| | | |
|----------------------|---------------|-----------|
| HEAT-LOSS | 25,914 | BTU/HR. |
| UNIT MAKE | AMANA | OR EQUAL. |
| UNIT MODEL | AMEC960403ANA | OR EQUAL. |
| UNIT HEATING INPUT | 40,000 | BTU/HR. |
| UNIT HEATING OUTPUT | 38,400 | BTU/HR. |
| A/C COOLING CAPACITY | 1.5 | TONS. |
| FAN SPEED | 772 | CFM |

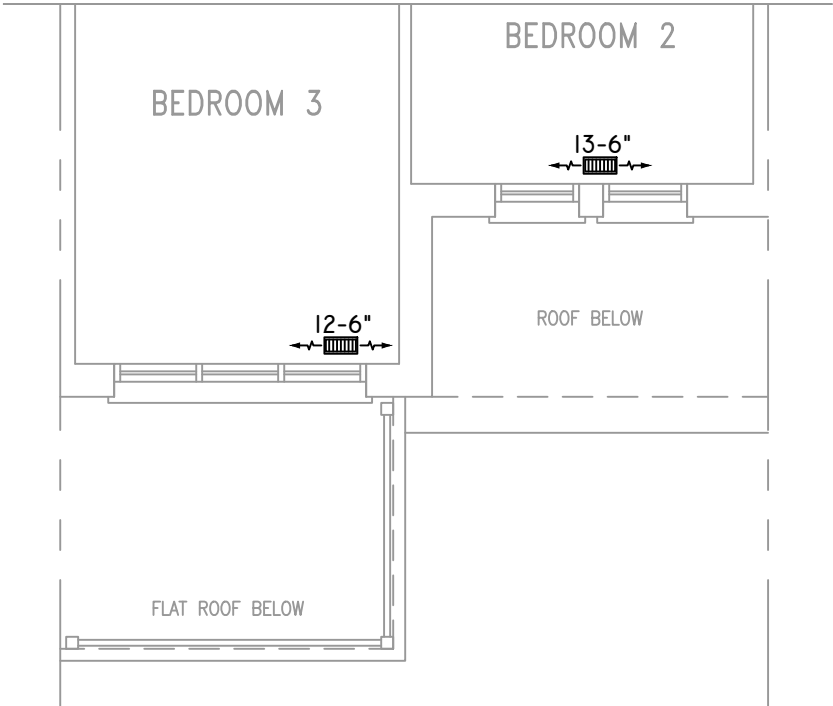
| # OF RUNS | S/A | R/A | FANS |
|-----------|-----|-----|------|
| 3RD FLOOR | | | |
| 2ND FLOOR | 7 | 2 | 3 |
| 1ST FLOOR | 4 | 1 | 2 |
| BASEMENT | 4 | 1 | |

| | | |
|--------------|-------------|------|
| FLOOR PLAN: | | |
| SECOND FLOOR | | |
| DRAWN BY: | CHECKED: | SQFT |
| JL | DD | 1762 |
| LAYOUT NO. | DRAWING NO. | |
| JB-04876 | M3 | |

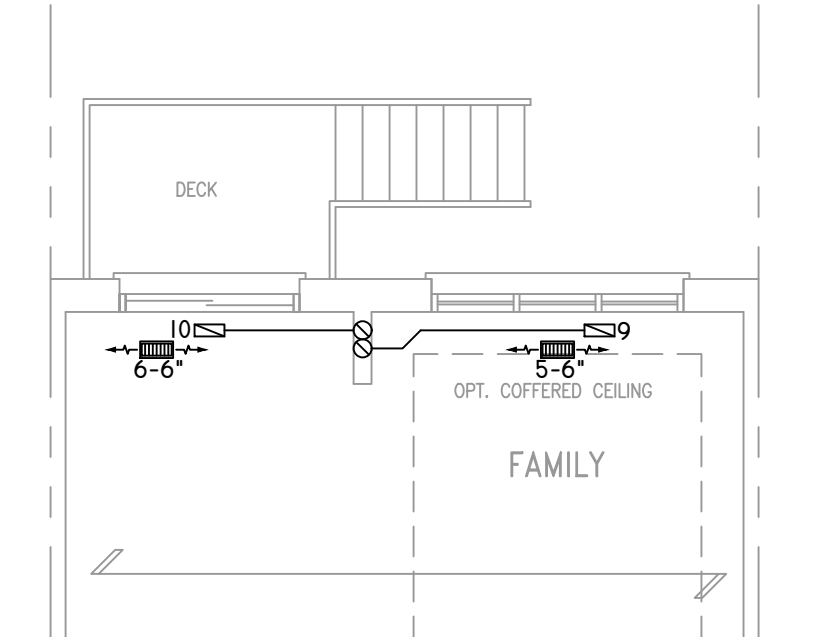
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|----------|--------------------------------|
| DATE: | DECEMBER 12, 2023 |
| CLIENT: | BAYVIEW WELLINGTON |
| MODEL: | THWU-12 |
| PROJECT: | GREEN VALLEY BRADFORD, ONT. |
| SCALE: | 3/16" = 1'-0" |

REVIEWED

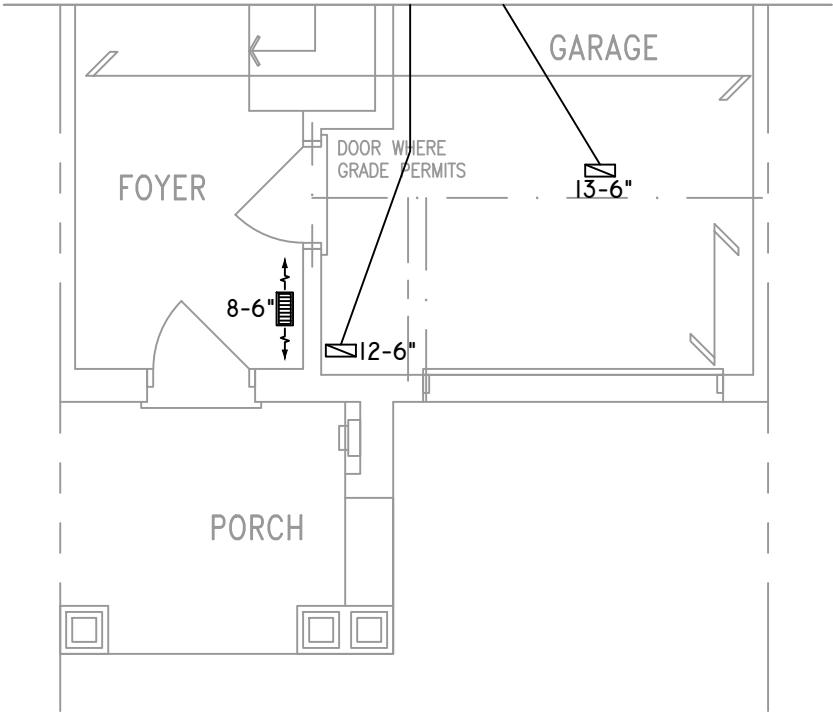
| | | | | | | | | | |
|--|------------------|---|------------------------------------|---|---------------------------------|---|---|---|------------------------------|
|  | FLEX DUCT |  | LOW/HIGH WALL/KICK SUPPLY DIFFUSER |  | DUCT CONNECTION TO JOIST LINING |  | RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) | S.A. | SUPPLY AIR |
|  | RIGID ROUND DUCT |  | HRV EXHAUST GRILLE |  | RETURN AIR PIPE RISER |  | RETURN AIR RISER UP TO FLOOR ABOVE | R.A. | RETURN AIR |
|  | SUPPLY DIFFUSER |  | SUPPLY AIR PIPE RISER |  | RETURN ROUND DUCT |  | RETURN AIR FROM BASEMENT SECOND FLOOR |  | THERMOSTAT |
| | |  | VOLUME DAMPER | | | | |  | PRINCIPAL EXHAUST FAN SWITCH |
| | | | | | | | |  | W/R & PRINCIPAL EXHAUST FAN |



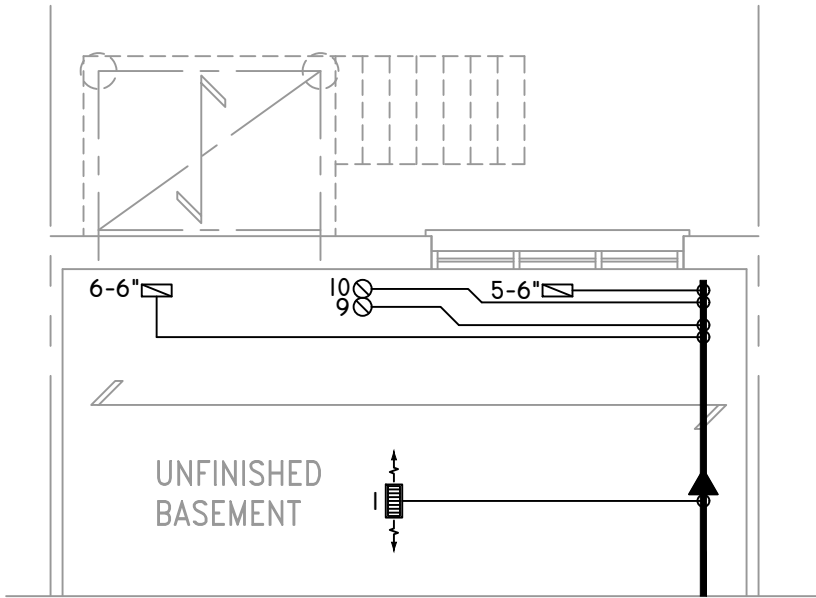
PART. SECOND FLOOR PLAN 'B'



PARTIAL GROUND FLOOR PLAN
WOD COND 9R AND MORE



PART. GROUND FLOOR PLAN 'B'



PARTIAL BASEMENT PLAN
WOD COND 9R AND MORE

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QUALIFICATION INFORMATION

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DAVID DA COSTA



B.C.I.N. 32964

SIGNATURE OF DESIGNER

OBC 2012

ZONE I COMPLIANCE
PACKAGE "A1" REF. TABLE 3.1.1.2.A

NOTES
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.
PROVIDE BALANCING DAMPERS ON ALL BRANCHES.
ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.
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| | | |
|----------------------|----------------|-----------|
| HEAT-LOSS | 25,914 | BTU/HR. |
| UNIT MAKE | AMANA | OR EQUAL. |
| UNIT MODEL | AMEC9604.03ANA | OR EQUAL. |
| UNIT HEATING INPUT | 40,000 | BTU/HR. |
| UNIT HEATING OUTPUT | 38,400 | BTU/HR. |
| A/C COOLING CAPACITY | 1.5 | TONS. |
| FAN SPEED | 772 | CFM |

| # OF RUNS | S/A | R/A | FANS |
|-----------|-----|-----|------|
| 3RD FLOOR | | | |
| 2ND FLOOR | 7 | 2 | 3 |
| 1ST FLOOR | 4 | 1 | 2 |
| BASEMENT | 4 | 1 | |

| | |
|--------------------------------|----------------|
| FLOOR PLAN: PARTIAL PLAN(S) | |
| DRAWN BY: JL | CHECKED: DD |
| LAYOUT NO: JB-04876 | DRAWING NO: M4 |

| | |
|----------|-------------------------------|
| DATE: | DECEMBER 12, 2023 |
| CLIENT: | BAYVIEW WELLINGTON |
| MODEL: | THWU-12 |
| PROJECT: | GREEN VALLEY BRADFORD,ONT. |
| SCALE: | 3/16" = 1'-0" |