

Block 121 Units 7 to 12

| SITE NAME: BARLASSINA | | | | WOB | | GFA: 2140 | | DATE: Dec-22 | | WINTER NATURAL AIR CHANGE RATE 0.376 | | HEAT LOSS ΔT °F. 72 | | CSA-F280-12 | |
|--------------------------------|-----------|----------|---------|-----------------|------|-----------|-------|--------------|------|--------------------------------------|------|---------------------|------|------------------|-----|
| BUILDER: GREENPARK HOMES | | | | TYPE: CHERRY 3E | | | | LO# 99794 | | SUMMER NATURAL AIR CHANGE RATE 0.100 | | HEAT GAIN ΔT °F. 9 | | SB-12 PACKAGE A1 | |
| ROOM USE | EXP. WALL | CLG. HT. | FACTORS | MBR | ENS | BED-2 | BED-3 | FLEX | BATH | | | | | | |
| | | | | 37 | 8 | 10 | 30 | 13 | 10 | | | | | | |
| | | | | 9 | 9 | 9 | 9 | 9 | 9 | | | | | | |
| GRS.WALL AREA | LOSS | GAIN | | 333 | 72 | 90 | 270 | 117 | 90 | | | | | | |
| GLAZING | LOSS | GAIN | | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | LOSS | GAIN | | |
| NORTH | 20.3 | 15.0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| EAST | 20.3 | 40.5 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| SOUTH | 20.3 | 23.9 | | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 365 | 430 | 7 | 142 | 167 |
| WEST | 20.3 | 40.5 | | 18 | 365 | 730 | 16 | 324 | 649 | 0 | 0 | 0 | 0 | 0 | 0 |
| SKYLT. | 35.5 | 99.8 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| DOORS | 19.1 | 2.4 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NET EXPOSED WALL | 4.3 | 0.5 | | 315 | 1339 | 170 | 56 | 238 | 30 | 63 | 268 | 34 | 246 | 1046 | 133 |
| NET EXPOSED BSMT WALL ABOVE GR | 3.4 | 0.4 | | 0 | 0 | 0 | 0 | 0 | 0 | 99 | 421 | 53 | 83 | 353 | 45 |
| EXPOSED CLG | 1.2 | 0.5 | | 348 | 425 | 183 | 136 | 166 | 72 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO ATTIC EXPOSED CLG | 2.6 | 1.1 | | 0 | 0 | 0 | 0 | 0 | 0 | 206 | 252 | 109 | 160 | 196 | 84 |
| EXPOSED FLOOR | 2.4 | 0.3 | | 0 | 0 | 0 | 0 | 0 | 0 | 252 | 308 | 133 | 80 | 98 | 42 |
| BASEMENT/CRAWL HEAT LOSS | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SLAB ON GRADE HEAT LOSS | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SUBTOTAL HT LOSS | | | | 2130 | | 729 | | 1568 | | 0 | 0 | 0 | 0 | 0 | 0 |
| SUB TOTAL HT GAIN | | | | | 1083 | | 751 | | 1094 | | 593 | | | | |
| LEVEL FACTOR / MULTIPLIER | 0.20 | 0.35 | | | | | | 0.20 | 0.35 | | 616 | | 0.20 | 0.35 | 254 |
| AIR CHANGE HEAT LOSS | | | | 753 | | 258 | | 554 | | 0.20 | 0.35 | | 0.20 | 0.35 | 210 |
| AIR CHANGE HEAT GAIN | | | | | 59 | | 41 | | 71 | | 66 | | | 34 | 14 |
| DUCT LOSS | | | | 0 | | 0 | | 212 | | | 0 | | | 0 | |
| DUCT GAIN | | | | | 0 | | 0 | | 239 | | 230 | | | 0 | |
| HEAT GAIN PEOPLE | 240 | | | 2 | 480 | 0 | 0 | 1 | 240 | | 1 | | 0 | 0 | 0 |
| HEAT GAIN APPLIANCES/LIGHTS | | | | | 780 | 0 | 0 | | 780 | | 780 | | | 0 | 0 |
| TOTAL HT LOSS BTU/H | | | | 2883 | | 986 | | 2334 | | | 1481 | | | 802 | |
| TOTAL HT GAIN x 1.3 BTU/H | | | | | 3124 | | 1029 | | 3421 | | 3291 | | | 1859 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|------|------|--|--|--|--|-------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|------|--|
| ROOM USE | | | | | | | K/L/D | | | | LAUN | | PWD | | FOY | | MUD | | | | | | | | WOB | | BAS | |
| EXP. WALL | | | | | | | 61 | | | | 0 | | 8 | | 48 | | 11 | | | | | | | | 30 | | 125 | |
| CLG. HT. | | | | | | | 10 | | | | 9 | | 10 | | 10 | | 10 | | | | | | | | 9 | | 9 | |
| FACTORS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRS.WALL AREA | LOSS | GAIN | | | | | 610 | | | | 0 | | 80 | | 480 | | 110 | | | | | | | | 270 | | 750 | |
| GLAZING | | | | | | | LOSS | | GAIN | | LOSS | | GAIN | | LOSS | | GAIN | | LOSS | | GAIN | | | | LOSS | | GAIN | |
| NORTH | 20.3 | 15.0 | | | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | 0 | |
| EAST | 20.3 | 40.5 | | | | | 0 | | 0 | | 0 | | 0 | | 11 | | 223 | | 446 | | 0 | | | | 0 | | 0 | |
| SOUTH | 20.3 | 23.9 | | | | | 50 | | 1014 | | 1195 | | 0 | | 7 | | 142 | | 167 | | 0 | | | | 0 | | 8 | |
| WEST | 20.3 | 40.5 | | | | | 48 | | 973 | | 1946 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 33 | | 669 | |
| SKYLT. | 35.5 | 99.8 | | | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | 0 | |
| DOORS | 19.1 | 2.4 | | | | | 10 | | 191 | | 24 | | 0 | | 0 | | 14 | | 267 | | 34 | | | | 20 | | 382 | |
| NET EXPOSED WALL | 4.3 | 0.5 | | | | | 502 | | 2134 | | 271 | | 0 | | 73 | | 310 | | 39 | | 455 | | | | 90 | | 383 | |
| NET EXPOSED BSMT WALL ABOVE GR | 3.4 | 0.4 | | | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | 0 | |
| EXPOSED CLG | 1.2 | 0.5 | | | | | 0 | | 0 | | 0 | | 48 | | 59 | | 25 | | 0 | | 0 | | | | 0 | | 0 | |
| NO ATTIC EXPOSED CLG | 2.6 | 1.1 | | | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | 0 | |
| EXPOSED FLOOR | 2.4 | 0.3 | | | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | 0 | |
| BASEMENT/CRAWL HEAT LOSS | | | | | | | 0 | | | | | | 0 | | | | 0 | | | | | | | | | | 1681 | |
| SLAB ON GRADE HEAT LOSS | | | | | | | 0 | | | | | | 0 | | | | 0 | | | | | | | | | | | |
| SUBTOTAL HT LOSS | | | | | | | 4312 | | | | | | 59 | | | | 452 | | | | 2425 | | | | 765 | | | |
| SUB TOTAL HT GAIN | | | | | | | | | 3436 | | | | 25 | | | | 207 | | | | 726 | | | | 97 | | | |
| LEVEL FACTOR / MULTIPLIER | 0.30 | 0.53 | | | | | | | | | | | 0.20 | | 0.35 | | 0.30 | | 0.53 | | 0.30 | | 0.53 | | 0.30 | | 0.53 | |
| AIR CHANGE HEAT LOSS | | | | | | | 2304 | | | | | | 21 | | | | 242 | | | | 1296 | | | | 409 | | | |
| AIR CHANGE HEAT GAIN | | | | | | | | | 188 | | | | 1 | | | | 11 | | | | 40 | | | | 5 | | | |
| DUCT LOSS | | | | | | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| DUCT GAIN | | | | | | | 0 | | | | | | 0 | | | | 0 | | | | 0 | | | | 0 | | | |
| HEAT GAIN PEOPLE | 240 | | | | | | 0 | | 0 | | | | 0 | | 0 | | 0 | | 0 | | 0 | | | | 0 | | 0 | |
| HEAT GAIN APPLIANCES/LIGHTS | | | | | | | 780 | | | | | | 780 | | | | 0 | | | | 0 | | | | 0 | | 780 | |
| TOTAL HT LOSS BTU/H | | | | | | | 6616 | | | | | | 79 | | | | 694 | | | | 3721 | | | | 1173 | | | |
| TOTAL HT GAIN x 1.3 BTU/H | | | | | | | 5726 | | | | | | 1049 | | | | 283 | | | | 995 | | | | 133 | | | |

TOTAL HEAT GAIN BTU/H:

25020

TONS: 2.09

LOSS DUE TO VENTILATION LOAD BTU/H: 1243

STRUCTURAL HEAT LOSS: 36230

TOTAL COMBINED HEAT LOSS BTU/H: 37473

SITE NAME: BARLASSINA
BUILDER: GREENPARK HOMES

WOB
TYPE: CHERRY 3E

DATE: Dec-22

GFA: 2140 LO# 99794

HEATING CFM 890 COOLING CFM 890
TOTAL HEAT LOSS 36,230 TOTAL HEAT GAIN 24,862
AIR FLOW RATE CFM 24.57 AIR FLOW RATE CFM 35.8

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

#GOODMAN
GMEC960402BNA 40

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 38,400

| RUN COUNT | 4th | 3rd | 2nd | 1st | Bas |
|-----------|-----|-----|-----|-----|-----|
| S/A | 0 | 0 | 10 | 6 | 4 |
| R/A | 0 | 0 | 4 | 1 | 1 |

plenium pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16

r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15

FAN SPEED LOW
MEDLOW MEDIUM 695
MEDIUM HIGH 890

DESIGN CFM = 890
CFM @ .6" E.S.P.

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

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

| RUN # | 1 | 2 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 13 | 14 | 15 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---------------------------|------|------|-------|-------|------|------|-------|-------|------|-------|-------|-------|------|------|------|------|------|------|------|------|
| ROOM NAME | MBR | ENS | BED-2 | BED-3 | FLEX | BATH | BED-2 | BED-3 | MBR | K/L/D | K/L/D | K/L/D | LAUN | PWD | FOY | MUD | BAS | BAS | BAS | BAS |
| RM LOSS MBH. | 1.44 | 0.99 | 1.17 | 1.37 | 1.48 | 0.80 | 1.17 | 1.37 | 1.44 | 2.21 | 2.21 | 2.21 | 0.08 | 0.69 | 3.72 | 1.17 | 3.18 | 3.18 | 3.18 | 3.18 |
| CFM PER RUN HEAT | 35 | 24 | 29 | 34 | 36 | 20 | 29 | 34 | 35 | 54 | 54 | 54 | 2 | 17 | 91 | 29 | 78 | 78 | 78 | 78 |
| RM GAIN MBH. | 1.56 | 1.03 | 1.71 | 1.65 | 1.86 | 0.35 | 1.71 | 1.65 | 1.56 | 1.91 | 1.91 | 1.91 | 1.05 | 0.28 | 1.00 | 0.13 | 0.90 | 0.90 | 0.90 | 0.90 |
| CFM PER RUN COOLING | 56 | 37 | 61 | 59 | 67 | 12 | 61 | 59 | 56 | 68 | 68 | 68 | 38 | 10 | 36 | 5 | 32 | 32 | 32 | 32 |
| ADJUSTED PRESSURE | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.16 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| ACTUAL DUCT LGH. | 48 | 38 | 58 | 60 | 48 | 40 | 59 | 62 | 46 | 23 | 16 | 35 | 35 | 35 | 49 | 39 | 47 | 11 | 40 | 36 |
| EQUIVALENT LENGTH | 170 | 160 | 140 | 170 | 170 | 120 | 150 | 180 | 150 | 140 | 110 | 100 | 140 | 90 | 130 | 140 | 140 | 100 | 140 | 100 |
| TOTAL EFFECTIVE LENGTH | 218 | 198 | 198 | 230 | 218 | 160 | 209 | 242 | 196 | 163 | 126 | 135 | 175 | 125 | 179 | 179 | 187 | 111 | 180 | 136 |
| ADJUSTED PRESSURE | 0.08 | 0.09 | 0.09 | 0.07 | 0.08 | 0.11 | 0.08 | 0.07 | 0.09 | 0.11 | 0.14 | 0.13 | 0.1 | 0.14 | 0.09 | 0.1 | 0.09 | 0.15 | 0.1 | 0.13 |
| ROUND DUCT SIZE | 5 | 4 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 6 | 4 | 5 | 5 | 5 | 5 |
| HEATING VELOCITY (ft/min) | 257 | 275 | 213 | 250 | 264 | 229 | 213 | 250 | 257 | 396 | 396 | 396 | 23 | 195 | 464 | 333 | 573 | 573 | 573 | 573 |
| COOLING VELOCITY (ft/min) | 411 | 424 | 448 | 433 | 492 | 138 | 448 | 433 | 411 | 499 | 499 | 499 | 436 | 115 | 184 | 57 | 235 | 235 | 235 | 235 |
| OUTLET GRILL SIZE | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 | 4X10 | 3X10 | 3X10 | 3X10 | 3X10 | 3X10 |
| TRUNK | A | A | D | C | D | D | D | C | B | D | B | A | B | D | C | D | A | B | C | A |

| RUN # | ROOM NAME | RM LOSS MBH. | CFM PER RUN HEAT | RM GAIN MBH. | CFM PER RUN COOLING | ADJUSTED PRESSURE | ACTUAL DUCT LGH. | EQUIVALENT LENGTH | TOTAL EFFECTIVE LENGTH | ADJUSTED PRESSURE | ROUND DUCT SIZE | HEATING VELOCITY (ft/min) | COOLING VELOCITY (ft/min) | OUTLET GRILL SIZE | TRUNK |
|-------|-----------|--------------|------------------|--------------|---------------------|-------------------|------------------|-------------------|------------------------|-------------------|-----------------|---------------------------|---------------------------|-------------------|-------|
| 1 | MBR | 1.44 | 35 | 1.56 | 56 | 0.17 | 48 | 170 | 218 | 0.08 | 5 | 257 | 411 | 3X10 | A |
| 2 | ENS | 0.99 | 24 | 1.03 | 37 | 0.17 | 38 | 160 | 198 | 0.09 | 4 | 275 | 424 | 3X10 | A |
| 4 | BED-2 | 1.17 | 29 | 1.71 | 61 | 0.17 | 58 | 140 | 198 | 0.09 | 5 | 213 | 448 | 3X10 | D |
| 5 | BED-3 | 1.37 | 34 | 1.65 | 59 | 0.17 | 60 | 170 | 230 | 0.07 | 5 | 250 | 433 | 3X10 | C |
| 6 | FLEX | 1.48 | 36 | 1.86 | 67 | 0.17 | 48 | 170 | 218 | 0.08 | 5 | 264 | 492 | 3X10 | D |
| 7 | BATH | 0.80 | 20 | 0.35 | 12 | 0.17 | 40 | 120 | 160 | 0.11 | 4 | 229 | 138 | 3X10 | D |
| 8 | BED-2 | 1.17 | 29 | 1.71 | 61 | 0.17 | 59 | 150 | 209 | 0.08 | 5 | 213 | 448 | 3X10 | D |
| 9 | BED-3 | 1.37 | 34 | 1.65 | 56 | 0.17 | 62 | 180 | 242 | 0.07 | 5 | 250 | 433 | 3X10 | C |
| 10 | MBR | 1.44 | 35 | 1.56 | 56 | 0.17 | 46 | 150 | 196 | 0.09 | 5 | 257 | 411 | 3X10 | B |
| 13 | K/L/D | 2.21 | 54 | 1.91 | 68 | 0.17 | 23 | 140 | 163 | 0.11 | 5 | 396 | 499 | 3X10 | D |
| 14 | K/L/D | 2.21 | 54 | 1.91 | 68 | 0.17 | 16 | 110 | 126 | 0.14 | 5 | 396 | 499 | 3X10 | B |
| 15 | K/L/D | 2.21 | 54 | 1.91 | 68 | 0.17 | 35 | 100 | 135 | 0.13 | 5 | 396 | 499 | 3X10 | A |
| 17 | LAUN | 0.08 | 2 | 1.05 | 38 | 0.17 | 35 | 90 | 175 | 0.1 | 4 | 23 | 436 | 3X10 | B |
| 18 | PWD | 0.69 | 17 | 0.28 | 10 | 0.17 | 35 | 130 | 125 | 0.14 | 4 | 195 | 115 | 3X10 | D |
| 19 | FOY | 3.72 | 91 | 1.00 | 36 | 0.16 | 49 | 140 | 179 | 0.09 | 6 | 464 | 184 | 4X10 | C |
| 20 | MUD | 1.17 | 29 | 0.13 | 5 | 0.17 | 39 | 140 | 179 | 0.1 | 4 | 333 | 57 | 3X10 | D |
| 21 | BAS | 3.18 | 78 | 0.90 | 32 | 0.17 | 47 | 100 | 187 | 0.09 | 5 | 573 | 235 | 3X10 | A |
| 22 | BAS | 3.18 | 78 | 0.90 | 32 | 0.17 | 11 | 140 | 111 | 0.15 | 5 | 573 | 235 | 3X10 | B |
| 23 | BAS | 3.18 | 78 | 0.90 | 32 | 0.17 | 40 | 140 | 180 | 0.1 | 5 | 573 | 235 | 3X10 | C |
| 24 | BAS | 3.18 | 78 | 0.90 | 32 | 0.17 | 36 | 100 | 136 | 0.13 | 5 | 573 | 235 | 3X10 | A |

| SUPPLY AIR TRUNK SIZE | | | | | | | | | | RETURN AIR TRUNK SIZE | | | | | | | | | | | | | | | | |
|-----------------------|-------|--------|-------|------|---|---|----------|----------|-----|-----------------------|--------|-------|------|---|----------|---------|----------|--------|-------|--------|-------|------|----------|--|--|----------|
| | TRUNK | STATIC | ROUND | RECT | | | | VELOCITY | | TRUNK | STATIC | ROUND | RECT | | | | VELOCITY | | TRUNK | STATIC | ROUND | RECT | | | | VELOCITY |
| | CFM | PRESS. | DUCT | DUCT | | | (ft/min) | | CFM | PRESS. | DUCT | DUCT | | | (ft/min) | | CFM | PRESS. | DUCT | DUCT | | | (ft/min) | | | |
| TRUNK A | 269 | 0.08 | 8.6 | 8 | x | 8 | 605 | TRUNK G | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK O | 0 | 0.05 | 0 | 0 | x | 8 | 0 | | | |
| TRUNK B | 438 | 0.08 | 10.3 | 12 | x | 8 | 657 | TRUNK H | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK P | 0 | 0.05 | 0 | 0 | x | 8 | 0 | | | |
| TRUNK C | 237 | 0.07 | 8.5 | 8 | x | 8 | 533 | TRUNK I | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK Q | 0 | 0.05 | 0 | 0 | x | 8 | 0 | | | |
| TRUNK D | 451 | 0.07 | 10.8 | 14 | x | 8 | 580 | TRUNK J | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK R | 0 | 0.05 | 0 | 0 | x | 8 | 0 | | | |
| TRUNK E | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK K | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK S | 0 | 0.05 | 0 | 0 | x | 8 | 0 | | | |
| TRUNK F | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK L | 0 | 0.00 | 0 | 0 | x | 8 | 0 | TRUNK T | 0 | 0.05 | 0 | 0 | x | 8 | 0 | | | |

| RETURN AIR # | 1 | 2 | 3 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | BR |
|--------------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| AIR VOLUME | 85 | 85 | 85 | 95 | 384 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 156 |
| PLENUM PRESSURE | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| ACTUAL DUCT LGH. | 82 | 75 | 66 | 70 | 41 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 14 |
| EQUIVALENT LENGTH | 225 | 235 | 195 | 150 | 185 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 |
| TOTAL EFFECTIVE LH | 307 | 310 | 261 | 220 | 226 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 149 |
| ADJUSTED PRESSURE | 0.05 | 0.05 | 0.06 | 0.07 | 0.07 | 14.80 | 14.80 | 14.80 | 14.80 | 14.80 | 14.80 | 14.80 | 14.80 | 14.80 | 14.80 | 0.10 |
| ROUND DUCT SIZE | 6.3 | 6.3 | 6 | 6 | 10.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.6 |
| INLET GRILL SIZE | 8 | 8 | 8 | 8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| INLET GRILL SIZE | 14 | 14 | 14 | 14 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |

TYPE: CHERRY 3E
SITE NAME: BARLASSINA

LO # 99794
WOB

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 | <u>2</u> @ 21.2 cfm | <u>42.4</u> cfm |
| Other Bedrooms | <u>2</u> @ 10.6 cfm | <u>21.2</u> cfm |
| Kitchen & Bathrooms | <u>4</u> @ 10.6 cfm | <u>42.4</u> cfm |
| Other Rooms | <u>5</u> @ 10.6 cfm | <u>53.0</u> cfm |
| Table 9.32.3.A. | TOTAL | <u>159.0</u> 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 | | <u>63.6</u> cfm |

| SUPPLEMENTAL VENTILATION CAPACITY | | 9.32.3.5. |
|-----------------------------------|-------------|-----------|
| Total Ventilation Capacity | <u>159</u> | cfm |
| Less Principal Ventil. Capacity | <u>63.6</u> | cfm |
| Required Supplemental Capacity | <u>95.4</u> | cfm |

| PRINCIPAL EXHAUST FAN CAPACITY | |
|--------------------------------|--|
| Model: | VANEE V150H |
| Location: | BSMT |
| <u>63.6</u> cfm | <input checked="" type="checkbox"/> HVI Approved |

| PRINCIPAL EXHAUST HEAT LOSS CALCULATION | | | | |
|---|--------|--------|--------|------|
| CFM | ΔT °F | FACTOR | % LOSS | |
| 63.6 CFM | X 72 F | X 1.08 | X | 0.25 |

| SUPPLEMENTAL FANS | | BY INSTALLING CONTRACTOR | | |
|-------------------|--------------------------|--------------------------|-------------------------------------|-------|
| Location | Model | cfm | HVI | Sones |
| ENS | BY INSTALLING CONTRACTOR | 50 | <input checked="" type="checkbox"/> | 3.5 |
| BATH | BY INSTALLING CONTRACTOR | 50 | <input checked="" type="checkbox"/> | 3.5 |
| LAUN | BY INSTALLING CONTRACTOR | 50 | <input checked="" type="checkbox"/> | 3.5 |
| PWD | BY INSTALLING CONTRACTOR | 50 | <input checked="" type="checkbox"/> | 3.5 |

| HEAT RECOVERY VENTILATOR | | 9.32.3.11. |
|---------------------------------|--|------------|
| Model: | VANEE V150H | |
| <u>150</u> cfm high | <u>35</u> cfm low | |
| <u>75</u> % 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: | |
|-----------------|--------|
| GREENPARK 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: | December-22 |

| CSA F280-12 Residential Heat Loss and Heat Gain Calculations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------------|---|--|--|-------------------|--------------|------|-----|---|------|-------|-----|----|------|--------|------|---|-------|-------|---|---|---|--------|---|---|---|--------|--|--|--------------|--------|--|--|----------|---|--|--------------------------------|-------|--------------------------------|-------|-------------------------------|--|--|--|--|--|--------|---------|-------|-------|-------------|----|-----|----|----|-------------|----|----|---|---|
| Formula Sheet (For Air Leakage / Ventilation Calculation) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LO#: 99794 | Model: CHERRY 3E | Builder: GREENPARK HOMES | Date: 12/22/2022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Volume Calculation | | | Air Change & Delta T Data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| House Volume <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>981</td> <td>9</td> <td>8829</td> </tr> <tr> <td>First</td> <td>981</td> <td>10</td> <td>9810</td> </tr> <tr> <td>Second</td> <td>1159</td> <td>9</td> <td>10431</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="3" style="text-align: right;">Total:</td> <td>29,070.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>823.2 m³</td> </tr> </tbody> </table> | | | Level | Floor Area (ft²) | Floor Height (ft) | Volume (ft³) | Bsmt | 981 | 9 | 8829 | First | 981 | 10 | 9810 | Second | 1159 | 9 | 10431 | Third | 0 | 9 | 0 | Fourth | 0 | 9 | 0 | Total: | | | 29,070.0 ft³ | Total: | | | 823.2 m³ | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%;">0.376</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.100</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-18</td> <td>40</td> <td>72</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>29</td> <td>5</td> <td>9</td> </tr> </table> | | WINTER NATURAL AIR CHANGE RATE | 0.376 | SUMMER NATURAL AIR CHANGE RATE | 0.100 | Design Temperature Difference | | | | | | Tin °C | Tout °C | ΔT °C | ΔT °F | Winter DTDh | 22 | -18 | 40 | 72 | Summer DTDc | 24 | 29 | 5 | 9 |
| Level | Floor Area (ft²) | Floor Height (ft) | Volume (ft³) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bsmt | 981 | 9 | 8829 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| First | 981 | 10 | 9810 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Second | 1159 | 9 | 10431 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Third | 0 | 9 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fourth | 0 | 9 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total: | | | 29,070.0 ft³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total: | | | 823.2 m³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WINTER NATURAL AIR CHANGE RATE | 0.376 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUMMER NATURAL AIR CHANGE RATE | 0.100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design Temperature Difference | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Tin °C | Tout °C | ΔT °C | ΔT °F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Winter DTDh | 22 | -18 | 40 | 72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Summer DTDc | 24 | 29 | 5 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.2.3.1 Heat Loss due to Air Leakage | | | 6.2.6 Sensible Gain due to Air Leakage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ <p>0.376 x 228.66 x 40 °C x 1.2 = 4153 W</p> <p>= 14169 Btu/h</p> | | | $HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p>= 0.100 x 228.66 x 5 °C x 1.2 = 140 W</p> <p>= 477 Btu/h</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.2.3.2 Heat Loss due to Mechanical Ventilation | | | 6.2.7 Sensible heat Gain due to Ventilation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>64 CFM x 72 °F x 1.08 x 0.25 = 1243 Btu/h</p> | | | $HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>64 CFM x 9 °F x 1.08 x 0.25 = 158 Btu/h</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Level | Level Factor (LF) | HLairve Air Leakage + Ventilation Heat Loss (Btu/h) | Level Conductive Heat Loss: (HL _{clevel}) | Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0.5 | 14,169 | 5,636 | 1.257 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 0.3 | | 7,954 | 0.534 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 0.2 | | 8,011 | 0.354 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 0 | | 0 | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 0 | | 0 | 0.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>*HLairbv = Air leakage heat loss + ventilation heat loss</p> <p>*For a balanced or supply only ventilation system HLairve = 0</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Michael O'Rourke BCIN# 19669 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

HEAT LOSS AND GAIN SUMMARY SHEET

| | | |
|-------------------------|------------------|---------------------------------|
| MODEL: CHERRY 3E | WOB | BUILDER: GREENPARK HOMES |
| SFQT: 2140 | LO# 99794 | SITE: BARLASSINA |

DESIGN ASSUMPTIONS

| | | | |
|----------------------|----|--------------------------------|------|
| HEATING | °F | COOLING | °F |
| OUTDOOR DESIGN TEMP. | 0 | OUTDOOR DESIGN TEMP. | 84 |
| INDOOR DESIGN TEMP. | 72 | INDOOR DESIGN TEMP. (MAX 75°F) | 75 |
| | | WINDOW SHGC | 0.50 |

BUILDING DATA

| | | | |
|-------------------------------------|-----------------|---------------------------|----------|
| ATTACHMENT: | ATTACHED | # OF STORIES (+BASEMENT): | 3 |
| FRONT FACES: | EAST | 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): | 29070.0 | ASSUMED (Y/N): | Y |
| INTERNAL SHADING: | BLINDS/CURTAINS | ASSUMED OCCUPANTS: | 4 |
| INTERIOR LIGHTING LOAD (Btu/h/ft²): | 1.75 | DC BRUSHLESS MOTOR (Y/N): | Y |
| FOUNDATION CONFIGURATION | BCIN_1 | DEPTH BELOW GRADE: | 6.0 ft |
| LENGTH: 62.0 ft | WIDTH: 20.0 ft | EXPOSED PERIMETER: | 125.0 ft |
| WOB INSULATION CONFIGURATION | SCB_9 | WOB EXPOSED PERIMETER | 30.0 ft |

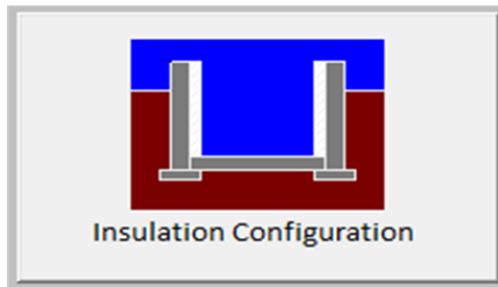
| 2012 OBC - COMPLIANCE PACKAGE | | Compliance Package A1 | |
|--|--|-----------------------|-----------|
| Component | | Nominal | Min. Eff. |
| Ceiling with Attic Space Minimum RSI (R)-Value | | 60 | 59.22 |
| Ceiling Without Attic Space Minimum RSI (R)-Value | | 31 | 27.65 |
| Exposed Floor Minimum 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 | | 96% | - |
| HRV/ERV 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: | Cambridge | |
| Site Description | | |
| Soil Conductivity: | Normal conductivity: dry sand, loam, clay | |
| Water Table: | Normal (7-10 m, 23-33 ft) | |
| Foundation Dimensions | | |
| Floor Length (m): | 4.6 |  <p>Insulation Configuration</p> |
| Floor Width (m): | 6.1 | |
| Exposed Perimeter (m): | 38.1 | |
| Wall Height (m): | 2.7 | |
| Depth Below Grade (m): | 1.46 | |
| Window Area (m ²): | 0.7 | |
| Door Area (m ²): | 1.9 | |
| Radiant Slab | | |
| Heated Fraction of the Slab: | 0 | |
| Fluid Temperature (°C): | 33 | |
| Design Months | | |
| Heating Month | 1 | |
| Foundation Loads | | |
| Heating Load (Watts): | | 493 |

TYPE: CHERRY 3E
LO# 99794

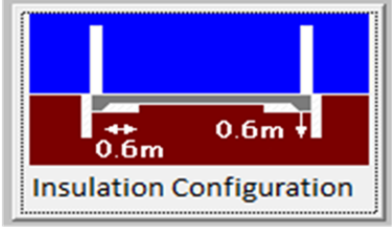
WOB

Michael O'Rourke BCIN #19669



Residential Slab on Grade Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

| Weather Station Description | | |
|------------------------------|---|---|
| Province: | Ontario | |
| Region: | Cambridge | |
| Site Description | | |
| Soil Conductivity: | Normal conductivity: dry sand, loam, clay | |
| Water Table: | Normal (7-10 m, 23-33 ft) | |
| Foundation Dimensions | | |
| Length (m): | 1.5 |  |
| Width (m): | 6.1 | |
| Exposed Perimeter (m): | 9.1 | |
| Radiant Slab | | |
| Heated Fraction of the Slab: | 0 | |
| Fluid Temperature (°C): | 33 | |
| Design Months | | |
| Heating Month | 1 | |
| Results | | |
| Heating Load (Watts): | | 88 |

TYPE: CHERRY 3E
LO# 99794

WOB

Air Infiltration Residential Load Calculator

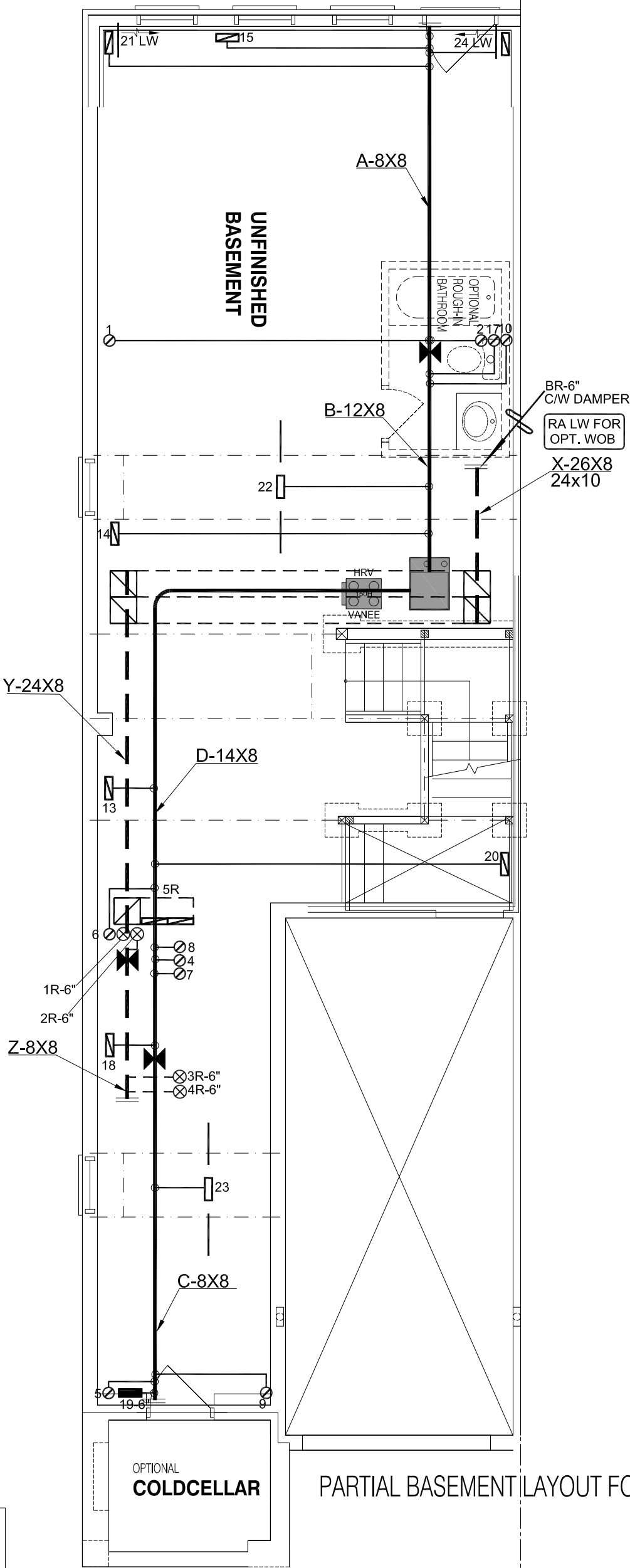
Supplemental tool for CAN/CSA-F280

| Weather Station Description | | | | |
|-----------------------------------|----------------------------|------------------------|----|----|
| Province: | Ontario | | | |
| Region: | Cambridge | | | |
| 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): | 8.53 | | | |
| Building Configuration | | | | |
| Type: | Semi | | | |
| Number of Stories: | Two | | | |
| Foundation: | Full | | | |
| House Volume (m ³): | 823.2 | | | |
| Air Leakage/Ventilation | | | | |
| Air Tightness Type: | Present (1961-) (3.57 ACH) | | | |
| Custom BDT Data: | ELA @ 10 Pa. | 1097.3 cm ² | | |
| | 3.57 | ACH @ 50 Pa | | |
| Mechanical Ventilation (L/s): | Total Supply | Total Exhaust | | |
| | 30.0 | 30.0 | | |
| Flue Size | | | | |
| Flue #: | #1 | #2 | #3 | #4 |
| Diameter (mm): | 0 | 0 | 0 | 0 |
| Natural Infiltration Rates | | | | |
| Heating Air Leakage Rate (ACH/H): | 0.376 | | | |
| Cooling Air Leakage Rate (ACH/H): | 0.100 | | | |

TYPE: CHERRY 3E
LO# 99794

WOB

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PARTIAL BASEMENT LAYOUT FOR WOB CONDITION

WOB
CSA-F280-12
PACKAGE A1

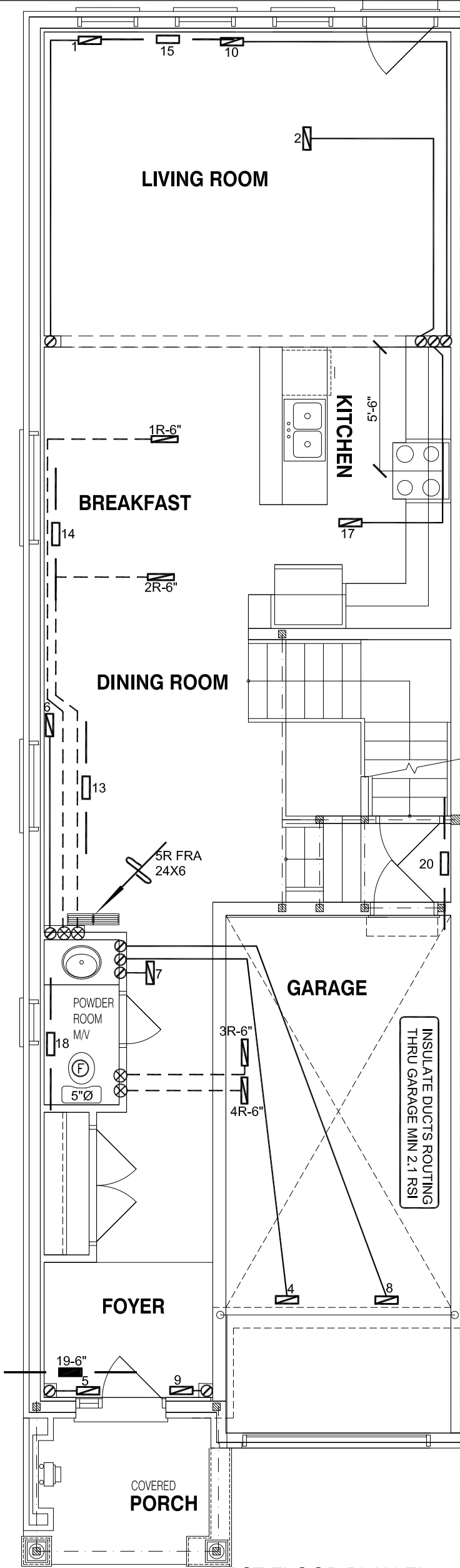
I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

| HVAC LEGEND | | | | | | | | 3. | | |
|-------------|---------------------------|--------|---------------------------------|--------|------------------------------|--------|----------------------------|-----------|-------------|------|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | 2. | | |
| | SUPPLY AIR GRILLE | | 6" SUPPLY AIR BOOT ABOVE | | 14"x8" RETURN AIR GRILLE | | RETURN AIR STACK ABOVE | 1. | | |
| | SUPPLY AIR GRILLE 6" BOOT | | SUPPLY AIR STACK FROM 2nd FLOOR | | 30"x8" RETURN AIR GRILLE | | RETURN AIR STACK 2nd FLOOR | No. | Description | Date |
| | SUPPLY AIR BOOT ABOVE | | 6" SUPPLY AIR STACK 2nd FLOOR | | FRA- FLOOR RETURN AIR GRILLE | | REDUCER | REVISIONS | | |

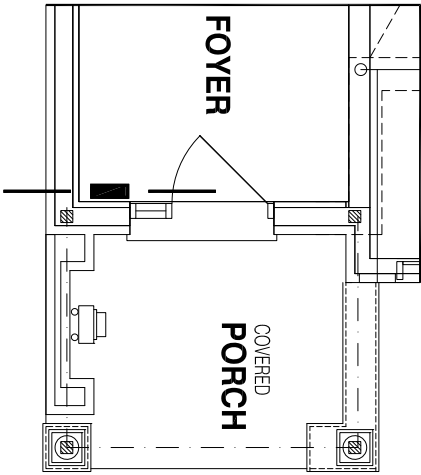
ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

| | | | | | | | | | | |
|-------------------------|--|--|-----------------------|---------------------|---|--|----|---|-------------------------|---------------|
| Client | | <div></div> <div>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</div> | HEAT LOSS 37473 BTU/H | | # OF RUNS S/A R/A FANS | | | | Sheet Title | |
| GREENPARK HOMES | | | UNIT DATA | | 3RD FLOOR | | | | BASEMENT HEATING LAYOUT | |
| Project Name | | | MAKE GOODMAN | | 2ND FLOOR | | 10 | 4 | 3 | Date DEC/2022 |
| BARLASSINA | | | MODEL GMEC960402BNA | | 1ST FLOOR | | 6 | 1 | 2 | |
| CAMBRIDGE, ONTARIO | | | INPUT 40 MBTU/H | | BASEMENT | | 4 | 1 | 0 | |
| Block 121 Units 7 to 12 | | | OUTPUT 38.4 MBTU/H | | ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A | | | | | |
| WOB | | COOLING 2.0 TONS | | | | | | | | |
| CHERRY 3E 2140 sqft | | FAN SPEED 890 cfm @ 0.6" w.c. | | | | | | | | |
| | | 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. | | Scale 3/16" = 1'-0" | | | | | | |
| | | | | BCIN# 19669 | | | | | | |
| | | | | LO# 99794 | | | | | | |

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FIRST FLOOR PLAN EL-1



FIRST FLOOR PLAN EL-2

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

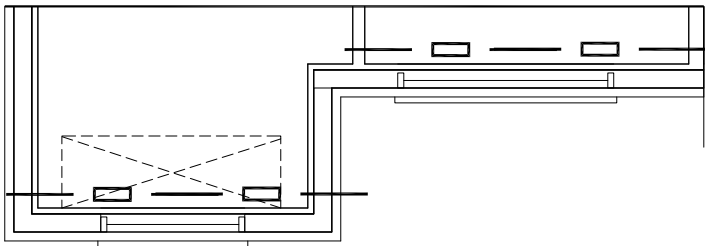
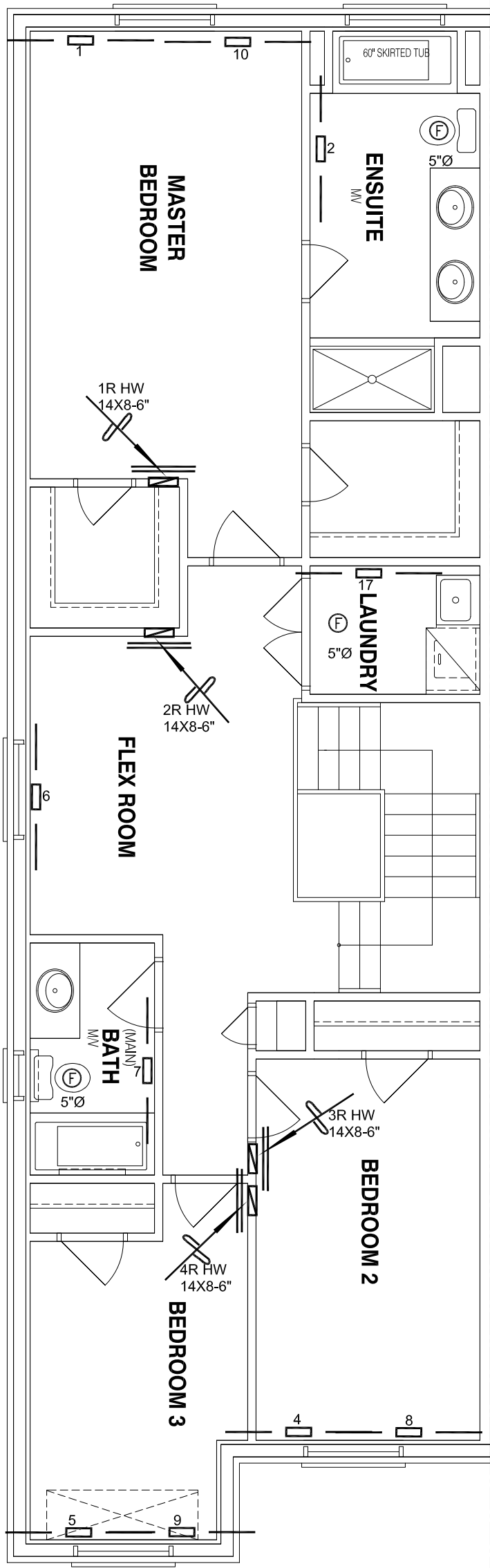
WOB
CSA-F280-12
PACKAGE A1

| HVAC LEGEND | | | | | | | | 3. | | |
|-------------|---------------------------|--------|---------------------------------|--------|------------------------------|--------|----------------------------|-----------|-------------|------|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | 2. | | |
| | SUPPLY AIR GRILLE | | 6" SUPPLY AIR BOOT ABOVE | | 14"x8" RETURN AIR GRILLE | | RETURN AIR STACK ABOVE | 1. | | |
| | SUPPLY AIR GRILLE 6" BOOT | | SUPPLY AIR STACK FROM 2nd FLOOR | | 30"x8" RETURN AIR GRILLE | | RETURN AIR STACK 2nd FLOOR | No. | Description | Date |
| | SUPPLY AIR BOOT ABOVE | | 6" SUPPLY AIR STACK 2nd FLOOR | | FRA- FLOOR RETURN AIR GRILLE | | REDUCER | REVISIONS | | |

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|-------------------------------|-----------|---|----------------------------|---------------|
| Client | | <div></div> <div>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</div> <div>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.</div> | Sheet Title | |
| GREENPARK HOMES | | | FIRST FLOOR HEATING LAYOUT | |
| Project Name | | | Date | DEC/2022 |
| BARLASSINA CAMBRIDGE, ONTARIO | | | Scale | 3/16" = 1'-0" |
| Block 121 Units 7 to 12 | | | BCIN# 19669 | |
| WOB | | LO# | 99794 | |
| CHERRY 3E | 2140 sqft | | | |

NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS & DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.



SEC. FLOOR PLAN EL-2

SEC. FLOOR PLAN EL-1

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOB
CSA-F280-12
PACKAGE A1

| HVAC LEGEND | | | | | | | | 3. | | |
|-------------|---------------------------|--------|---------------------------------|--------|------------------------------|--------|----------------------------|-----------|-------------|------|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | 2. | | |
| | SUPPLY AIR GRILLE | | 6" SUPPLY AIR BOOT ABOVE | | 14"x8" RETURN AIR GRILLE | | RETURN AIR STACK ABOVE | 1. | | |
| | SUPPLY AIR GRILLE 6" BOOT | | SUPPLY AIR STACK FROM 2nd FLOOR | | 30"x8" RETURN AIR GRILLE | | RETURN AIR STACK 2nd FLOOR | No. | Description | Date |
| | SUPPLY AIR BOOT ABOVE | | 6" SUPPLY AIR STACK 2nd FLOOR | | FRA- FLOOR RETURN AIR GRILLE | | REDUCER | REVISIONS | | |

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| Client | | <div></div> <div>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</div> <div>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.</div> | Sheet Title | |
| GREENPARK HOMES | | | SECOND FLOOR HEATING LAYOUT | |
| Project Name | | | Date | DEC/2022 |
| BARLASSINA CAMBRIDGE, ONTARIO | | | Scale | 3/16" = 1'-0" |
| Block 121 Units 7 to 12 | | | BCIN# 19669 | |
| WOB | | LO# | 99794 | |
| CHERRY 3E | 2140 sqft | | | |