

## Schedule 1: Designer Information

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

|                                                                                                                                                                                                                                                              |                                     |                                                                                                               |                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------|
| <b>A. Project Information</b>                                                                                                                                                                                                                                |                                     |                                                                                                               |                                    |
| Building number, street name                                                                                                                                                                                                                                 |                                     | Unit no.                                                                                                      | Lot/con.                           |
| Municipality<br>VAUGHAN (WOODBIDGE)                                                                                                                                                                                                                          | Postal code                         | Plan number/ other description<br><b>M4647</b>                                                                |                                    |
| <b>B. Individual who reviews and takes responsibility for design activities</b>                                                                                                                                                                              |                                     |                                                                                                               |                                    |
| Name<br><b>MICHAEL O'ROURKE</b>                                                                                                                                                                                                                              |                                     | Firm<br><b>HVAC DESIGNS LTD.</b>                                                                              |                                    |
| Street address<br><b>375 FINLEY AVE</b>                                                                                                                                                                                                                      |                                     | Unit no.<br><b>202</b>                                                                                        | Lot/con.<br><b>N/A</b>             |
| Municipality<br><b>AJAX</b>                                                                                                                                                                                                                                  | Postal code<br><b>L1S 2E2</b>       | Province<br><b>ONTARIO</b>                                                                                    | E-mail<br><b>info@hvacdsgns.ca</b> |
| Telephone number<br><b>(905) 619-2300</b>                                                                                                                                                                                                                    | Fax number<br><b>(905) 619-2375</b> | Cell number<br>( )                                                                                            |                                    |
| <b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]</b>                                                                                                                                    |                                     |                                                                                                               |                                    |
| <input type="checkbox"/> House<br><input type="checkbox"/> Small Buildings<br><input type="checkbox"/> Large Buildings<br><input type="checkbox"/> Complex Buildings                                                                                         |                                     |                                                                                                               |                                    |
| <input checked="" type="checkbox"/> HVAC – House<br><input type="checkbox"/> Building Services<br><input type="checkbox"/> Detection, Lighting and Power<br><input type="checkbox"/> Fire Protection                                                         |                                     |                                                                                                               |                                    |
| <input type="checkbox"/> Building Structural<br><input type="checkbox"/> Plumbing – House<br><input type="checkbox"/> Plumbing – All Buildings<br><input type="checkbox"/> On-site Sewage Systems                                                            |                                     |                                                                                                               |                                    |
| Description of designer's work<br><b>HEAT LOSS / GAIN CALCULATIONS<br/>DUCT SIZING<br/>RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY<br/>RESIDENTIAL SYSTEM DESIGN per CSA-F280-12</b>                                                                   |                                     | <b>Model: 4201- THE MAPLEWOOD</b><br><b>Project: PINE VALLEY &amp; TESTON</b>                                 |                                    |
| <b>D. Declaration of Designer</b>                                                                                                                                                                                                                            |                                     |                                                                                                               |                                    |
| I, <b>MICHAEL O'ROURKE</b><br>(print name)                                                                                                                                                                                                                   |                                     | declare that (choose one as appropriate):                                                                     |                                    |
| <input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. |                                     | DATE REVIEWED<br><b>Mar 02/20</b>                                                                             |                                    |
| Individual BCIN: _____<br>Firm BCIN: _____                                                                                                                                                                                                                   |                                     | INITIAL<br><b>RJ</b>                                                                                          |                                    |
| <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.                                         |                                     |                                                                                                               |                                    |
| Individual BCIN: <b>19669</b><br>Basis for exemption from registration and qualification: <b>O.B.C SENTENCE 3.2.4.1 (4)</b>                                                                                                                                  |                                     |                                                                                                               |                                    |
| <input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.<br>Basis for exemption from registration and qualification: _____                                                              |                                     |                                                                                                               |                                    |
| I certify that:                                                                                                                                                                                                                                              |                                     |                                                                                                               |                                    |
| 1. The information contained in this schedule is true to the best of my knowledge.                                                                                                                                                                           |                                     |                                                                                                               |                                    |
| 2. I have submitted this application with the knowledge and consent of the firm.                                                                                                                                                                             |                                     |                                                                                                               |                                    |
| Date<br><b>October 5, 2018</b>                                                                                                                                                                                                                               |                                     | Signature of Designer<br> |                                    |

### 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 qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by 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 license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Application for a Permit Construct or Demolish – Effective January 1, 2015

20-120004 - GLD - 00 - CM

| ROOM USE                      | FACTORS  | GRS. WALL AREA | GLAZING | LOSS | GAIN | PWD  | FOY  | MUD  | LOD  | BAS   |
|-------------------------------|----------|----------------|---------|------|------|------|------|------|------|-------|
| EXP. WALL                     | CLG. HT. |                |         |      |      |      |      |      |      |       |
| 20                            | 20       | 1240           | 0       | 0    | 0    | 110  | 473  | 77   | 430  | 1773  |
| 62                            | 20       | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| 21.3                          | 16.8     | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| 21.3                          | 42.4     | 92             | 1968    | 3900 | 0    | 7    | 149  | 297  | 0    | 0     |
| 21.3                          | 26.7     | 70             | 1480    | 1882 | 0    | 0    | 0    | 0    | 0    | 0     |
| 21.3                          | 42.4     | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| 21.3                          | 103.0    | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| DOORS                         | 25.2     | 20             | 505     | 106  | 0    | 0    | 0    | 0    | 0    | 0     |
| NET EXPOSED WALL              | 4.5      | 1058           | 4722    | 582  | 103  | 460  | 96   | 416  | 1856 | 385   |
| NET EXPOSED BSM WALL ABOVE GR | 3.8      | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| EXPOSED CLG                   | 0.7      | 421            | 540     | 269  | 0    | 0    | 0    | 0    | 0    | 0     |
| NO A T T I C EXPOSED CLG      | 2.7      | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| EXPOSED FLOOR                 | 2.8      | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| BASEMENT/CRAWL HEAT LOSS      |          | 20             | 585     | 385  | 0    | 0    | 0    | 0    | 0    | 0     |
| SLAB ON GRADE HEAT LOSS       |          | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| SUBTOTAL HT LOSS              |          | 3866           | 7392    | 392  | 609  | 392  | 3566 | 819  | 1724 | 7979  |
| SUB TOTAL HT GAIN             |          | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| LEVEL FACTOR / MULTIPLIER     |          | 0.40           | 0.38    | 0.36 | 0.30 | 0.30 | 0.30 | 0.36 | 0.30 | 0.60  |
| AIR CHANGE HEAT LOSS          |          | 3448           | 1064    | 57   | 213  | 213  | 1246 | 265  | 1318 | 11823 |
| AIR CHANGE HEAT GAIN          |          | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| DUCT LOSS                     |          | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| DUCT GAIN                     |          | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| HEAT GAIN PEOPLE              | 240      | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| HEAT GAIN APPLIANCES/LIGHTS   |          | 0              | 0       | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| TOTAL HT LOSS BTU/H           |          | 13316          | 938     | 821  | 821  | 821  | 4811 | 1025 | 1724 | 18802 |
| TOTAL HT GAIN x 1.3 BTU/H     |          | 12200          | 0       | 0    | 0    | 0    | 1218 | 1454 | 1713 | 2402  |

TOTAL COMBINED HEAT LOSS BTU/H. 63066

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SITE NAME: PINE VALLEY & TESTON  
BUILDER: GOLD PARK HOMES

TYPE: 4201- THE MAPLEWOOD DATE: Oct-18

GFA: 2640 LO# 77464

HEATING CFM 1100 COOLING CFM 1100  
TOTAL HEAT LOSS 59,885  
AIR FLOW RATE CFM 18.37

EL206UH070XE36B  
FAN SPEED  
LOW 0  
MEDIUM 995  
HIGH 1100

AFUE = 96 %  
INPUT (BTU/H) = 66,000  
OUTPUT (BTU/H) = 64,000

| RUN COUNT | 4th | 3rd | 2nd | 1st | Bas |
|-----------|-----|-----|-----|-----|-----|
| S/A       | 0   | 0   | 4   | 12  | 5   |
| R/A       | 0   | 0   | 2   | 3   | 1   |

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5'x10" unless noted otherwise on layout.

| ROOM NAME                 | 1    | 2    | 3    | 4     | 5     | 6     | 7      | 8     | 10   | 14    | 15    | 16    | 17    | 18   | 19   | 20   | 21   | 22   | 23   | 24   |
|---------------------------|------|------|------|-------|-------|-------|--------|-------|------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| ROOM NAME                 | MBR  | ENS  | ENS  | BED-2 | BED-3 | BED-4 | L-BATH | BED-4 | MBR  | K/G/D | K/G/D | K/G/D | K/G/D | PWD  | FOY  | MUD  | BAS  | BAS  | BAS  | BAS  |
| RM LOSS MBH               | 1.72 | 0.97 | 0.97 | 2.04  | 3.19  | 3.26  | 1.26   | 3.26  | 1.72 | 3.33  | 3.33  | 3.33  | 3.33  | 0.82 | 4.81 | 1.02 | 4.31 | 4.31 | 4.31 | 4.31 |
| CFM PER RUN HEAT          | 32   | 18   | 18   | 38    | 59    | 60    | 23     | 60    | 32   | 61    | 61    | 61    | 61    | 15   | 88   | 19   | 79   | 79   | 79   | 79   |
| RM GAIN MBH               | 1.90 | 0.98 | 0.98 | 3.13  | 3.25  | 1.90  | 0.25   | 1.90  | 1.90 | 3.05  | 3.05  | 3.05  | 3.05  | 0.58 | 1.22 | 1.45 | 0.82 | 0.82 | 0.82 | 0.82 |
| CFM PER RUN COOLING       | 59   | 30   | 30   | 96    | 100   | 58    | 8      | 58    | 59   | 94    | 94    | 94    | 94    | 18   | 37   | 45   | 25   | 25   | 25   | 25   |
| ADJUSTED PRESSURE         | 0.17 | 0.17 | 0.17 | 0.16  | 0.16  | 0.17  | 0.17   | 0.17  | 0.17 | 0.16  | 0.16  | 0.16  | 0.16  | 0.16 | 0.16 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| ACTUAL DUCT LGH           | 56   | 19   | 18   | 10    | 50    | 46    | 21     | 49    | 51   | 62    | 55    | 60    | 60    | 26   | 33   | 12   | 49   | 50   | 12   | 47   |
| EQUIVALENT LENGTH         | 120  | 120  | 130  | 180   | 160   | 140   | 140    | 150   | 110  | 170   | 150   | 120   | 120   | 130  | 90   | 140  | 120  | 110  | 130  | 130  |
| TOTAL EFFECTIVE LENGTH    | 176  | 139  | 148  | 190   | 210   | 186   | 161    | 199   | 161  | 232   | 205   | 180   | 180   | 166  | 158  | 152  | 169  | 160  | 142  | 177  |
| ADJUSTED PRESSURE         | 0.1  | 0.12 | 0.12 | 0.09  | 0.08  | 0.09  | 0.11   | 0.09  | 0.11 | 0.07  | 0.08  | 0.09  | 0.09  | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.12 | 0.1  |
| ROUND DUCT SIZE           | 5    | 4    | 4    | 6     | 6     | 5     | 4      | 5     | 4    | 6     | 6     | 6     | 6     | 5    | 4    | 5    | 5    | 5    | 5    | 5    |
| HEATING VELOCITY (ft/min) | 235  | 207  | 207  | 194   | 301   | 441   | 264    | 441   | 367  | 311   | 311   | 311   | 311   | 448  | 172  | 646  | 580  | 580  | 580  | 580  |
| COOLING VELOCITY (ft/min) | 433  | 344  | 344  | 489   | 510   | 426   | 92     | 426   | 877  | 479   | 479   | 479   | 479   | 690  | 272  | 516  | 184  | 184  | 184  | 184  |
| OUTLET GRILL SIZE         | 3X10 | 3X10 | 3X10 | 4X10  | 4X10  | 3X10  | 3X10   | 3X10  | 3X10 | 4X10  | 4X10  | 4X10  | 4X10  | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 |
| TRUNK                     | A    | B    | E    | E     | C     | C     | D      | C     | A    | A     | A     | A     | A     | D    | C    | D    | A    | B    | D    | C    |

**VAUGHAN**  
CITY OF VAUGHAN  
BUILDING PERMIT DRAWINGS  
ALL CONSTRUCTION SHALL  
COMPLY WITH THE APPLICABLE  
REQUIREMENTS OF ONTARIO  
REGULATION 332/12, (AS AMENDED),  
THE 2012 BUILDING CODE, MADE  
UNDER THE BUILDING CODE ACT

| SUPPLY AIR TRUNK SIZE  | TRUNK | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) | TRUNK CFM | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) | RETURN AIR TRUNK SIZE | TRUNK CFM | STATIC PRESS. | ROUND DUCT | RECT DUCT | VELOCITY (ft/min) |
|------------------------|-------|---------------|------------|-----------|-------------------|-----------|---------------|------------|-----------|-------------------|-----------------------|-----------|---------------|------------|-----------|-------------------|
| TRUNK A                | 265   | 0.07          | 8.8        | 10        | 477               | 0         | 0.00          | 0          | 0         | 8                 | TRUNK O               | 0         | 0.05          | 0          | 0         | 8                 |
| TRUNK B                | 502   | 0.07          | 11.2       | 14        | 645               | 0         | 0.00          | 0          | 0         | 8                 | TRUNK P               | 0         | 0.05          | 0          | 0         | 8                 |
| TRUNK C                | 361   | 0.08          | 9.6        | 10        | 650               | 0         | 0.00          | 0          | 0         | 8                 | TRUNK Q               | 0         | 0.05          | 0          | 0         | 8                 |
| TRUNK D                | 543   | 0.08          | 11.2       | 14        | 698               | 0         | 0.00          | 0          | 0         | 8                 | TRUNK R               | 0         | 0.05          | 0          | 0         | 8                 |
| TRUNK E                | 1101  | 0.07          | 15         | 26        | 762               | 0         | 0.00          | 0          | 0         | 8                 | TRUNK S               | 0         | 0.05          | 0          | 0         | 8                 |
| TRUNK F                | 0     | 0.00          | 0          | 0         | 0                 | 0         | 0.00          | 0          | 0         | 8                 | TRUNK T               | 0         | 0.05          | 0          | 0         | 8                 |
| RETURN AIR #           | 1     | 2             | 3          | 4         | 5                 | 0         | 0             | 0          | 0         | 0                 | TRUNK U               | 0         | 0.05          | 0          | 0         | 8                 |
| AIR VOLUME             | 115   | 130           | 165        | 155       | 360               | 0         | 0             | 0          | 0         | 0                 | TRUNK V               | 0         | 0.05          | 0          | 0         | 8                 |
| PLENUM PRESSURE        | 0.15  | 0.15          | 0.15       | 0.15      | 0.15              | 0.15      | 0.15          | 0.15       | 0.15      | 0.15              | TRUNK W               | 1100      | 0.05          | 16.3       | 30        | 8                 |
| ACTUAL DUCT LGH        | 46    | 45            | 43         | 17        | 57                | 1         | 1             | 1          | 1         | 1                 | TRUNK X               | 525       | 0.05          | 12.4       | 18        | 8                 |
| EQUIVALENT LENGTH      | 225   | 210           | 145        | 185       | 150               | 0         | 0             | 0          | 0         | 0                 | TRUNK Y               | 400       | 0.05          | 11.2       | 14        | 8                 |
| TOTAL EFFECTIVE LENGTH | 271   | 255           | 188        | 202       | 207               | 1         | 1             | 1          | 1         | 1                 | TRUNK Z               | 1100      | 0.05          | 16.3       | 24        | 10                |
| ADJUSTED PRESSURE      | 0.05  | 0.06          | 0.08       | 0.07      | 0.07              | 0.07      | 0.07          | 0.07       | 0.07      | 0.09              | DROP                  |           |               |            |           |                   |
| ROUND DUCT SIZE        | 7     | 7             | 7.1        | 7.2       | 9.9               | 0         | 0             | 0          | 0         | 0                 |                       |           |               |            |           |                   |
| INLET GRILL SIZE       | 8     | 8             | 8          | 8         | 8                 | 0         | 0             | 0          | 0         | 8                 |                       |           |               |            |           |                   |
| INLET GRILL SIZE       | 14    | 14            | 14         | 14        | 30                | 0         | 0             | 0          | 0         | 14                |                       |           |               |            |           |                   |

TYPE: 4201- THE MAPLEWOOD  
SITE NAME: PINE VALLEY & TESTON

LO # 77464

**RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY**

| 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 gas fireplace |             |
| 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   |                                         |

| HOUSE TYPE                            |                                                      | 9.32.1(2) |
|---------------------------------------|------------------------------------------------------|-----------|
| <input checked="" type="checkbox"/> I | Type a) or b) appliance only, no solid fuel          |           |
| <input type="checkbox"/> II           | Type I except with solid fuel (including fireplaces) |           |
| <input type="checkbox"/> III          | Any Type c) appliance                                |           |
| <input type="checkbox"/> IV           | Type I, or II with electric space heat               |           |
| <input type="checkbox"/>              | Other: Type I, II or IV no forced air                |           |

| SYSTEM DESIGN OPTIONS                 |                                               | O.N.H.W.P. |
|---------------------------------------|-----------------------------------------------|------------|
| <input type="checkbox"/> 1            | Exhaust only/Forced Air System                |            |
| <input type="checkbox"/> 2            | HRV with Ducting/Forced Air System            |            |
| <input checked="" type="checkbox"/> 3 | HRV Simplified/connected to forced air system |            |
| <input type="checkbox"/> 4            | HRV with Ducting/non forced air system        |            |
| <input type="checkbox"/>              | Part 6 Design                                 |            |

| TOTAL VENTILATION CAPACITY |              | 9.32.3.3(1) |
|----------------------------|--------------|-------------|
| Basement + Master Bedroom  | 2 @ 21.2 cfm | 42.4 cfm    |
| Other Bedrooms             | 3 @ 10.6 cfm | 31.8 cfm    |
| Kitchen & Bathrooms        | 5 @ 10.6 cfm | 53 cfm      |
| Other Rooms                | 3 @ 10.6 cfm | 31.8 cfm    |
| Table 9.32.3.A.            | TOTAL        | 159.0 cfm   |

| PRINCIPAL VENTILATION CAPACITY REQUIRED |      | 9.32.3.4.(1) |
|-----------------------------------------|------|--------------|
| 1 Bedroom                               | 31.8 | cfm          |
| 2 Bedroom                               | 47.7 | cfm          |
| 3 Bedroom                               | 63.6 | cfm          |
| 4 Bedroom                               | 79.5 | cfm          |
| 5 Bedroom                               | 95.4 | cfm          |
| TOTAL                                   |      | 79.5 cfm     |

| SUPPLEMENTAL VENTILATION CAPACITY |     | 9.32.3.5. |
|-----------------------------------|-----|-----------|
| Total Ventilation Capacity        | 159 | cfm       |
| Less Principal Ventil. Capacity   | 155 | cfm       |
| Required Supplemental Capacity    | 4.0 | cfm       |

| PRINCIPAL EXHAUST FAN CAPACITY                   |                |
|--------------------------------------------------|----------------|
| Model: VANEE 65H                                 | Location: BSMT |
| 155.0 cfm                                        | 3.0 sones      |
| <input checked="" type="checkbox"/> HVI Approved |                |

| PRINCIPAL EXHAUST HEAT LOSS CALCULATION |        |        |        |      |
|-----------------------------------------|--------|--------|--------|------|
| CFM                                     | ΔT °F  | FACTOR | % LOSS |      |
| 155.0 CFM                               | X 76 F | X 1.08 | X      | 0.25 |

| SUPPLEMENTAL FANS |           | NUTONE |     |       |
|-------------------|-----------|--------|-----|-------|
| Location          | Model     | cfm    | HVI | Sones |
| ENS               | QTXEN050C | 50     | ✓   | 0.3   |
| L-BATH            | QTXEN050C | 50     | ✓   | 0.3   |
| LAUN              | QTXEN050C | 50     | ✓   | 0.3   |
| PWD               | QTXEN050C | 50     | ✓   | 0.3   |

| HEAT RECOVERY VENTILATOR |                       | 9.32.3.11.                                       |
|--------------------------|-----------------------|--------------------------------------------------|
| Model: VANEE 65H         |                       |                                                  |
| 155                      | cfm high              | 64 cfm low                                       |
| 75                       | % Sensible Efficiency | <input checked="" type="checkbox"/> HVI Approved |
|                          |                       | @ 32 deg F ( 0 deg C)                            |

| LOCATION OF INSTALLATION |                   |
|--------------------------|-------------------|
| Lot:                     | Concession        |
| Township                 | Plan:             |
| Address                  |                   |
| Roll #                   | Building Permit # |
| BUILDER:                 | GOLD PARK HOMES   |
| Name:                    |                   |
| Address:                 |                   |
| City:                    |                   |
| Telephone #:             | Fax #:            |

| INSTALLING CONTRACTOR |        |
|-----------------------|--------|
| Name:                 |        |
| Address:              |        |
| City:                 |        |
| Telephone #:          | Fax #: |

| DESIGNER CERTIFICATION                                                                                        |                         |
|---------------------------------------------------------------------------------------------------------------|-------------------------|
| I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code. |                         |
| Name:                                                                                                         | HVAC Designs Ltd.       |
| Signature:                                                                                                    | <i>Michael O'Rourke</i> |
| HRAI #                                                                                                        | 001820                  |
| Date:                                                                                                         | October-18              |

| <b>CSA F280-12 Residential Heat Loss and Heat Gain Calculations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------|---------------------------------------|----------------------------------------|-------|-------|--------|-------|-------|--------|------|--------|-------|-------|-----|-------|-----------|--------|---|---|------------------------------------------------------------------------------------------------------------------------------|--------|---|---|--------------|--------|--|--|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------|--|--|--|--|--|--|-------|--------------------------------|--|--|--|--|--|--|-------|-------------------------------|--|--|--|--|--------|---------|-------|-------------|----|-----|----|-------------|----|----|---|--|--|--|----|
| <b>Formula Sheet (For Air Leakage / Ventilation Calculation)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| LO#: 77464                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Model: 4201- THE MAPLEWOOD | Builder: GOLD PARK HOMES                            | Date: 10/5/2018                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| <b>Volume Calculation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            | <b>Air Change &amp; Delta T Data</b>                |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> <tr> <td>Bsmt</td> <td>1791</td> <td>10</td> <td>17910</td> </tr> <tr> <td>First</td> <td>1791</td> <td>11</td> <td>19701</td> </tr> <tr> <td>Second</td> <td>1589</td> <td>9</td> <td>14301</td> </tr> <tr> <td>Third</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>51,912.0 ft³</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>1470.0 m³</td> </tr> </table>                                                                         |                            | Level                                               | Floor Area (ft²)                      | Floor Height (ft)                                                                                                            | Volume (ft³)      | Bsmt                                                | 1791                                  | 10                                     | 17910 | First | 1791   | 11    | 19701 | Second | 1589 | 9      | 14301 | Third | 0   | 9     | 0         | Fourth | 0 | 9 | 0                                                                                                                            | Total: |   |   | 51,912.0 ft³ | Total: |  |  | 1470.0 m³ | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">WINTER NATURAL AIR CHANGE RATE</th> </tr> <tr> <td></td> <td></td> <td></td> <td>0.335</td> </tr> <tr> <th colspan="4">SUMMER NATURAL AIR CHANGE RATE</th> </tr> <tr> <td></td> <td></td> <td></td> <td>0.122</td> </tr> </table><br><table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> </tr> <tr> <td>Summer DTDc</td> <td>22</td> <td>31</td> <td>9</td> </tr> <tr> <td></td> <td></td> <td></td> <td>16</td> </tr> </table> |  | WINTER NATURAL AIR CHANGE RATE |  |  |  |  |  |  | 0.335 | SUMMER NATURAL AIR CHANGE RATE |  |  |  |  |  |  | 0.122 | Design Temperature Difference |  |  |  |  | Tin °C | Tout °C | ΔT °C | Winter DTDh | 22 | -20 | 42 | Summer DTDc | 22 | 31 | 9 |  |  |  | 16 |
| Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Floor Area (ft²)           | Floor Height (ft)                                   | Volume (ft³)                          |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Bsmt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1791                       | 10                                                  | 17910                                 |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| First                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1791                       | 11                                                  | 19701                                 |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Second                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1589                       | 9                                                   | 14301                                 |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Third                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0                          | 9                                                   | 0                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Fourth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0                          | 9                                                   | 0                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Total:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |                                                     | 51,912.0 ft³                          |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Total:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |                                                     | 1470.0 m³                             |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| WINTER NATURAL AIR CHANGE RATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | 0.335                                 |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| SUMMER NATURAL AIR CHANGE RATE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | 0.122                                 |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Design Temperature Difference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Tin °C                     | Tout °C                                             | ΔT °C                                 |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Winter DTDh                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 22                         | -20                                                 | 42                                    |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Summer DTDc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 22                         | 31                                                  | 9                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | 16                                    |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| <b>5.2.3.1 Heat Loss due to Air Leakage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| $HL_{airb} = LR_{airb} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 0.335                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | x                          | 408.33                                              | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            | 42 °C                                               | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            | 1.2                                                 | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | =                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | 6930 W                                |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | =                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | 23646 Btu/h                           |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| <b>5.2.3.2 Heat Loss due to Mechanical Ventilation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 155 CFM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | x                          | 76 °F                                               | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            | 1.08                                                | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            | 0.25                                                | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | =                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | 3181 Btu/h                            |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| <b>5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| $HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{ugcr} + HL_{bgcr}) \div (HL_{agelevel} + HL_{bglevel})\}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HLlevel)</th> <th>Air Leakage Heat Loss Multiplier (LF8)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="4">23,646</td> <td>9,704</td> <td>1.218</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>20,302</td> <td>0.349</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>5,642</td> <td>ALL 0.349</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE 2012 BUILDING CODE, MAINTAINED UNDER THE BUILDING CODE ACT</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </table> |                            |                                                     |                                       | Level                                                                                                                        | Level Factor (LF) | HLairbv Air Leakage + Ventilation Heat Loss (Btu/h) | Level Conductive Heat Loss: (HLlevel) | Air Leakage Heat Loss Multiplier (LF8) | 1     | 0.5   | 23,646 | 9,704 | 1.218 | 2      | 0.3  | 20,302 | 0.349 | 3     | 0.2 | 5,642 | ALL 0.349 | 4      | 0 | 0 | CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE 2012 BUILDING CODE, MAINTAINED UNDER THE BUILDING CODE ACT | 5      | 0 | 0 | 0            | 0.000  |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Level Factor (LF)          | HLairbv Air Leakage + Ventilation Heat Loss (Btu/h) | Level Conductive Heat Loss: (HLlevel) | Air Leakage Heat Loss Multiplier (LF8)                                                                                       |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.5                        | 23,646                                              | 9,704                                 | 1.218                                                                                                                        |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.3                        |                                                     | 20,302                                | 0.349                                                                                                                        |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.2                        |                                                     | 5,642                                 | ALL 0.349                                                                                                                    |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0                          |                                                     | 0                                     | CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE 2012 BUILDING CODE, MAINTAINED UNDER THE BUILDING CODE ACT |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0                          | 0                                                   | 0                                     | 0.000                                                                                                                        |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                                                     |                                       |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
| 155 CFM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | x                          | 76 °F                                               | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            | 1.08                                                | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            | 0.25                                                | x                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | =                                     |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                                                     | 661 Btu/h                             |                                                                                                                              |                   |                                                     |                                       |                                        |       |       |        |       |       |        |      |        |       |       |     |       |           |        |   |   |                                                                                                                              |        |   |   |              |        |  |  |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                |  |  |  |  |  |  |       |                                |  |  |  |  |  |  |       |                               |  |  |  |  |        |         |       |             |    |     |    |             |    |    |   |  |  |  |    |

### HEAT LOSS AND GAIN SUMMARY SHEET

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| <b>MODEL:</b> 4201- THE MAPLEWOOD | <b>BUILDER:</b> GOLD PARK HOMES   |
| <b>SFQT:</b> 2640                 | <b>SITE:</b> PINE VALLEY & TESTON |
| <b>LO#</b> 77464                  |                                   |

#### DESIGN ASSUMPTIONS

|                      |    |                                |    |
|----------------------|----|--------------------------------|----|
| HEATING              | °F | COOLING                        | °F |
| OUTDOOR DESIGN TEMP. | -4 | OUTDOOR DESIGN TEMP.           | 88 |
| INDOOR DESIGN TEMP.  | 72 | INDOOR DESIGN TEMP. (MAX 75°F) | 72 |

#### BUILDING DATA

|                                     |                 |                           |          |
|-------------------------------------|-----------------|---------------------------|----------|
| ATTACHMENT:                         | DETACHED        | # OF STORIES (+BASEMENT): | 3        |
| FRONT FACES:                        | NORTH           | ASSUMED (Y/N):            | Y        |
| AIR CHANGES PER HOUR:               | 3.57            | ASSUMED (Y/N):            | Y        |
| AIR TIGHTNESS CATEGORY:             | AVERAGE         | ASSUMED (Y/N):            | Y        |
| WIND EXPOSURE:                      | SHELTERED       | ASSUMED (Y/N):            | Y        |
| HOUSE VOLUME (ft³):                 | 51912.0         | ASSUMED (Y/N):            | Y        |
| INTERNAL SHADING:                   | BLINDS/CURTAINS | ASSUMED OCCUPANTS:        | 5        |
| INTERIOR LIGHTING LOAD (Btu/h/ft²): | 1.27            | DC BRUSHLESS MOTOR (Y/N): | Y        |
| FOUNDATION CONFIGURATION            | BCIN_1          | DEPTH BELOW GRADE:        | 7.5 ft   |
| LENGTH: 68.0 ft                     | WIDTH: 33.0 ft  | EXPOSED PERIMETER:        | 202.0 ft |

| 2012 OBC - COMPLIANCE PACKAGE                                              |  | Compliance Package A1 |           |
|----------------------------------------------------------------------------|--|-----------------------|-----------|
| Component                                                                  |  | Nominal               | Min. Eff. |
| Ceiling with Attic Space Minimum RSI (R)-Value                             |  | 60                    | 59.22     |
| Ceiling Without Attic Space Minimum RSI (R)-Value                          |  | 31                    | 27.65     |
| Exposed Floor Minimum RSI (R)-Value                                        |  | 31                    | 29.80     |
| Walls Above Grade Minimum RSI (R)-Value                                    |  | 22                    | 17.03     |
| Basement Walls Minimum RSI (R)-Value                                       |  | 20 ci                 | 21.12     |
| Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value |  | -                     | -         |
| Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value        |  | 10                    | 10        |
| Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value             |  | 10                    | 11.13     |
| Windows and Sliding Glass Doors Maximum U-Value                            |  | 0.28                  | -         |
| Skylights Maximum U-Value                                                  |  | 0.49                  | -         |
| Space Heating Equipment Minimum AFUE                                       |  | 0.96                  | -         |
| HRV Minimum Efficiency                                                     |  | 75%                   | -         |
| Domestic Hot Water Heater Minimum EF                                       |  | 0.8                   | -         |

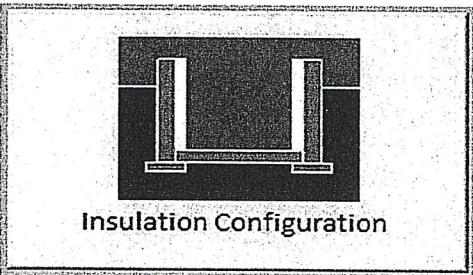
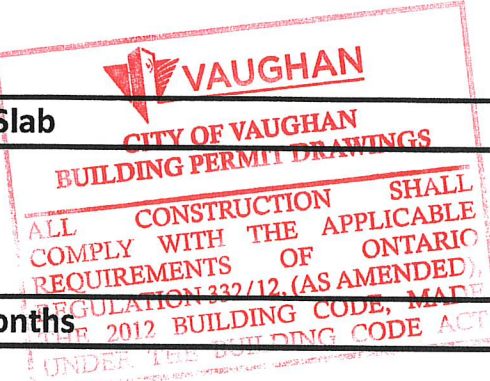
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

| Weather Station Description    |                                           |                                                                                                                 |
|--------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Province:                      | Ontario                                   |                                                                                                                 |
| Region:                        | Vaughan (Woodbridge)                      |                                                                                                                 |
| Site Description               |                                           |                                                                                                                 |
| Soil Conductivity:             | Normal conductivity: dry sand, loam, clay |                                                                                                                 |
| Water Table:                   | Normal (7-10 m, 23-33 ft)                 |                                                                                                                 |
| Foundation Dimensions          |                                           |                                                                                                                 |
| Floor Length (m):              | 20.7                                      | <br>Insulation Configuration |
| Floor Width (m):               | 10.1                                      |                                                                                                                 |
| Exposed Perimeter (m):         | 0.0                                       |                                                                                                                 |
| Wall Height (m):               | 3.0                                       |                                                                                                                 |
| Depth Below Grade (m):         | 2.29                                      |                                                                                                                 |
| Window Area (m <sup>2</sup> ): | 4.9                                       |                                                                                                                 |
| Door Area (m <sup>2</sup> ):   | 1.9                                       |                                                                                                                 |
| Radiant Slab                   |                                           |                                                                                                                 |
| Heated Fraction of the Slab:   | 0                                         |                             |
| Fluid Temperature (°C):        | 33                                        |                                                                                                                 |
| Design Months                  |                                           |                                                                                                                 |
| Heating Month                  | 1                                         |                                                                                                                 |
| Foundation Loads               |                                           |                                                                                                                 |
| Heating Load (Watts):          | 1880                                      |                                                                                                                 |

TYPE: 4201- THE MAPLEWOOD  
LO# 77464

## Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

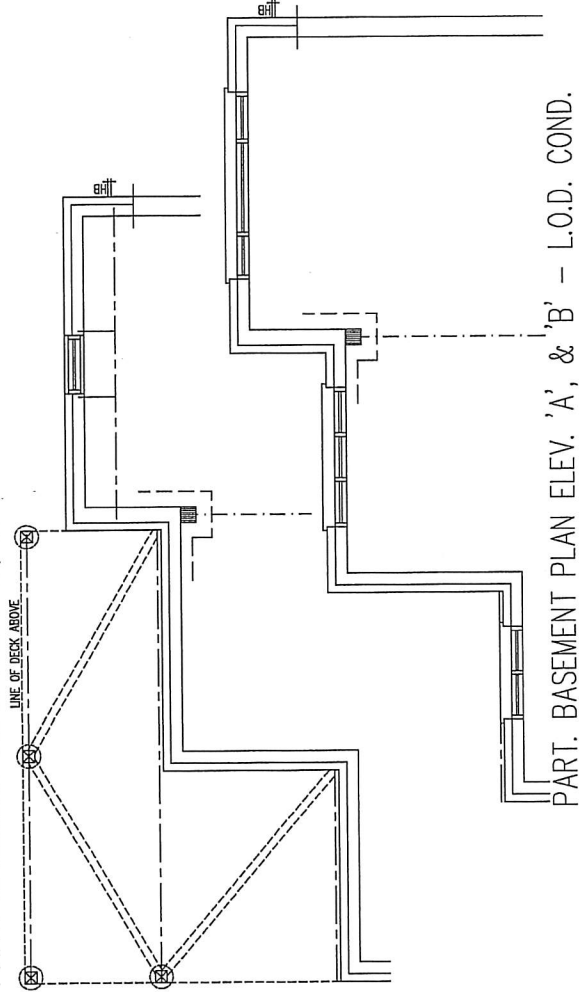
| Weather Station Description       |                            |                                       |
|-----------------------------------|----------------------------|---------------------------------------|
| Province:                         | Ontario                    |                                       |
| Region:                           | Vaughan (Woodbridge)       |                                       |
| 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):       | 6.86                       |                                       |
| Building Configuration            |                            |                                       |
| Type:                             | Detached                   |                                       |
| Number of Stories:                | Two                        |                                       |
| Foundation:                       | Full                       |                                       |
| House Volume (m <sup>3</sup> ):   | 1470.0                     |                                       |
| Air Leakage/Ventilation           |                            |                                       |
| Air Tightness Type:               | Present (1961-) (3.57 ACH) |                                       |
| Custom BDT Data:                  | ELA @ 10 Pa.<br>3.57       | 1959.5 cm <sup>2</sup><br>ACH @ 50 Pa |
| Mechanical Ventilation (L/s):     | Total Supply<br>73.2       | Total Exhaust<br>73.2                 |
| Flue Size                         |                            |                                       |
| Flue #:                           | #1                         | #2                                    |
| Diameter (mm):                    | 0                          | 0                                     |
| #3                                | #4                         |                                       |
| 0                                 | 0                          |                                       |
| Natural Infiltration Rates        |                            |                                       |
| Heating Air Leakage Rate (ACH/H): | 0.335                      |                                       |
| Cooling Air Leakage Rate (ACH/H): | 0.122                      |                                       |

TYPE: 4201- THE MAPLEWOOD  
LO# 77464

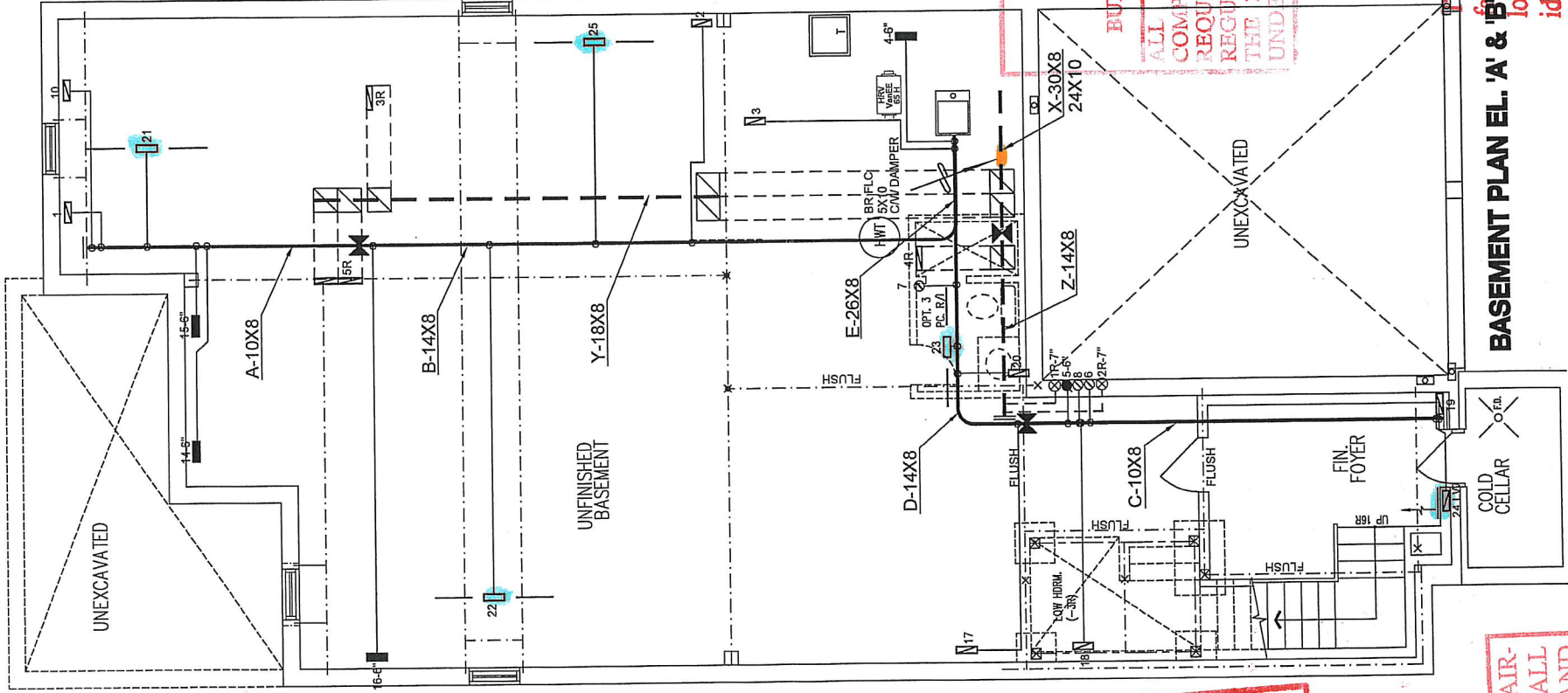
CSA-F280-12 WOD  
PACKAGE A1 LOD

ALL DRAWINGS MUST BE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.3 OF THE BUILDING CODE.  
*Michael J. O'Connell*  
HVA DESIGN LTD.  
HVA DESIGN LTD. 1986

PART. BASEMENT PLAN ELEV. 'A', & 'B' - W.O.D. COND.



PART. BASEMENT PLAN ELEV. 'A', & 'B' - L.O.D. COND.



DWELLING  
☒ TYPE I  
☐ TYPE II  
☐ TYPE III  
☐ TYPE IV  
☐ COUPLED  
☐ FORCED AIR

HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF DIVISION B - SECTION 6.2. OF THE 2012 BUILDING CODE COMPENDIUM

**VAUGHAN**  
CITY OF VAUGHAN  
BUILDING PERMIT DRAWINGS  
ALL CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF ONTARIO REGULATION 332/12, (AS AMENDED), THE 2012 BUILDING CODE, MADE UNDER THE BUILDING CODE ACT

The forced air heating system circulation fan shall be controlled by a manual switch located adjacent to the ventilation fan switch and identified by the words "Circulation Fan."

PLEASE SEE BACKSIDE FOR NOTES

BASEMENT PLAN EL. 'A' & 'B'

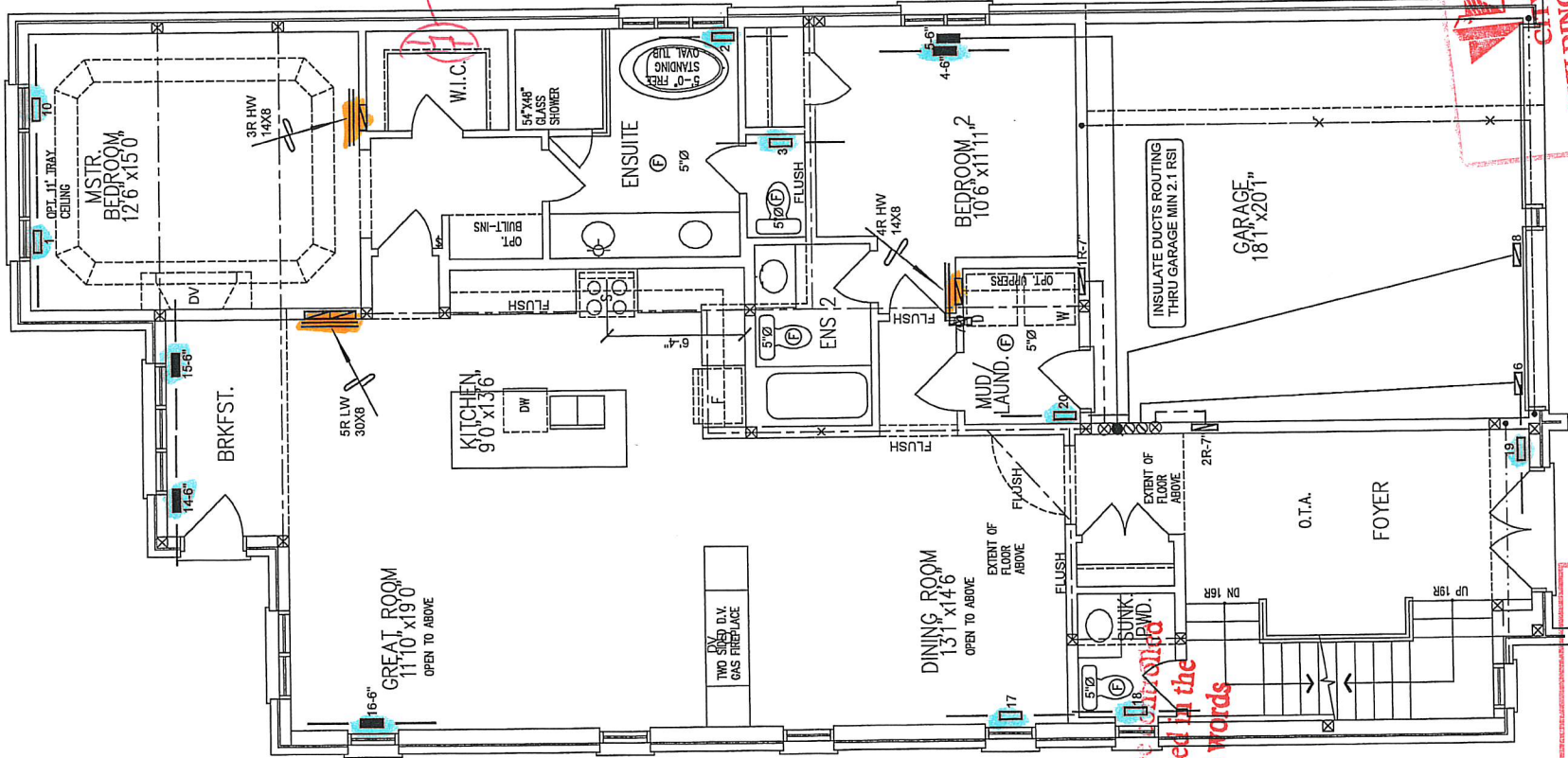
| HVAC LEGEND |                           |  |                                 |  |                              |  |
|-------------|---------------------------|--|---------------------------------|--|------------------------------|--|
|             | SUPPLY AIR GRILLE         |  | 6" SUPPLY AIR BOOT ABOVE        |  | 14"x8" RETURN AIR GRILLE     |  |
|             | SUPPLY AIR GRILLE 6" BOOT |  | SUPPLY AIR STACK FROM 2nd FLOOR |  | 30"x8" RETURN AIR GRILLE     |  |
|             | SUPPLY AIR BOOT ABOVE     |  | 6" SUPPLY AIR STACK 2nd FLOOR   |  | FRA- FLOOR RETURN AIR GRILLE |  |

| REVISIONS |  | Description           |  | Date     |  |
|-----------|--|-----------------------|--|----------|--|
| No.       |  |                       |  |          |  |
| 1.        |  | DECK CONDITIONS ADDED |  | OCT/2018 |  |
| 2.        |  |                       |  |          |  |
| 3.        |  |                       |  |          |  |

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| Client                                                                                                                                                                                                                                                  |  | Project Name                                                                                                                                         |  | Client                                                 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------|--|
| GOLD PARK HOMES                                                                                                                                                                                                                                         |  | PINE VALLEY & TESTON VAUGHAN, ONTARIO                                                                                                                |  | THE MAPLEWOOD 4201                                     |  |
| 2640 sqft                                                                                                                                                                                                                                               |  |                                                                                                                                                      |  |                                                        |  |
| HVA DESIGNS LTD.                                                                                                                                                                                                                                        |  | 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvadesigns.ca Web: www.hvadesigns.ca |  | Specializing in Residential Mechanical Design Services |  |
| Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed. |  |                                                                                                                                                      |  |                                                        |  |
| HEAT LOSS 63086 BTU/H                                                                                                                                                                                                                                   |  | UNIT DATA                                                                                                                                            |  | # OF RUNS S/A R/A FANS                                 |  |
| MAKE LENNOX                                                                                                                                                                                                                                             |  | 3RD FLOOR                                                                                                                                            |  | 3RD FLOOR                                              |  |
| MODEL EL296UH070XE36B                                                                                                                                                                                                                                   |  | 2ND FLOOR                                                                                                                                            |  | 2ND FLOOR                                              |  |
| INPUT 66 MBTU/H                                                                                                                                                                                                                                         |  | 1ST FLOOR                                                                                                                                            |  | 1ST FLOOR                                              |  |
| OUTPUT 64 MBTU/H                                                                                                                                                                                                                                        |  | BASEMENT                                                                                                                                             |  | BASEMENT                                               |  |
| COOLING 3.0 TONS                                                                                                                                                                                                                                        |  | ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5/8" UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A       |  | Date JAN/2018                                          |  |
| FAN SPEED 1100 cfm @ 0.5" w.c.                                                                                                                                                                                                                          |  |                                                                                                                                                      |  | Scale 1/8" = 1'-0"                                     |  |
|                                                                                                                                                                                                                                                         |  |                                                                                                                                                      |  | BCIN# 19869                                            |  |
|                                                                                                                                                                                                                                                         |  |                                                                                                                                                      |  | LO# 77464                                              |  |

| HVAC LEGEND                                                                         |                           |                                                                                       |                                 |                                                                                       |                              |                                                                                       |                            |
|-------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------|----------------------------|
| SYMBOL                                                                              | DESCRIPTION               | SYMBOL                                                                                | DESCRIPTION                     | SYMBOL                                                                                | DESCRIPTION                  | SYMBOL                                                                                | DESCRIPTION                |
|  | SUPPLY AIR GRILLE         |  | 6" SUPPLY AIR BOOT ABOVE        |  | 14"x8" RETURN AIR GRILLE     |  | RETURN AIR STACK ABOVE     |
|  | SUPPLY AIR GRILLE 6" BOOT |  | SUPPLY AIR STACK FROM 2nd FLOOR |  | 30"x8" RETURN AIR GRILLE     |  | RETURN AIR STACK 2nd FLOOR |
|  | SUPPLY AIR BOOT ABOVE     |  | 6" SUPPLY AIR STACK 2nd FLOOR   |  | FRA- FLOOR RETURN AIR GRILLE |  | REDUCER                    |



HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF DIVISION B - SECTION 6.2. OF THE 2012 BUILDING CODE COMPENDIUM

GROUND FLOOR PLAN EL. A

VAUGHAN  
CITY OF VAUGHAN  
BUILDING PERMIT DRAWINGS  
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Supply or Return Air Duct exposed to an unheated space shall be insulated to provide a thermal resistance of not less than RSI 2.1 (R12)

see note #17

Two Principal Exhaust Fan shall be installed by a manual switch centrally located in the dwelling unit and identified by the words "Ventilation Fan."

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Client

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON VAUGHAN, ONTARIO

THE MAPLEWOOD

4201

2640 sqft

HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario  
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375  
Email: info@hvacdesigns.ca  
Web: www.hvacdesigns.ca  
Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title

FIRST HEATING LAYOUT

Date

JAN/2018

Scale

1/8" = 1'-0"

BCIN#

19669

LO#

77464

CSA-F280-12

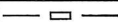
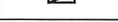
PACKAGE A1

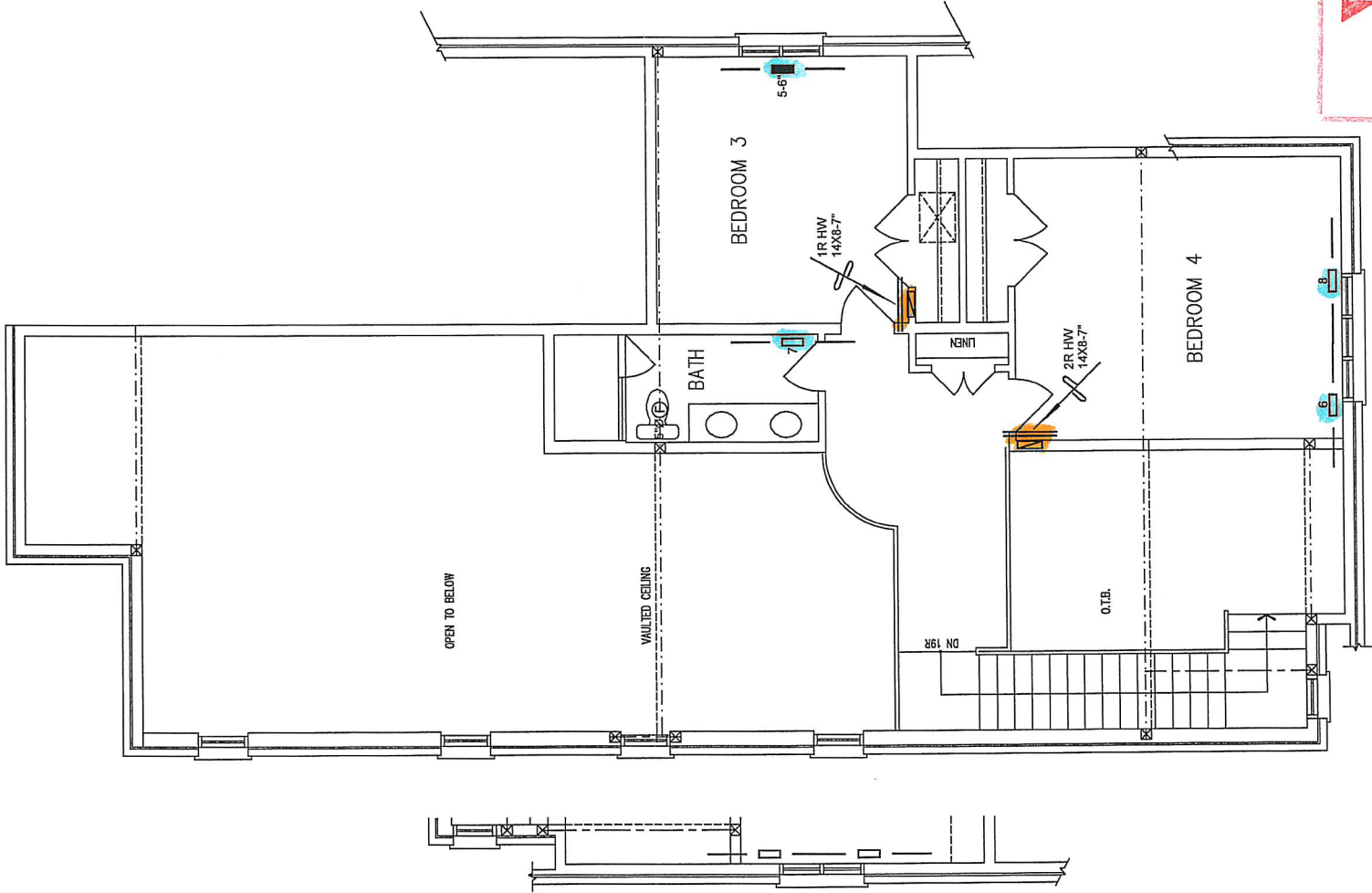
WOD

LOD

I MICHAEL OTTOURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED TO SIGN THESE DRAWINGS IN ACCORDANCE WITH THE BUILDING CODE.

*Michael Ottourke*  
Michael Ottourke, BCIN# 19669  
HVAC DESIGNS LTD.

| HVAC LEGEND                                                                         |                           |                                                                                       |                                 |                                                                                       |                              |                                                                                       |                            |
|-------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------|----------------------------|
|  | SUPPLY AIR GRILLE         |  | 6" SUPPLY AIR BOOT ABOVE        |  | 14"x8" RETURN AIR GRILLE     |  | RETURN AIR STACK ABOVE     |
|  | SUPPLY AIR GRILLE 6" BOOT |  | SUPPLY AIR STACK FROM 2nd FLOOR |  | 30"x8" RETURN AIR GRILLE     |  | RETURN AIR STACK 2nd FLOOR |
|  | SUPPLY AIR BOOT ABOVE     |  | 6" SUPPLY AIR STACK 2nd FLOOR   |  | FRA- FLOOR RETURN AIR GRILLE |  | REDUCER                    |



PART LOFT FLOOR PLAN EL. 'B'

HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF DIVISION B - SECTION 6.2. OF THE 2012 BUILDING CODE COMPENDIUM

LOFT FLOOR PLAN EL. 'A'

**VAUGHAN**  
CITY OF VAUGHAN  
BUILDING PERMIT DRAWINGS

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|--------------|------------------------------------------|-------------|-----------------------------------|--------------|
| Client       | GOLD PARK HOMES                          |             | Sheet Title                       |              |
|              | PINE VALLEY & TESTON<br>VAUGHAN, ONTARIO |             | SECOND FLOOR<br>HEATING<br>LAYOUT |              |
| Project Name | THE MAPLEWOOD<br>4201                    |             | Date                              | JAN/2018     |
|              |                                          |             | Scale                             | 1/8" = 1'-0" |
|              |                                          | BCIN# 19669 |                                   |              |
|              |                                          | LO#         | 77464                             |              |
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**HVAC DESIGNS LTD.**

375 Finley Ave. Suite 202 - Ajax, Ontario  
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375  
Email: info@hvacdsgns.ca  
Web: www.hvacdsgns.ca

Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.