

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 | | | Lot: | | | |
| T2 Link - | | T | Lot/con. | | | |
| Municipality Clarington | Postal code | Plan number/ other description | | | | |
| B. Individual who reviews and takes responsibility for design | gn activities | T | | | | |
| Name David DaCosta | | Firm | gtaDesigns Inc. | | | |
| Street address 2985 Drew Roa | | | Unit no. | .ot/con. | | |
| Municipality Mississauga | Postal code L4T 0A4 | Province Ontario | E-mail dave@gtadesigns.ca | | | |
| Telephone number | Fax number | | Cell number | | | |
| (905) 671-9800 | | ') 494-9643 | (416) 268-68 | 20 | | |
| C. Design activities undertaken by individual identified in S | ection B. [Bu | lilding Code Table | 3.5.2.1 of Division Cj | | | |
| ☐ House ☑ HVAC – H | louse | | ■ Building Structural | | | |
| ☐ Small Buildings ☐ Building Se | ervices | | ☐ Plumbing – House | | | |
| | Lighting and Por | wer | ☐ Plumbing – All Buildings | | | |
| ☐ Complex Buildings ☐ Fire Protect | | | On-site Sewage Systems | 3 | | |
| Description of designer's work Mod | del Certification | 1 | Project # | PJ-00022 | | |
| Heating and Cooling Load Colonistians | | Builder | Layout # | JB-00691 | | |
| Heating and Cooling Load Calculations Air System Design | | Project | Delpark/Highcastle Ho | mes | | |
| Residential mechanical ventilation Design Summary | | | | | | |
| Residential System Design per CAN/CSA-F280-12 | | Model | T2 Link - Oxford | | | |
| Residential New Construction - Forced Air | | SB-12 | Package D | | | |
| D. Declaration of Designer | | | | | | |
| David DaCosta | declare that (d | choose one as appro | priate): | | | |
| (print name) | | | | | | |
| | | | | | | |
| ☐ I review and take responsibility for a 3.2.4 Division C of the Building Cool classes/categories. | | | | | | |
| Individual BCIN: | | | | | | |
| Firm BCIN: | | | • | | | |
| ☑ I review and take responsibility for "other designer" under subsection | • | | . 0, | | | |
| Individual BCIN: | 3296 | 64 | | | | |
| Basis for exemp | tion from registr | ation: | Division C 3.2.4.1. (4) | | | |
| ☐ The design work is exempt from the | e registration and | d qualification requiren | nents of the Building Code. | | | |
| Basis for exemp | tion from registr | ation and qualification: | | | | |
| I certify that: | | | | | | |
| The information contained in this schedule is true to the best of n | ny knowledge. | | | | | |
| I have submitted this application with the knowledge and consent | of the firm. | | | | | |
| June 17, 2015 | | Mane 14 | Got Comments | | | |
| Date | | Signature of De | signer | | | |

NOTE:

1. 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, temporay license, or a certificate of authorization, issed by the
Ontario Associstion 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.



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| Heat loss and gain calcu | lation summary sheet CSA-F280-M12 Standard |
|---|--|
| These documents issued for the use of Delp | ark/Highcastle Homes Layout No. |
| and may not be used by any other persons without authorization. Docum | nents for permit and/or construction are signed in red. JB-00691 |
| Building | Location |
| Address (Model): T2 Link - Oxford | Site: Northglen |
| Model: | Lot: |
| City and Province: Clarington | Postal code: |
| Calculatio | ns based on |
| Dimensional information based on: | assidy & Co. Dwgs Dated Apr/2013 |
| 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: Durham | Wind exposure: Shelterd |
| HRV? | Internal shading: Light-translucent Occupants: 4 |
| Sensible Eff. at -25C 0 Apparent Effect. at -0C 0 | Units: Imperial Area Sq. ft 1170 |
| Heating design conditions | Cooling design conditions |
| Outdoor temp -4.0 Indoor temp: 72 Mean soil tem 48 | Outdoor temp 84 Indoor temp: 75 Latitude: 44 |
| Above grade walls | Below grade walls |
| Style A: As per Selected OBC SB12 Package D R 24 | Style A: As per Selected OBC SB12 Package D R 20 |
| 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 D | Style A: As per Selected OBC SB12 Package D R 50 |
| Style B: | Style B: As per Selected OBC SB12 Package D R 31 |
| Exposed floors | Style C: |
| Style A: As per Selected OBC SB12 Package D R 3 | Doors |
| Style B: | Style A: As per Selected OBC SB12 Package D R 3.01 |
| Windows | Style B: |
| Style A: As per Selected OBC SB12 Package D R 3.15 | Style C: |
| Style B: Existing Windows (When Applicable) R 1.99 | Skylights |
| Style C: | Style A: As per Selected OBC SB12 Package D R 2.03 |
| Style D: | Style B: |
| Attached documents: As per Shedule 1 | |
| 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 | |
| Address: 2985 Drew Road, Suite 202 | Fax: (416) 268-6820 |



Trunk

Builder: Delpark/Highcastle Homes

Air System Design

SB-12 Package D June 17, 2015

2015

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

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. Man Alex Project # PJ-00022

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System 1 Northglen T2 Link - Oxford Individual BCIN: 32964 David DaCosta Lavout # JB-00691 Project: Model: DESIGN LOAD SPECIFICATIONS AIR DISTRIBUTION & PRESSURE FURNACE/AIR HANDLER DATA: BOILER/WATER HEATER DATA: A/C UNIT DATA: Level 1 Net Load 7,565 btu/h **Equipment External Static Pressure** 0.5 "w.c. Make 1.5 Ton Amana Make Туре Amana GMEC960302BNA Level 2 Net Load 7,427 btu/h **Additional Equipment Pressure Drop** 0.225 "w.c. Model Model Cond.--1.5 Level 3 Net Load 6.314 btu/h Available Design Pressure 0.275 "w.c. Input Btu/h 30000 Input Btu/h Coil -1.5 28800 Level 4 Net Load 0 btu/h Return Branch Longest Effective Length 300 ft Output Btu/h Output Btu/h 0.50 " W C Min.Output Btu/h ΔWH 21.306 btu/h R/A Plenum Pressure 0 138 "w c Total Heat Loss E.s.p. Blower DATA: **Total Heat Gain** 12,102 btu/h S/A Plenum Pressure 0.14 "w.c. Water Temp deg. F. T2 Total Heat Loss + 10% 23 437 Btub. **Heating Air Flow Proportioning Factor** 0.0291 cfm/btub AFUF 96% Blower Speed Selected: **Blower Type ECM** 13243 ft³ Cooling Air Flow Proportioning Factor 0.0513 cfm/btuh **Building Volume Vb** Aux. Heat (Brushless DC OBC 12.3.1.5.(2)) Ventilation Load 5.521 Btuh. R/A Temp SB-12 Package Package D Heating Check 621 cfm 621 cfm 70 dea. F. Cooling Check Ventilation PVC 60 cfm S/A Temp 113 deg. F. Supply Branch and Grill Sizing Diffuser loss Temp. Rise>>> 43 deg. F. Cooling Air Flow Rate 621 cfm 0.01 "w.c. Selected cfm> 621 cfm Level 1 Outlets Level 2 Outlets S/A Outlet No. 9 10 11 12 5 PI FN BASE BASE BASE LIV/DIN LIV/DIN PWD KIT/FOY Room Use Btu/Outlet 2252 1771 1771 1771 2209 2209 924 2085 Heating Airflow Rate CFM 66 52 52 52 64 27 61 Cooling Airflow Rate CFM 3 19 19 89 89 62 81 19 **Duct Design Pressure** 0.13 **Actual Duct Length** 30 17 11 20 29 19 16 23 **Equivalent Length** 160 120 140 100 90 90 110 90 110 90 90 90 Total Effective Length 190 137 151 120 90 90 90 90 90 90 90 90 90 90 119 129 106 133 90 90 90 90 90 90 90 90 90 90 Adjusted Pressure 0.07 0.09 0.09 0.11 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.11 0.10 0.12 0.10 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 0.14 **Duct Size Round** 6 **Outlet Size** 4x10 3x10 3x10 4x10 4x10 4x10 4x10 4x10 4x10 3x10 4x10 4x10 4x10 4x10 3x10 4x10 Trunk В В Level 3 Outlets Level 4 Outlets S/A Outlet No. 1 2 3 Room Use MAST RATH BFD 3 BFD 2 Btu/Outlet 2384 570 1333 2027 Heating Airflow Rate CFM 69 17 39 59 67 Cooling Airflow Rate CFM 93 70 0.13 **Duct Design Pressure** 0.13 **Actual Duct Length** 11 38 28 34 **Equivalent Length** 150 160 125 150 90 153 Total Effective Length 161 198 184 90 Adjusted Pressure 0.08 0.07 0.08 0.07 0.14 **Duct Size Round** 6 **Outlet Size** 4x10 3x10 3x10 4x10 Trunk Return Branch And Grill Sizing **Grill Pressure Loss** 0.02 "w.c **Return Trunk Duct Sizing Supply Trunk Duct Sizing** R/A Inlet No. 1R 2R 3R 4R 5R 6R 7R 8R 9R 10R 11R Trunk CFM Press. Round Rect. Size Trunk CFM Press. Round Rect. Size Inlet Air Volume CFM 149 149 137 116 70 **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 Drop 621 0.05 13.5 24x10 318 z 621 0.05 135 R 303 21 31 22 24 20v8 **Actual Duct Length** 16v10 **Equivalent Length** 165 140 110 175 190 70 70 70 70 70 70 Υ 137 0.09 7.0 8x8 8x7 C 186 171 132 182 214 70 70 70 70 70 0.07 D **Total Effective Length** 70 149 7.5 8x8 0.17 0.17 0.17 w Adjusted Pressure 0.06 0.07 0.09 0.06 0.05 0.17 0.17 0.17 Е Duct Size Round 8.0 7.5 7.0 6.0 5.0 F Inlet Size FLC FLC G н Inlet Size 14 14 30 s 1 R

Q



Total Heat Loss

Total Heat Gain

21,306 btu/h

12,102 btu/h

Heatloss/Gain Calculations CSA-F280-12

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e-mail dave@gtadesigns.ca

| | Builder: | Delpark/Highcas | stle Homes | Date | e: | J | lune 17, 201 | 5 | | | Weather | Data | Durham | 44 | -4.0 84 | 20 48.2 | | | | Page 4 |
|---|--|---|---|---|------------------------------|---|--|-----------------------------------|-----------|-----------|---------------|-------|-----------|------------|------------|-----------|------|-----------------------|---------------|----------------|
| 2012 OBC | Project: | Northgl | en | Mode | el: | TZ | Link - Oxfo | ord | | System 1 | Heat Lo | ss ^T | 76 deg. F | Ht gain ^T | 9.2 deg. F | GTA: | 1170 | Project # Layout # | PJ-0 JB-0 | 00022 00691 |
| Level | 1 | | BASE | | PLE | ١ | | | | | | | | | | | | | | |
| Run ft. exposed wall | | | 68 A | 2 | 21 A | | Α | | Α | Α | Α | | Α | Α | | Α | Α | | Α | |
| Run ft. exposed wall | | | В | | В | | В | | В | В | В | | В | В | | В | В | | В | |
| Ceiling heigh | | | 2.0 AG | | .0 AG | | AG | | AG | AG | AG | | AG | AG | | AG | AG | | AG | |
| Floor are | | | 481 Area | 10 | 00 Area | | Area | | Area | Area | Area | | Area | Area | | Area | Area | | Area | |
| Exposed Ceilings | | | A | | A | | A | | A | A . | A | | A | A | | A | A | | A | |
| Exposed Ceilings | | | B | 4, | В | | В | | B | B | В | | В | В. | | В | B | | B | |
| Exposed Floor | | | Flr 136 | | 00 Flr 12 | | Fir | | Flr | Fir | Flr | | Flr | Flr | | Fir | Flr | | Fir | |
| Gross Exp Wall Gross Exp Wall | | | 136 | - | 12 | | | | | | | | | | | | | | | |
| Component | | Loss Gain | Loss | Gain | Loss | Gain | Loss (| Sain | Loss Gain | Loss Gain | Loss G | ain | Loss Gain | Loss | Gain | Loss Gain | Loss | Gain | Loss G | Gain |
| North Shade | | | | | | | | | | | | | | 1 | | | 7 | T . | | |
| East/We | | | | 82 | | | | | | | | | | | | | | | | |
| Sout | | | | | | | | | | | | | | | | 1 | | | 1 | |
| Existing Window | s 1.99 | | | | | | | | | | | | | | | | | | | |
| Skyligi | nt 2.03 | | | | | | | | | | | | | | | | | | | |
| Door | | 25.25 3.06 | | | | | | | | | | | | | | | | | | |
| Net exposed walls | | 5.51 0.67 | | 89 4 | 12 | 28 | | | | | | | | | | | | | | |
| Net exposed walls | | 8.94 1.08 | | | | | | | | | | | | | | | | | | |
| Exposed Ceilings | | 1.52 0.72 | | | | | | | | | | | | | | | | | | |
| Exposed Ceilings | | 3.32 1.58 | | | 00 34 | 15 | | | | | | | | | | | | | | |
| Exposed Floor Foundation Conductive Heatloss | | 3.45 0.15 Grade (x) | 2728 | | 842 | | | | | | | | | | | | | | | |
| Heat Lea | | Grade (x) | 2800 | | 118 | | | | | | | | | | | | | | | |
| Total Conductive Heat Ga | | | 2000 | 170 | | 43 | | | | | | | | | | | | | | |
| Air Leakage Heat Loss/Ga | | 0.2797 0.0034 | 783 | | 332 | | | | | | | | | | | 1 | | | | |
| Case | | 0.62 0.12 | | | 733 | | | | | | | | | | | | | | | |
| Ventilation Case | | 82.08 9.94 | | | | | | | | | | | | | | 1 | | | 1 | |
| Case | 3 | 0.35 0.12 | | | | | | | | | | | | | | | | | | |
| Heat Gain Peop | | 239 | | | | | | | | | | | | | | 1 | | | | |
| Appliances Load | | | | 683 | | | | | | | | | | | | | | | | |
| Duct and Pipe los | | 10% | | | | | | | | | | | | | | | | | | |
| Level 1 HL Total 7,565 | | otal HL for per room | | | 225 | | | | | | | | | | | | | | | |
| Level 1 HG Total 1,198 | Tota | I HG per room x 1.3 | | 1136 | | 62 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| Level | 2 | | LIV/DI | N | PWI |) | KIT/FOY | | | | | | | | | | | | | |
| Run ft. exposed wall | | | 36 A | | 12 A | | 1 A | | Α | A | Α | | Α | Α | | Α | Α | | Α | |
| Run ft. exposed wall | | | B R | | В | - | В | | В | В | В | | B | В | | В | В | | В | |
| Ceiling heigh | | | 9.0 | 9 | - | 9. | _ | | - | - | _ | | - | _ | | - | _ | | _ | |
| Floor are | a | | 300 Area | 9 | 1 Area | 8 | 3 Area | | Area | Area | Area | | Area | Area | | Area | Area | | Area | |
| Exposed Ceilings | A | | Α | | Α | | Α | | A | Α | Α | | Α | Α | | Α | Α | | Α | |
| Exposed Ceilings | В | | В | | В | | В | 1 | В | В | В | | В | В | | В | В | | В | |
| Exposed Floor | s | | Flr | | Flr | | Flr | 1 | Flr | | | | | | | | | | | |
| Gross Exp Wall | | | 324 | | | | | | | Fir | Flr | | Fir | Flr | | Fir | Flr | | Fir | |
| Gross Exp Wall | | | | 10 | 18 | 18 | 9 | | | FIF | Flr | | | | | | | | Fir | |
| Component | | | _ | | | | | | | | | | Fir | Flr | | Flr | Flr | | | |
| | | | Loss | Gain 10 | Loss | 18 Gain | | Gain | Loss Gain | Loss Gain | Fir Loss G | ain | | | | | | | Fir Loss G | <u> Sain</u> |
| North Shade | d 3.15 | 24.13 10.74 | Loss | Gain | Loss | Gain | Loss (| | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | 3ain |
| East/We | d 3.15 st 3.15 | 24.13 10.74 24.13 27.18 | Loss 57 1375 | Gain | | Gain | Loss (| Sain 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei | d 3.15 st 3.15 h 3.15 | 24.13 10.74 24.13 27.18 24.13 20.71 | 57 1375 | Gain | Loss | Gain | Loss (| | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/We: Sour Existing Window | d 3.15 st 3.15 h 3.15 s 1.99 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 | Loss 57 1375 | Gain | Loss | Gain | Loss (| | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/We: Soul Existing Window Skyligi | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 | Loss 57 1375 | Gain 1549 | Loss | Gain 5 163 1 | Loss (2 290 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/We Soul Existing Window Skyligl Dool | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 | 57 1375 | Gain 1549 64 | Loss 6 14 | Gain 163 1 | Loss (2 290 5 379 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei Soul Existing Window Skyligi Dooi Net exposed walls | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 | 57 1375 21 530 246 1236 | Gain 1549 64 | Loss 6 14 | Gain 163 1 | Loss (2 290 5 379 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei Soul Existing Window Skyligh Door Net exposed walls Net exposed walls | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 B 8.50 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 | 57 1375 21 530 246 1236 | Gain 1549 64 | Loss 6 14 | Gain 163 1 | Loss (2 290 5 379 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/We Soul Existing Window Skyligi Door Net exposed walls Net exposed delings | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 B 8.50 A 50.00 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 | 57 1375 21 530 246 1236 | Gain 1549 64 | Loss 6 14 | Gain 163 1 | Loss (2 290 5 379 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei Soul Existing Window Skyligh Door Net exposed walls Net exposed walls | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 B 8.50 A 50.00 B 22.86 | 24.13 10.74 24.13 27.18 24.13 20.71 34.13 20.71 37.44 87.344 25.25 3.06 5.02 0.616 8.94 1.08 1.52 0.72 3.32 1.58 | 57 1375 21 530 246 1236 | Gain 1549 64 | Loss 6 14 | Gain 163 1 | Loss (2 290 5 379 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWei Soul Existing Window Skyligi Dool Net exposed walls Net exposed Vailis Exposed Ceilings Exposed Ceilings | d 3.15 st 3.15 st 3.15 s 1.99 st 2.03 s 3.01 A 15.13 B 8.50 A 50.00 B 22.86 s 22.05 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.344 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 | 57 1375 21 530 246 1236 | Gain 1549 64 | Loss 6 145 | Gain 163 1 1 2 62 16 | Loss (2 290 5 379 2 814 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWei Soul Existing Window Skyligi Dool Net exposed walls Net exposed Valls Exposed Ceilings Exposed Ceilings Exposed Floor Foundation Conductive Heatloss Total Conductive Heat Los | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 B 8.50 A 50.00 B 22.86 S 22.05 Slab On | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 | 57 1375 21 530 246 1236 | Gain 1549 64 150 10 | Loss 6 14 | Gain 1 163 1 2 62 16 | Loss (2 290 5 379 | 326 46 99 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei Sout Existing Window Skyligi Door Net exposed walls Net exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Total Conductive Heatloss Total Conductive Heat Gai | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 B 8.50 A 50.00 B 22.86 s 22.05 Slab On s | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 Grade (x) x | Loss 57 1375 21 530 246 1236 | Gain 1549 64 150 1763 | Loss 6 149 02 512 | Gain 5 163 1 2 62 16 | Loss (2 290 5 379 2 814 1482 | 326 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWei | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 B 8.50 A 50.00 B 22.86 s 22.05 Slab On n | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 Grade (x) x 0.1267 0.0034 | Loss 57 1375 21 530 246 1236 3141 398 | Gain 1549 64 150 1763 6 | Loss 6 149 02 512 655 | Gain 163 1 1 62 16 | Loss (2 290 290 2 814 1482 188 | 326 46 99 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWee Sout Existing Window Skyligi Dool Net exposed walls Net exposed Valls Exposed Ceilings Exposed Ceilings Exposed Floor Foundation Conductive Heatloss Total Conductive Heat Ga Air Leakage Heat Loss/Ga | d 3.15 st 3.15 h 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 B 8.50 A 50.00 B 22.86 S 22.85 Slab On s n n | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 Grade (x) x | Loss 57 1375 21 530 246 1236 3141 398 | Gain 1549 64 150 1763 6 | Loss 6 149 02 512 | Gain 163 1 1 62 16 | Loss (2 290 5 379 2 814 1482 | 326 46 99 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei | d 3.15 st 3.15 st 3.15 s 1.99 nt 2.03 s 3.01 A 15.13 A 50.00 B 22.86 s 22.05 Slab On s n | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 Grade (x) x 0.1267 0.0034 0.28 0.12 82.06 9.34 | 21 530 246 1236 3141 398 879 | Gain 1549 64 150 1763 6 | Loss 6 149 02 512 655 | Gain 163 1 1 62 16 | Loss (2 290 290 2 814 1482 188 | 326 46 99 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWei | d 3.15 st 3.15 st 3.15 st 1.99 st 2.03 st 3.01 A 15.13 B 8.50 A 5.00 B 5 Slab On st 1.99 st 1.90 st 1. | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.77 3.32 1.58 3.32 1.58 3.45 0.15 Grade (x) x 0.1267 0.0034 0.28 0.126 82.08 9.94 0.35 0.12 | 21 530 246 1236 3141 398 879 | Gain 1549 64 150 1763 6 | Loss 6 149 02 512 655 | Gain 163 1 1 62 16 | Loss (2 290 290 2 814 1482 188 | 326 46 99 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWee Sout Existing Window Skyligi Dool Net exposed walls Net exposed Cellings Exposed Cellings Exposed Cellings Exposed Cellings Total Conductive HeatLos Total Conductive Heat Ga Air Leakage Ventilation Case Ventilation Case Heat Gain Peop | d 3.15 st 3.15 st 3.15 st 3.15 st 3.15 st 1.99 st 2.03 st 3.01 d A 15.13 B 8.50 A 5.00 B 22.86 st 22.05 st 3.00 c st | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 Grade (x) x 0.1267 0.0034 0.28 0.12 82.08 9.944 0.35 0.15 | 21 530 246 1236 3141 398 879 | Gain 1549 64 150 10 1763 6 214 | Loss 6 149 02 512 657 83 | Gain 163 1 2 62 16 225 1 1 27 | Loss (2 290 5 379 2 814 1482 188 415 | 326 46 99 470 2 57 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei | d 3.15 st 3.15 st 3.15 st 3.15 st 3.15 st 1.99 st 2.03 st 3.01 A 15.13 B 8.50 A 50.00 B 22.86 st 22.05 Slab On st 1 x x 2 2 3 st 2 2.25 st 1 = 2.25 st | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 Grade (x) x 0.1267 0.0034 0.28 0.12 82.08 9.94 0.35 0.12 239 percent 2730 | Loss 57 1375 21 530 246 1236 3141 398 879 | Gain 1549 64 150 1763 6 | Loss 6 149 02 512 657 83 | Gain 163 1 1 62 16 | Loss (2 290 5 379 2 814 1482 188 415 | 326 46 99 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWei Soul Existing Window Skyligi Door Net exposed walls Net exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Foundation Conductive Heatloss Total Conductive Air Leakage Heat Loss/Ga Ventilation Case Ventilation Case Heat Gain Peop Appliances Loac Duct and Pipe los | d 3.15 st 3.15 st 3.15 st 3.15 st 3.15 st 3.15 st 1.99 st 2.03 st 3.01 d A 15.13 B 8.50 A 50.00 B B 22.86 st 22.95 Slab On st 1 x 2.05 st 3.00 | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 Grade (x) x 0.1267 0.0034 0.28 0.12 82.08 9.94 0.35 0.12 229 229 220 2730 2730 | 21 530 246 1236 3141 398 879 | Gain 1549 64 150 1763 6 214 | Loss 6 149 02 51: 65: 8: 184 | Gain 1 163 1 1 1 2 62 166 2 225 3 1 27 6 883 1. | Loss (2 290 5 379 2 814 1482 188 415 0 0 | 326 46 99 470 2 57 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| East/Wei Soul Existing Window Skyligi Dool Net exposed walls Exposed Cellings Exposed Cellings Exposed Cellings Exposed Cellings Total Conductive Heatloss Total Conductive Heat Cas Air Leakage Heat Loss/Ga Ventilation Case Ventilation Case Heat Gain Peop Appliances Loac Duct and Pipe Ios Level 2 HL Total 7,427 | d 3.15 st 3.15 st 3.15 st 3.15 st 1.99 st 2.03 st 3.01 d 4.15.13 st 8.8.50 st 2.05 st | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.66 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 Grade (x) x 0.1267 0.0034 0.28 0.12 82.08 9.94 0.35 0.12 329 percent 2730 percent 2730 10% otal HL for per room | 21 530 246 1236 3141 398 879 | Gain 1549 64 150 1763 6 214 683 1 | Loss 6 149 02 512 657 83 | Gain 163 1 2 62 16 225 1 1 27 683 1. | Loss (2 290 5 379 2 814 1482 188 415 | 326 46 99 470 2 57 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | | | Gain |
| EastWei Soul Existing Window Skyligi Door Net exposed walls Net exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Foundation Conductive Heatloss Total Conductive Air Leakage Heat Loss/Ga Ventilation Case Ventilation Appliances Loac Duct and Pipe los Duct and Pipe los | d 3.15 st 3.15 st 3.15 st 3.15 st 1.99 st 2.03 st 3.01 d 4.15.13 st 8.8.50 st 2.05 st | 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 Grade (x) x 0.1267 0.0034 0.28 0.12 82.08 9.94 0.35 0.12 229 229 220 2730 2730 | 21 530 246 1236 3141 398 879 | Gain 1549 64 150 1763 6 214 | Loss 6 149 02 51: 65: 8: 184 | Gain 1 163 1 1 1 2 62 166 2 225 3 1 27 6 883 1. | Loss (2 290 5 379 2 814 1482 188 415 0 0 | 326 46 99 470 2 57 | Loss Gain | | | ain | Fir | Flr | | Flr | Flr | Gain | | |

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:

Mana Alex

David DaCosta

SB-12 Package Package D



Total Heat Loss

Total Heat Gain

21,306

12,102

btu/h

Heatloss/Gain Calculations CSA-F280-12

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643

e-mail dave@gtadesigns.ca

Mana Matte

David DaCosta

Package D

| | Builder: | Delpark/Highcastle | Homes | Da | ite: | | June 17, 201 | 5 | | | Weather Data | Durham | 44 | -4.0 84 20 | 48.2 | | | Page 5 |
|--|--|--|---------------------------------|-------|---------------------------------|-------|---------------------------------|---|--------------------|----------------------------|----------------------------|----------------------------|----------------------------|---------------------------|---------|----------------------------|-----------------------|----------------------------|
| 2012 OBC | Project: | Northglen | , | Mod | iel: | | 2 Link - Oxfo | | | System 1 | Heat Loss ^T | 76 deg. F | Ht gain ^T | 9.2 deg. F | GTA: | : 1170 | Project # Layout # | PJ-00022 |
| | | | маст | | | | | | | | | | | | | | | |
| Level : | | | MAST 28 A | | BATH 7 A | | BED 3 | 23 A | ED 2 | Α | Α | Α | Α | А | | Α | | Α |
| Run ft. exposed wall | | | 20 A B | | 7 А | | В | 23 A B | | В | В | В | В | В | | B | | В |
| Ceiling heigh | | , | B.O | | 8.0 | 8 | .0 | 8.0 | | _ | _ | | | | | | | |
| Floor are | | | 12 Area | | 103 Area | | 1 Area | 135 Area | a | Area | Area | Area | Area | Are | ea | Area | | Area |
| Exposed Ceilings | | | 12 A | | 103 A | | 1 A | 135 A | | A | A | A | A | A | | A | | A |
| Exposed Ceilings | 3 | | В | | В | | В | В | | В | В | В | В | В | | В | | В |
| Exposed Floor | | | Flr | | Flr | | Flr | Flr | | Fir | Fir | Fir | Flr | Fir | | Fir | | Flr |
| Gross Exp Wall | A | 2 | 24 | | 56 | 8 | 8 | 184 | | | | | | | | | | |
| Gross Exp Wall | | | | | _ | | | | | | | | | | | | | |
| | | Loss Gain | Loss (| Gain | Loss | Gain | Loss G | Sain Los | s Gain | Loss Gain | Loss Gain | Loss Gain | Loss | Gain Lo | ss Gain | Loss | Gain | Loss Gain |
| North Shade East/Wes | | 24.13 10.74 24.13 27.18 | 20 483 | 544 | | | 0 483 | 544 16 | 386 435 | | | | | | | | | |
| Sout | | 24.13 20.71 | 20 403 | 344 | | | .0 403 | 344 10 | 300 433 | | | | | | | | | |
| Existing Window | | 38.19 21.24 | | | | | | | | | | | | | | | | |
| Skyligh | | 37.44 87.34 | | | | | | | | | | | | | | | | |
| Door | | 25.25 3.06 | | | | | | | | | | | | | | | | |
| Net exposed walls | | | 1025 | 124 | 56 281 | 34 6 | 8 342 | 41 168 | 844 102 | | | | | | | | | |
| Net exposed walls | | 8.94 1.08 | | | | | | | | | | | | | | | | |
| Exposed Ceilings | | | 12 322 | 153 1 | 103 157 | 75 13 | 199 | 95 135 | 205 98 | | | | | | | | | |
| Exposed Ceilings | | 3.32 1.58 | | | | | | | | | | | | | | | | |
| Exposed Floor | s 22.05 | 3.45 0.15 | | | | | | | | | | | | | | | | |
| Foundation Conductive Heatloss Total Conductive Heat Los | | | 1829 | | 438 | | 1023 | | 435 | | | | | | | | | |
| Total Conductive Heat Cos | | | 1029 | 821 | 430 | 109 | 1023 | 680 | 635 | | | | | | | | | |
| Air Leakage Heat Loss/Gai | | 0.0944 0.0034 | 173 | 3 | 41 | 0 | 97 | | 135 2 | | | | | | | | | |
| Case | | 0.21 0.12 | 381 | 100 | 91 | | 213 | | 299 77 | | | | | | | | | |
| Ventilation Case | 2 | 82.08 9.94 | | | | | | | | | | | | | | | | |
| Case | | 0.35 0.12 | | | | | | | | | | | | | | | | |
| Case | | 0.35 0.12 | | | | | | | | | | | | | | | | |
| Heat Gain Peopl | Э | 239 | 2 | 478 | | | 1 | 239 1 | 239 | | | | | | | | | |
| Heat Gain Peopl Appliances Load | e 1 =.25 p | 239 ercent 2730 | 2 | 478 | | | 1 | | | | | | | | | | | |
| Heat Gain Peopl Appliances Load Duct and Pipe Ios | e 1 =.25 p | 239 ercent 2730 10% | | 478 | | | 1 | 1 | 157 95 | | | | | | | | | |
| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 | e 1 = .25 p | 239 ercent 2730 | 2384 | 1822 | 570 | 159 | 1333 | 1 | | | | | | | | | | |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigh | Tota | 239 ercent 2730 10% otal HL for per room | 2384 A B | | A B | | A B | 1 2 2 2 A B | 157 95 027 1362 | A B | A B | A B | A B | A B | | A B | | A B |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level Run ft. exposed wall Run ft. exposed wall Ceiling heigt Floor are | Tota | 239 ercent 2730 10% otal HL for per room | A B Area | | A B | 159 | A B Area | 1 2 2 A B Area | 157 95 027 1362 | B Area | B Area | B Area | B Area | B Are | ea | B Area | | B Area |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigh Floor are Exposed Ceilings | 1 = .25 p | 239 ercent 2730 10% otal HL for per room | A B Area A | | A B Area A | 159 | A B Area A | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 157 95 027 1362 | B Area A | B Area A | B Area A | B Area A | B Are A | ea | B Area A | | B Area A |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigh Floor are Exposed Ceilings Exposed Ceilings | Tota | 239 ercent 2730 10% otal HL for per room | A B Area A B | | A B Area A B | 159 | A B Area A B | 1 2 2 2 3 A B Area A B B | 157 95 027 1362 | B Area A B | B Area A B | B Area A B | B Area A B | B Are A B | | B Area A B | | B Area A B |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Run ft. exposed wall Ceiling heigh Floor are Exposed Ceilings Exposed Ceilings Exposed Floor | 1 = .25 p | 239 ercent 2730 10% otal HL for per room | A B Area A | | A B Area A | 159 | A B Area A | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 157 95 027 1362 | B Area A | B Area A | B Area A | B Area A | B Are A | | B Area A | | B Area A |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigh Floor are Exposed Ceilings Exposed Ceilings | 1 = .25 p Tota | 239 ercent 2730 10% otal HL for per room | A B Area A B | | A B Area A B | 159 | A B Area A B | 1 2 2 2 3 A B Area A B B | 157 95 027 1362 | B Area A B | B Area A B | B Area A B | B Area A B | B Are A B | | B Area A B | | B Area A B |
| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total Celling leight Floor are Exposed Cellings Exposed Cellings Exposed Floor Gross Exp Wall Gross Exp Wall Component | 1 = 25 ps | 239 ercent 2730 10% tal HL for per room HG per room x 1.3 | A B Area A B Fir | | A B Area A B | 159 | A B Area A B Fir | 1 2 2 2 3 A B Area A B B | 157 95 027 1362 | B Area A B | B Area A B | B Area A B | B Area A B Fir | B Are A B | | B Area A B Fir | Gain | B Area A B |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigt Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade | 1 = 25 ps 25 p | 239 ercent 2730 10% 10% 10% tal HL for per room HG per room x 1.3 Loss Gain 24.13 10.74 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
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| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 5,648 Run ft. exposed wall Ceiling heigil Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWee | a | 239 ercent 2730 10% tal HL for per room HG per room x 1.3 Loss Gain 24.13 10.74 24.13 27.18 24.13 20.71 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 5,648 Run ft. exposed wall Ceiling heigt Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWes | s 1 = 25 p s 1 = 25 p s Tota Tota A A B B B B B B B B B B B B B B B B B | Loss Gain 24.13 10.74 24.13 22.13 24.13 22.13 24.13 22.14 24.13 22.14 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall Run ft. exposed wall Ceiling heigh Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Component North Shade EastWes Sout Existing Window | s 1 = 25 ps Tota Tota A 3 s s s R-Values s 1 3.15 t 3.15 t 3.15 t 3.15 t 2.03 | 239 ercent 2730 10% tal HL for per room HG per room x 1.3 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 5,648 Run ft. exposed wall Ceiling heigh Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWee Sout Existing Window Skyligt Door | s 1 = .25 ps 5 Tr. Tota I a a a a a a a a a a a a a a a a a a | Loss Gain 24.13 10.74 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigt Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWes Sout Existing Window Skyligt Door Net exposed walls | s 1 = 25 ps 5 | 239 ercent 2730 10% tal HL for per room HG per room x 1.3 Loss Gain 24.13 10.74 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 25.25 3.66 5.02 0.61 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling height Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWee Sout Existing Window Skylight Door Net exposed walls Net exposed walls Net exposed walls Exposed Ceilings | s 1 = 25 ps 5 | 239 ercent 2730 10% 10% tal HL for per room HG per room x 1.3 10.74 24.13 10.74 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigt Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Component North Shade East/Wei Sout Existing Window Skyligt Door Net exposed walls Net exposed walls Net exposed walls Net exposed walls Exposed Ceilings Exposed Ceilings | s 1 = 25 ps 1 = | Loss Gain 24.13 10.74 24.13 20.71 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigit Floor are Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Gross Exp Wall Existing Window Skyligh Door Net exposed walls Net exposed walls Exposed Ceilings | s 1 = 25 ps 1 = | 239 ercent 2730 10% 10% tal HL for per room HG per room x 1.3 10.74 24.13 10.74 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall Run ft. exposed wall Ceiling height Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Component North Shade EastWell Sout Existing Window Skyligt Door Net exposed walls Net exposed walls Exposed Ceilings Exposed Floor | s 1 = 25 ps 5 Tr. Tota Tota Tota A 3 s R-Values s 1 3.15 t 3.15 t 3.15 s 1.99 t 2.03 s 3.01 d 3.15 t 3.2 s 3.0 d 3.3 s 3.3 d 3.3 | Loss Gain 24.13 10.74 24.13 20.71 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling heigt Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade East/Wes Sout Existing Window Skyligt Door Net exposed walls Net exposed walls Net exposed ceilings | s 1 = 25 ps 1 = | Loss Gain 24.13 10.74 24.13 20.71 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain People Appliances Load Duct and Plipe los Level 3 H. Total 6,314 Level 3 HG Total 4,648 Run ft. exposed walli Ceilings legigh Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Component North Shade EastWell Sout Existing Window Skyligh Door Net exposed walls Exposed Ceilings Exposed Floor | s 1 = .25 p Tota Tota I A A A B B R-Values I B B B R-Values I B B B B B B B B B B B B B B B B B B | Loss Gain 24.13 10.74 24.13 27.18 25.25 3.06 25.20 0.61 25.20 3.36 25.20 0.61 25.20 0.61 25.20 0.61 25.20 0.61 25.20 0.61 25.20 0.61 25.20 0.61 25.20 0.61 25.20 0.61 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Duct and Pipe los Level 3 H. Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall. Ceilings height Floor are Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWee Sout Existing Window Skyligt Door Net exposed walls Net exposed walls Net exposed Walls Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Foundation Conductive Heatloss Total Conductive Heat Gai Air Leakage Heat Loss/Gai | s 1 = 25 p 5 Trota Tota Tota A 3 c c c c c c c c c c c c c c c c c c | Loss Gain 24.13 10.74 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall Cellings heighted Floor are Exposed Cellings Exposed Cellings Exposed Cellings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade East/Wes Sout Existing Window Skylighted Door Net exposed walls Exposed Cellings Exposed Floor Foundation Conductive Heat Los Heat Gail Air Leakage Heat Loss/Gail Case | s 1 = 25 ps Tota Tota Tota R-Values 1 3.15 1 3.1 | Loss Gain 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 1.52 0.72 3.32 1.58 3.45 0.15 0.0000 0.0034 0.00 0.12 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain People Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall Ceiling height Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWee Existing Window Skylight Door Net exposed walls Net exposed Walls Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Component Conductive Heatloss Total Conductive Heat Cost Heat Gail Air Leakage Heat Loss/Gail Cosse Ventilation Case | s 1 = .25 p Tota Tota I A A A B B R-Values B B R-Values B B R-Values B B B R-Values B B B B B B B B B B B B B B B B B B B | Company Comp | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 HL Total 6,314 Level 3 HG Total 4,648 Level 4 HG Total 4,648 Run ft. exposed wall Ceilings height Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Gross Exp Wall Existing Window Skylight Door Net exposed walls Exposed Ceilings Texposed Ceilings Exposed Floor Foundation Conductive Heat Los Heat Los Heat Los | s 1 = 25 p s 1 = 25 p s Tota Tota A 3 s R-Values d 3.15 t 3.15 s 1.99 t 2.03 s 3.01 A 50.00 3 22.86 s 22.05 s 1 x 2 3 3 | Loss Gain 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 1.52 0.72 3.32 1.58 3.45 0.15 0.0000 0.0034 0.00 0.12 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 H. Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall. Ceilings height Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Component North Shade EastWee Sout Existing Window Skyligit Door Net exposed walls Net exposed walls Net exposed Walls Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Foundation Conductive Heatloss Total Conductive Heat Los Heat Gai Air Leakage Heat Loss/Gai Case Ventilation Case | s 1 = .25 p 5 Tr. Tota I A A A A A A A A A A A A A A A A A A | Loss Gain 24.13 10.74 24.13 10.74 24.13 22.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 3.74 87.34 25.25 0.72 3.32 1.58 3.45 0.15 0.0000 0.0034 0.00 0.0034 0.00 0.12 82.08 9.94 0.35 0.12 | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 H. Total 6,314 Level 3 HG Total 4,648 Level 3 HG Total 4,648 Run ft. exposed wall Run ft. exposed wall Ceiling height Floor are Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Gross Exp Wall Gross Exp Wall Served Floor Gross Exp Wall Exposed Floor Ross Exp Wall Served Floor Ross Exp Wall Foor are Exposed Ceilings Exposed Floor North Shade EastWes Skylight Door Net exposed walls Net exposed walls Net exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Floor Foundation Conductive Heatloss Total Conductive Heat Los Heat Gain Peopl Appliances Load Duct and Pipe los | s 1 = 25 p Tota Tota Tota A 3 R-Values 1 3.15 1 3.15 1 3.15 1 1.93 2 2.86 3 22.86 5 22.05 8 1 1 2 5 p 1 1 X | Content Cont | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |
| Heat Gain Peopl Appliances Load Duct and Pipe los Level 3 H. Total 6,314 Level 3 HG Total 4,648 Run ft. exposed wall Run ft. exposed wall Gross Exp Wall Gross Exp Wall Gross Exp Wall Component North Shade EastWee Sout Existing Window Skyligh Door Net exposed walls Rexposed Ceilings Exposed Ceilings Exposed Ceilings Exposed Ceilings Final F | s 1 = .25 p Tota Tota I A A A A A A A A A A A A A A A A A A | Loss Gain 10% | A B Area A B Fir | 1822 | A B Area A B Fir | 2015 | A B Area A B Fir | 1 1305 A B Are: A B Fir | 157 95 027 1362 | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Area A B Fir | B Are A B Fir | | B Area A B Fir | Gain | B Area A B Fir |

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



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

Project # Layout #

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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: Project: | Package D Clarington | Model: | T2 Link - Oxford |
|----------------------|---|--|---|
| - | RESIDENTIAL MECHANICAL \ For systems serving one dwelling unit & confi | | |
| | Logation of Installation | Total Van | tilation Canacity 0 22 2 2/1 |
| Lot # | Location of Installation Plan # | lotai ven | tilation Capacity 9.32.3.3(1) |
| 20111 | | Bsmt & Master Bdrm | 2 @ 20 cfm 40 cfm |
| Township | Clarington | Other Bedrooms | 2 @ 10 cfm 20 cfm |
| Roll # | Permit # | Bathrooms & Kitchen Other rooms | 3 @ 10 cfm 30 cfm 3 @ 10 cfm 30 cfm |
| KOII # | rennic# | Other rooms | Total 120 |
| Address | | | |
| | | | |
| | | Principal Ve | entilation Capacity 9.32.3.4(1) |
| Name | Builder | Master bedroom | 1 @ 30 cfm 30 cfm |
| Ivallie | Delpark/Highcastle Homes | Other bedrooms | 2 @ 15 cfm 30 cfm |
| Address | | | Total 60 |
| | | | |
| City | | | |
| Tel | Fax | Princip Make | al Exhaust Fan Capacity Model Location |
| i ei | rax | Make | Wodel Location |
| | | Broan | 684N Bath |
| | Installing Contractor | | |
| Name | | 90 cfm | 2.5 Sones |
| Address | | Нез | t Recovery Ventilator |
| Addiess | | Make | t Recovery Ventuator |
| City | | Model | |
| | _ | | cfm high 0 cfm low |
| Tel | Fax | Sensible efficiency @ -2 Sensible efficiency @ 0 | |
| | | ochable efficiency & o | <u>ueg 0 </u> |
| | Combustion Appliances 9.32.3.1(1) | Supplem | ental Ventilation Capacity |
| a) x | Direct vent (sealed combustion) only | | |
| b) | Positive venting induced draft (except fireplaces) Natural draft, B-vent or induced draft fireplaces | Total ventilation capacit Less principal exhaust of | |
| c) d) | Solid fuel (including fireplaces) | REQUIRED supplemen | |
| e) | No combustion Appliances | a contact supplement | <u></u> |
| , | '' | | |
| | | Supp | lemental Fans 9.32.3.5. |
| 11 | Heating System Forced air | Location | cfm Model Sones |
| X | Non forced air | Pwd. Kit | 50 770 50 770 |
| | Electric space heat (if over 10% of heat load) | 144 | |
| | , , | | |
| | | | |
| | House Type 9.32.3.1(2) Type a) or b) appliances only, no solid fuel | all fans HVI listed | Make Broan or Equity |
| l x | Type I except with solid fuel (including fireplace) | aii iaiis Fivi iisteu | Make Broan or Equiv. |

| | House Type 9.32.3.1(2) | | | | | | | | | |
|-------|------------------------|---|--|--|--|--|--|--|--|--|
| I | Х | Type a) or b) appliances only, no solid fuel | | | | | | | | |
| II | | Type I except with solid fuel (including fireplace) | | | | | | | | |
| III | | Any type c) appliance | | | | | | | | |
| IV | | Type I or II either electric space heat | | | | | | | | |
| Other | | Type I, II or IV no forced air | | | | | | | | |
| | | | | | | | | | | |

| | System Design Option | | | | | | | |
|---|----------------------|---|--|--|--|--|--|--|
| 1 | Х | Exhaust only / forced air system | | | | | | |
| 2 | | HRV WITH DUCTING / forced air system | | | | | | |
| 3 | | HRV simplified connection to forced air system | | | | | | |
| 4 | | HRV full ducting/not coupled to forced air system | | | | | | |
| | | Part 6 design | | | | | | |
| | | - | | | | | | |

| Pwd. | 50 | 770 | |
|----------------------------|---------------|--------------|---------------|
| Kit | 50 | 770 | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| all fans HVI listed | Make | Broan | or Equiv. |
| | | | • |
| l n | esigner Ce | rtification | |
| | | | |
| I hereby certify that this | s ventilation | system has b | peen designed |

| | Designer C | ertification | | | | | | |
|---|------------|-------------------|-------|--|--|--|--|--|
| I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code. | | | | | | | | |
| | | | | | | | | |
| Name | David Da | aCosta | | | | | | |
| Signature | Mare | 146 01 | 7 | | | | | |
| HRAI# | 5190 | BCIN# | 32964 | | | | | |
| Date | June 17 | , 2015 | | | | | | |
| | | | | | | | | |

gtaDesigns

Energy Efficiency Design Summary

(Part 9 Residential)

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

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| This form is used t | o summarize th | ne energy | efficiency | design of t | he project. Information | on on completing this | form is or | the reverse |
|--------------------------------|-------------------|-------------|--------------|---------------|----------------------------------|-------------------------|--------------------|--------------------|
| | | | For | r use by Prir | ncipal Authority | | | |
| Application No: | | | | | Model/Certification Num | nber | | |
| A. Project Information | on . | | | | | | | |
| Building number, street name | · · | | | | | Unit number | Lot/Con | |
| | | | T2 Li | nk - Oxfo | rd | | | |
| Municipality Claringto | on | | Postal code | Э | Reg. Plan number / oth | er description | | |
| B. Compliance Option | n | | l | | | | | |
| ☑ SB-12 Prescriptive | SB-12 - 2.1. | 1.] | | Table: | Package: A B (| CDEFGHI | JKLM | Package D |
| ☐ SB-12 Performand | e* [SB-12 - 2. | 1.2.] | | * Attach | energy performance | e calculations using | an appro | oved software |
| ☐ Energy Star®* [SE | | * Attach I | BOP form | | | | | |
| ☐ EnerGuide 80® * | ☐ EnerGuide 80® * | | | | must be evaluated l | by NRCan advisor | and meet | a rating of 80 |
| C. Project Design Co | onditions | | | | | | | |
| Climatic Zone (SB | • | Heat | ing Equip | ment | | Space Heating F | uel Sourc | e |
| ☑ Zone 1 (< 5000 degree | e days) | 4 | ≥ 90% AF | UE | ☑ Gas | ☐ Propane | | Solid Fuel |
| ☐ Zone 2 (≥ 5000 degree | e days) | | ≥ 78% < 9 | 90% AFUE | □ Oil | ☐ Electric | | Earth Energy |
| Windows | +Skylights+Gla | ass Doors | 3 | | | Other Building (| Conditions | s |
| Gross Wall Area = | 126 m² | 0/ | Windows+ | 100/ | ☐ ICF Basement | ☐ Walkout B | asement | ☐ Log/Post&Beam |
| Gross Window+ Area = | 12 m² | 70 | WIIIUUWS+ | 10% | ☐ ICF Above Grade | ☐ Slab-on-gr | ound | |
| D. Building Spe | cifications [pr | ovide value | es and ratin | gs of the en | ergy efficiency compon | nents proposed, or atta | ch <i>Energy</i> S | Star BOP form] |
| Building Con | nponent | | RSI/R | values | Buildi | ing Component | | Efficiency Ratings |
| Thermal Insulation | | | | | Windows & Door | s ¹ | | |
| Ceiling with Attic Space | | | 5 | 50 | Windows/Sliding G | Glass Doors | | 1.8 |
| Ceiling without Attic Space | | | 3 | 31 | Skylights | | | 2.8 |
| Exposed Floor | | | 3 | 31 | Mechanicals | | | |
| Walls Above Grade | | | 2 | 24 | Space Heating Eq | 94% | | |
| Basement Walls | | | 2 | 20 | HRV Efficiency (% | b) | | 0% |
| Slab (all >600mm below gra | de) | | | Х | DHW Heater (EF) | | | 0.67 |
| Slab (edge only ≤600mm be | low grade) | | 1 | 10 | NOTES 1. Provide U-Value in | W/m2 K or FR rating | | |
| Slab (all ≤600mm below gra | de, or heated) | 1 | | 10 | | dicate if condensing ty | pe combine | ed system used |
| E. Performance | Design Verifi | cation [c | omplete ap | plicable sec | tions if SB-12 Performa | ance, Energy Star or E | nerGuide8 | 0 options used] |
| SB-12 Performance: | | | | | | | | |
| The annual energy consumption | on using Subsec | ction 2.1.1 | . SB-12 Pa | ackage | is | Gj (1 Gj =1000Mj |) | |
| The annual energy consumption | on of this house | as design | ned is | Gj | | | | |
| The software used to simulate | the annual ene | rgy use of | the buildir | ng is: | | | | |
| The building is being designed | using an air lea | akage of _ | air | changes p | er hour @50Pa. | | | |
| Energy Star: BOP form attach | | will be lab | eled on co | mpletion b | y: | | | |
| Energy Star and EnerGuide80 |): | | | | | | | |
| Evaluator/Advisor/Rater Name: | | | | | Evaluator/Advisor/Rate | r Licence #: | | |
| | | | | | | | | |
| | | | | | | | | |
| F. Designers [r | names of designe | rs who are | responsible | e for the bui | Iding code design and Mechanical | whose plans accompa | ny the perm | it application] |
| Architectural | | | | | | /// | 1 | 46 4 |
| | | | | | David DaCo | sta 🖊 🗸 | me m | 4cmb (|



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JB-00691 Layout #

| | | | | | | | Syste T2 Link - | | | |
|------|------------------------------------|-----------------------------------|--------------------|----------|------------------------|--------------|---------------------------|-------------------|------------|------|
| | | Ai | r Leakage C | Calculat | ions | | | | | |
| | B LRairh \ | eakage Heat Loss Vb HL^T 3243 76 | HLleak 2231 | | Building B 0.018 | Air Leakag | ge Heat Ga Vb 13243 | in HG^T 9.2 | HG Leak | |
| | 0.016 0.123 13 | 5243 70 | 2231 | | 0.018 | 0.008 | | /els | | - |
| | Air Leakage Heat Los | ss/Gain Multinlier | Table (Section 11) | | Ī | 1 | 2 | 3 | 4 | |
| | Level Building Lev | evel Conductive | Air Leakage He | at Loss | 1 | | | | | |
| | Level Factor (LF) Air | Heat Loss | Multiplie | | | (LF) | (LF) | (LF) | (LF) | |
| | 1 0.5 | 3988 5280 | 0.2797 0.1267 | | | 1.0 | 0.6 0.4 | 0.5 0.3 | 0.4 | |
| | 3 0.2 2231 | 4726 | 0.0944 | | | | *** | 0.2 | 0.2 | |
| | 4 0 | 0 | 0.0000 | | <u> </u> | | | | 0.1 | |
| | | | Air Leakage He | eat Gain |] [| | Levels thi | s Dwelling | | |
| | HG LEAK BUILDING CONDUCTIVE HEAT O | 17 GAIN 4915 | 0.0034 | | | | | 3 | | |
| | | V | entilation C | alculati | ons | | | | | |
| | Ventilation | Heat Loss | | | | Ventila | ition Heat G | ain | | |
| Vent | Ventilation H | leat Loss | | | V | entilation F | leat Gain | |] | Vent |
| > | | , | ovent 925 | <u>C</u> | PVC 60 | HG^T 9.2 | | vent 96 | [| |
| | | | | | | * | | | 1 | |
| | Case 1 | | | | | | Case 1 | | | |
| | Ventilation Heat Loss (E | Exhaust only Systems | s) | | Ventila | ition Heat G | ain (Exhaust | Only Syster | ns) | - |
| _ | Case 1 - Exha | aust Only | | Cas | se 1 - Exha | aust Only | Mult | iplier |] | _ |
| Case | | LVL Cond. HL | Multiplier | | Gbvent | 596 | 0 | 12 | | Case |
| Ca | 1 0.5 | 3988 5280 | 0.62 0.28 | В | uilding | 4915 | | | | Ca |
| | 3 0.2 4925 | 4726 | 0.21 | | | | | | | |
| | 4 0 | 0 | 0.00 | | | | | | | |
| | Case 2 | 2 | | | | | Case 2 | | | |
| 2 | Ventilation Heat Loss (D | Direct Ducted System | ns) | | Ventila | tion Heat G | ain (Direct D | ucted Syster | ms) | 2 |
| ase | | Multiplier | | | | | Mult | iplier | 1 | se |
| Ca | C HL^T (1-E) HRV 1.08 76 1.00 | 82.08 | | | C 1.08 | HG^T 9.2 | 9. | 94 | | Case |
| | Case 3 | 3 | | | | | Case 3 | | | |
| 3 | Ventilation Heat Loss (| (Forced Air Systems) |) | | Venti | lation Heat | Gain (Forced | l Air System | s) | 3 |
| | HLbvent | Mult | iplier | | | | Vent He | eat Gain | Multiplier | |
| Case | Total Ventilation Load 4925 | | .35 | H | Gbvent 596 | HG*1.3 | | 96 | 0.12 | Case |
| | | - Hootless Lavr | | | | | | | | |

| Foundation Conductive Heatioss Level 1 | 1046 | Watts | 3571 | Btu/h | |
|--|------|-------|------|-------|--|
| | | • | | | |
| Foundation Conductive Heatloss Level 2 | | Watts | | Btu/h | |
| | | | | | |

Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

| Weather Statio | n Description | |
|-----------------------------------|-------------------------------------|---|
| Province: | Ontario | |
| Region: | Durham | |
| Weather Station Location: | Open flat terrain, grass | |
| Anemometer height (m): | 10 | |
| Local Shi | ielding | |
| Building Site: | Suburban, forest ▼ | |
| Walls: | Heavy ▼ | |
| Flue: | Heavy ▼ | |
| Highest Ceiling Height (m): | 5.7 | 9 |
| Building Con | figuration 6.4 | |
| Type: | Semi-Detached 🔻 | |
| Number of Stories: | Two | |
| Foundation: | Full ▼ | |
| House Volume (m³): | 566.3 375.0 | 4 |
| Air Leakage/ | | |
| Air Tightness Type: | Present (1961-) (ACH=3.57) | |
| Custom DDT Data | ELA @ 10 Pa. 185,83 cm ² | |
| Custom BDT Data: | 3.57 ACH @ 50 Pa | |
| Mechanical Ventilation (L/s): | Total Supply: Total Exhaust: | |
| | 0 30 | |
| Flue S | Size | |
| Flue #: | #1 #2 #3 #4 | |
| Diameter (mm): | 0 0 0 0 | |
| Envelope Air L | eakage Rate | |
| Heating Air Leakage Rate (ACH/H): | 0.123 | |
| Cooling Air Leakage Rate (ACH/H): | 0.008 | |

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

| Weat | her Sta | tion Description |
|------------------------------|-----------|--------------------------|
| Province: | Ontario | ▼ |
| Region: | Durham | ▼ |
| | Site D | escription |
| Soil Conductivity: | High cond | luctivity: moist soil |
| Water Table: | Normal (7 | 7-10 m, 23-33 Ft) |
| For | undatio | n Dimensions |
| Floor Length (m): | 11.04 | |
| Floor Width (m): | 4.05 | |
| Exposed Perimeter (m): | 27.13 | |
| Wall Height (m): | 2.74 | |
| Depth Below Grade (m): | 2.13 | Insulation Configuration |
| Window Area (m²): | 0.28 | |
| Door Area (m²): | 0.00 | |
| | Radi | ant Slab |
| Heated Fraction of the Slab: | 0 | |
| Fluid Temperature (°C): | 23 | |
| | Desig | n Months |
| Heating Month | 1 | |
| | Founda | ntion Loads |
| Heating Load (Watts): | | 1046 |

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) RETURN AIR RISER UP TO FLOOR ABOVE SUPPLY AIR DUCT CONNECTION LOW/HIGH WALL/KICK SUPPLY DIFFUSER FLEX DUCT R.A. RETURN AIR HRV EXHAUST GRILL RIDIT ROUND DUCT 1 THERMOSTAT 0 RETURN AIR PIPE RISER SUPPLY AIR PIPE RISER 8 PRINCIPAL EXHAUST FAN SWITCH SUPPLY DIFFUSER RETURN AIR FROM BASEMENT SECOND FLOOR VOLUME DAMPER RETURN ROUND DUCT W/R & PRINCIPAL EXHAUST FAN **□** 6 **□** 5 12 unfinished basement 6" 6" 6" A - 12 X 8 3R 11 UP 13r Z - 20 X 8 DROP 24 X 10 ∭1R **⊘**5R 6" FLC 4R 5" X - 8 X 8 2R B - 10 X 8 OPT. 3PC R.I.B. 10 8 unexcavated -□7 -03 UNEXCAVATED

INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12

ALL DUCTWORK MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)

CIRCULATION PRINCIPAL **FAN SWITCH** TO BE CENTRALLY LOCATED

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

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

B.C.I.N. 32964
Signature of Designer

OBC 2012

ZONE 1 COMPLIANCE PACKAGE "D" REF. TABLE 2.1.1

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.

ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.
HEATING CONTRACTOR MUST WORK FROM APPROVED

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

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

gtaDesigns

2985 DREW ROAD SUITE 202, MISSISSAUGA, ONT.

L4T 0A4 TEL: 416-268-6820 email: dave@gtadesigns.ca web: www.gtadesigns.ca

| TILAT-LOGG | DIO/IIIX. |
|----------------------|-----------|
| 21,306 | |
| UNIT MAKE | OR EQUAL. |
| AMANA | |
| UNIT MODEL | OR EQUAL. |
| GMEC960302BN | A |
| UNIT HEATING INPUT | BTU/HR. |
| 30,000 | |
| UNIT HEATING OUTPUT | BTU/HR. |
| 28,800 | |
| A/C COOLING CAPACITY | TONS. |
| 1.5 | |
| FAN SPEED | CFM |
| 621 | |
| · | |

HEAT-LOSS

BTU/HR.

| # OF RUNS | S/A | R/A | FANS | l |
|-------------|-----|-----|------|---|
| 3RD FLOOR | | | | l |
| 2ND FLOOR | 4 | 2 | 1 | |
| 1ST FLOOR | 5 | 2 | 2 | |
| BASEMENT | 3 | 1 | | |
| | | | | • |
| ELOOR PLAN: | | | | ı |

| FLOOR PLAN | BASE | |
|------------|----------------|----------------|
| DRAWN BY: | CHECKED: DD | 1170 |
| JB-0 | 0691 | DRAWING NO. M1 |

| D' REF. TABLE 2.1.1.2.A |
|-------------------------------------|
| |
| JUNE 17, 2015 |
| DELPARK HIGHCASTLE |
| MODEL: |
| T2 LINK - OXFORD |
| PROJECT: NORTHGLEN BOWMANVILLE.ONT. |
| DUWITAINVILLE.UNI. |

3/16" = 1"-0"

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) RETURN AIR RISER UP TO FLOOR ABOVE SUPPLY AIR DUCT CONNECTION TO JOIST LINING LOW/HIGH WALL/KICK SUPPLY DIFFUSER FLEX DUCT R.A. HRV EXHAUST GRILL @ ⊘ RIDIT ROUND DUCT 1 THERMOSTAT RETURN AIR PIPE RISER SUPPLY AIR PIPE RISER 8 RETURN AIR FROM BASEMENT SECOND FLOOR PRINCIPAL EXHAUST FAN SWITCH SUPPLY DIFFUSER VOLUME DAMPER RETURN ROUND DUCT W/R & PRINCIPAL EXHAUST FAN -=== -**----**--6" 4" X 10" 6"Ø 4" X 10" 6"Ø LIVING/DINING 14r DN 2 1R KITCHEN 5" FLC 5R

^¹2R∏

FOYER

PWD

COVERED PORCH

₫3

8

₫ 4

4" X 10" 6"Ø

9 CAV

GARAGE

INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12

ALL DUCTWORK MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)

CIRCULATION PRINCIPAL **FAN SWITCH** TO BE CENTRALLY LOCATED

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

B.C.I.N. 32964
Signature of Designer

OBC 2012

JUNE 17, 2015

DELPARK HIGHCASTLE

ZONE 1 COMPLIANCE PACKAGE "D" REF. TABLE 2.1.1.2.A

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

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

INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN. HEATING CONTRACTOR MUST WORK FROM APPROVED

PLANS. ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE

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

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MISSISSAUGA, ONT. L4T 0A4 TEL: 416-268-6820 email: dave@gtadesigns.ca web: www.gtadesigns.ca

| HEAT-LOSS | 04.000 | BTU/HR. |
|------------------|----------|-----------|
| | 21,306 | |
| UNIT MAKE | | OR EQUAL. |
| | AMANA | |
| UNIT MODEL | | OR EQUAL. |
| GME | C960302E | NA |
| UNIT HEATING INP | UT | BTU/HR. |
| | 30,000 | |
| UNIT HEATING OU | TPUT | BTU/HR. |
| | 28,800 | |
| A/C COOLING CAP. | ACITY | TONS. |
| | 1.5 | |
| FAN SPEED | | CFM |
| | 621 | |

HEAT-LOSS

| BTU/HR. | # OF RUNS | S/A | R/A | FANS |
|---------------|-------------|-----|-----|------|
| OR EQUAL. | 3RD FLOOR | | | |
| OR EQUAL. | 2ND FLOOR | 4 | 2 | 1 |
| D.T. 11115 | 1ST FLOOR | 5 | 2 | 2 |
| BTU/HR. | BASEMENT | 3 | 1 | |
| BTU/HR. | | | | |
| D 1 0/1 11 t. | FLOOR PLAN: | | ΔD | |

JB-00691

| BASE | MENT | 3 | 1 | | T2 LINK - OXFORD |
|------------|----------|--------|--------|----|----------------------|
| | | | | | PROJECT: |
| FLOOR PLAN | ROUND | FLO | OR | | NORTHGLEN |
| DRAWN BY: | CHECKED: | SQFT | 117 | 70 | BOWMANVILLE,ONT. |
| JB-0 | 0691 | DRAWIN | IG NO. | M2 | SCALE: 3/16" = 1"-0" |

SUPPLY AIR DUCT CONNECTION TO JOIST LINING RETURN AIR GRILLE $\stackrel{\downarrow}{=}$ LOW/HIGH WALL/KICK SUPPLY DIFFUSER FLEX DUCT RETURN AIR (SIZE INDICATED ON DRAWING) R.A. HRV EXHAUST GRILL RIDIT ROUND DUCT **a**|< + RETURN AIR RISER UP TO FLOOR ABOVE ① THERMOSTAT 0 SUPPLY AIR PIPE RISER 8 RETURN AIR PIPE RISER RETURN AIR FROM BASEMENT SECOND FLOOR PRINCIPAL EXHAUST FAN SWITCH SUPPLY DIFFUSER VOLUME DAMPER RETURN ROUND DUCT W/R & PRINCIPAL EXHAUST FAN 4" X 10" 6"Ø WIC MASTER

> INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12

ALL DUCTWORK MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)

CIRCULATION PRINCIPAL **FAN SWITCH** TO BE CENTRALLY LOCATED

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

B.C.I.N. 32964
Signature of Designer

OBC 2012

ZONE 1 COMPLIANCE PACKAGE "D" REF. TABLE 2.1.1.2.A

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO

BUILDING CODE.
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED. ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12

UNDERCUT ALL DOORS 1" MIN. HEATING CONTRACTOR MUST WORK FROM APPROVED

ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSABILITY OF GTA DESIGNS. GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION

MAY OCCUR WITH IN THE DWELLING

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2

BATH

BED 3

1R HW 14X8

> 2R HW 14X8

> > BED 2

2985 DREW ROAD SUITE 202,

MISSISSAUGA, ONT. L4T 0A4 TEL: 416-268-6820 email: dave@gtadesigns.ca web: www.gtadesigns.ca

| UNIT MAKE | OR EQUAL. |
|----------------------|-----------|
| AMANA | |
| UNIT MODEL | OR EQUAL. |
| GMEC960302BNA | |
| UNIT HEATING INPUT | BTU/HR. |
| 30,000 | |
| UNIT HEATING OUTPUT | BTU/HR. |
| 28,800 | |
| A/C COOLING CAPACITY | TONS. |
| 1.5 | |
| FAN SPEED | CFM |
| 621 | |

21,306

BTU/HR.

HEAT-LOSS

| # OF RUNS | S/A | R/A | FANS | |
|-----------------------------|-----|-----|------|---|
| 3RD FLOOR | | | | |
| 2ND FLOOR | 4 | 2 | 1 | |
| 1ST FLOOR | 5 | 2 | 2 | |
| BASEMENT | 3 | 1 | | |
| | | | | . |
| FLOOR PLAN: SECOND FLOOR | | | | |

DD

YOUT NO. JB-00691

RΒ

1170

M3

| DATE: |
|--------------------|
| JUNE 17, 2015 |
| CLIENT: |
| DELPARK HIGHCASTLE |
| MODEL: |
| T2 LINK - OXFORD |
| , |
| PROJECT: |
| NORTHGLEN |

BOWMANVILLE, ONT.

3/16" = 1"-0"