HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: LECCO RIDGE | DATE: Jan-17 | WINTER NATURAL AIR CHANGE RATE 0.263 | HEAT LOSS ΔT °F. 72 | CSA-F280-12
BUILDER: GREENPARK HOMES | TYPE: IVY 1 | GFA: 1586 | LO# 71712 | SUMMER NATURAL AIR CHANGE RATE 0.085 | HEAT GAIN ΔT °F. 13 | ENERGYSTAR

ROOM USE			MBR			ENS				BED-2			BED-3				BATH								
EXP. WALL			20			9				10			26				0								
CLG. HT.			9			9				9			9				9								
	FACTORS																								
GRS.WALL AREA	LOSS	GAIN	180			81				90			234				0								
GLAZING			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN							
NORTH	20.4	15.8	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
EAST	20.4	41.0	0	0	0	0	0	0		23	469	943	40	816	1640		0	0	0						
SOUTH	20.4	24.6	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
WEST	20.4	41.0	30	612	1230	13	265	533		0	0	0	0	0	0		0	0	0						
SKYLT.	35.7	101.7	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
DOORS	24.1	4.3	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
NET EXPOSED WALL	3.1	0.6	150	460	83	68	209	37		67	206	37	194	595	107		0	0	0						
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
EXPOSED CLG	1.4	0.7	256	371	179	135	195	95		120	174	84	126	181	88		126	182	88						
NO ATTIC EXPOSED CLG	2.3	1.1	0	0	0	0	0	0		0	0	0	40	93	45		0	0	0						
EXPOSED FLOOR	2.3	0.4	99	231	42	0	0	0		120	280	50	10	23	4		0	0	0						
BASEMENT/CRAWL HEAT LOSS				0			0				0			0				0							
SLAB ON GRADE HEAT LOSS				0			0				0			0				0							
SUBTOTAL HT LOSS				1674			669				1129			1709				182							
SUB TOTAL HT GAIN					1533			665				1114			1884				88						
LEVEL FACTOR / MULTIPLIER			0.20	0.27		0.20	0.27			0.20	0.27		0.20	0.27			0.20	0.27							
AIR CHANGE HEAT LOSS				459			183				309			468				60							
AIR CHANGE HEAT GAIN					139			60				101			171				8						
DUCT LOSS				213			0				144			218				0							
DUCT GAIN					257			0				187			271				0						
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240		0		0						
HEAT GAIN APPLIANCES/LIGHTS					419			419				419			419				0						
TOTAL HT LOSS BTU/H				2346			853				1582			2395				232							
TOTAL HT GAIN x 1.3 BTU/H					3677			1488				2681			3881				125						

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 1 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relives the owner from full responsibility for compliance with the provisions of the Ontario Building Code Act and the Ontario Building Code, both as amended, as well as other applicable statutes and regulations of the Province on Ontario, By-laws of the Region of Halton and Town of Milton

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TOWN OF MILTON
MAR 29, 2017
IVY 1
BUILDING DIVISION

ROOM USE			LIV/DIN			KIT						WIR			FOY						WOD			BAS		
EXP. WALL			49			21						12			16						33			100		
CLG. HT.			10			10						10			10						9			9		
	FACTORS																									
GRS.WALL AREA	LOSS	GAIN	490			210						120			160						297			858		
GLAZING			LOSS	GAIN		LOSS	GAIN					LOSS	GAIN		LOSS	GAIN					LOSS	GAIN		LOSS	GAIN	
NORTH	20.4	15.8	0	0	0	0	0	0				7	143	111	7	143	111				10	204	158	0	0	0
EAST	20.4	41.0	0	0	0	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
SOUTH	20.4	24.6	7	143	172	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
WEST	20.4	41.0	45	918	1845	4	82	164				0	0	0	0	0	0				0	0	0	0	0	0
SKYLT.	35.7	101.7	0	0	0	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
DOORS	24.1	4.3	0	0	0	40	962	173				0	0	0	31	746	134				0	0	0	20	481	86
NET EXPOSED WALL	3.1	0.6	438	1344	241	166	609	91				113	347	62	122	374	67				0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0				0	0	0	0	0	0				188	681	122	42	152	27
EXPOSED CLG	1.4	0.7	96	139	67	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.3	1.1	0	0	0	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
EXPOSED FLOOR	2.3	0.4	0	0	0	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0						0			0								2938	
SLAB ON GRADE HEAT LOSS				0			0						0			0						0			
SUBTOTAL HT LOSS				2544			1553						489			1263						885		3571	
SUB TOTAL HT GAIN					2326			428						173			312						281			114
LEVEL FACTOR / MULTIPLIER			0.30	0.38		0.30	0.38					0.30	0.38		0.30	0.38								0.60	0.82	
AIR CHANGE HEAT LOSS				959			585						184			476								3673	
AIR CHANGE HEAT GAIN					211			39						16			28									36
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		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					419			419						0			0						0			419
TOTAL HT LOSS BTU/H				3502			2138						674			1739						885		7245	
TOTAL HT GAIN x 1.3 BTU/H					3843			1152						246			442						365			740

TOTAL HEAT GAIN BTU/H: 19021 TONS: 1.59 LOSS DUE TO VENTILATION LOAD BTU/H: 2127 STRUCTURAL HEAT LOSS: 23590 TOTAL COMBINED HEAT LOSS BTU/H: 25717

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: LECCO RIDGE
BUILDER: GREENPARK HOMES

TYPE: IVY 1 DATE: Jan-17 GFA: 1586 LO# 71712

HEATING CFM	557	COOLING CFM	557
TOTAL HEAT LOSS	23,590	TOTAL HEAT GAIN	18,639
AIR FLOW RATE CFM	23.61	AIR FLOW RATE CFM	29.88

furnace pressure	0.6
furnace filter	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35
plenum pressure s/a	0.18
max s/a dif press. loss	0.03
min adjusted pressure s/a	0.15
r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

#AMANA
AMEC960302BNA 30
FAN SPEED
LOW
MEDLOW
MEDIUM
MEDIUM HIGH 557
HIGH 895

AFUE = 96 %
INPUT (BTU/H) = 30,000
OUTPUT (BTU/H) = 28,800

DESIGN CFM = 557
CFM @ .6 " E.S.P.

TEMPERATURE RISE 48 °F

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

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	7	12	14	18	19	21	22	23
ROOM NAME	MBR	ENS	BED-2	BED-3	BATH	LIV/DIN	KIT	W/R	FOY	BAS	BAS	BAS
RM LOSS MBH.	2.35	0.85	1.58	2.39	0.23	3.50	2.14	0.67	1.74	2.71	2.71	2.71
CFM PER RUN HEAT	55	20	37	57	5	83	50	16	41	64	64	64
RM GAIN MBH.	3.68	1.49	2.68	3.88	0.13	3.84	1.15	0.25	0.44	0.37	0.37	0.37
CFM PER RUN COOLING	110	44	80	116	4	115	34	7	13	11	11	11
ADJUSTED PRESSURE	0.15	0.17	0.17	0.15	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	55	44	44	38	30	34	12	32	29	33	21	29
EQUIVALENT LENGTH	150	130	145	160	160	90	150	100	120	80	130	90
TOTAL EFFECTIVE LENGTH	205	174	189	198	190	124	162	132	149	113	151	119
ADJUSTED PRESSURE	0.07	0.1	0.09	0.08	0.09	0.12	0.11	0.13	0.12	0.15	0.11	0.14
ROUND DUCT SIZE	6	4	5	6	4	6	4	4	4	5	5	5
HEATING VELOCITY (ft/min)	280	229	272	291	57	423	574	184	470	470	470	470
COOLING VELOCITY (ft/min)	561	505	587	591	46	586	390	80	149	81	81	81
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	A	B	B	A	A	B	B	A	B	B

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	

RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 1
BUILDING DIVISION

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	289	0.07	9.1	10	x	8	520	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	267	0.08	8.6	8	x	8	601	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	0	0.00	0	0	x	8	0	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	0	0.00	0	0	x	8	0	TRUNK J	0	0.00	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 F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	0	0.06	0	0	x	8	0
TRUNK X	557	0.06	12.1	18	x	8	557
TRUNK Y	0	0.06	0	0	x	8	0
TRUNK Z	0	0.06	0	0	x	8	0
DROP	557	0.06	12.1	24	x	10	334

RETURN AIR #	1	2	3	4												BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	85	80	80	225	0	0	0	0	0	0	0	0	0	0	0	87
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.	42	45	51	28	1	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	185	185	185	155	0	0	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	227	230	236	183	1	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.07	0.06	0.06	0.08	14.80	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	5.8	5.9	5.9	8	0	0	0	0	0	0	0	0	0	0	0	5.3
INLET GRILL SIZE	8	8	8	6	0	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	24	0	0	0	0	0	0	0	0	0	0	0	14

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Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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TYPE: IVY 1 LO # 71712
SITE NAME: LECCO RIDGE

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES 9.32.3.1(1)

- a) [✓] Direct vent (sealed combustion) only
- b) [ ] Positive venting induced draft (except fireplaces)
- c) [ ] Natural draft, B-vent or induced draft gas fireplace
- d) [ ] Solid Fuel (including fireplaces)
- e) [ ] No Combustion Appliances

HEATING SYSTEM

[✓] Forced Air [ ] Non Forced Air

[ ] Electric Space Heat

HOUSE TYPE 9.32.1(2)

- [✓] I Type a) or b) appliance only, no solid fuel
- [ ] II Type I except with solid fuel (including fireplaces)
- [ ] III Any Type c) appliance
- [ ] IV Type I, or II with electric space heat
- [ ] Other: Type I, II or IV no forced air

SYSTEM DESIGN OPTIONS O.N.H.W.P.

- [ ] 1 Exhaust only/Forced Air System
- [ ] 2 HRV with Ducting/Forced Air System
- [✓] 3 HRV Simplified/connected to forced air system
- [ ] 4 HRV with Ducting/non forced air system
- [ ] Part 6 Design

TOTAL VENTILATION CAPACITY 9.32.3.3(1)

Basement + Master Bedroom	2	@ 21.2 cfm	42.4	cfm
Other Bedrooms	2	@ 10.6 cfm	21.2	cfm
Kitchen & Bathrooms	4	@ 10.6 cfm	42.4	cfm
Other Rooms	1	@ 10.6 cfm	10.6	cfm
Table 9.32.3.A.		TOTAL	116.6	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
More than 5 - Part 6	TOTAL	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	116.6	cfm
Less Principal Ventil. Capacity	80	cfm
Required Supplemental Capacity	36.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 40H+ Location: BSMT

80.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
80.0 CFM	X	72 F	X	1.08	X	0.34

SUPPLEMENTAL FANS NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
W/R	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 40H+

86 cfm high 37 cfm low

66 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

LOCATION OF INSTALLATION

Lot: Co

Township Pl

Address

Roll #

RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 1
BUILDING DIVISION

BUILDER: GR

Name:

Address:

City:

Telephone #:

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 1 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relives the owner from full responsibility for compliance with the provisions of the Ontario Building Code Act and the Ontario Building Code, both as amended, as well as other applicable statutes and regulations of the Province on Ontario, By-laws of the Region of Halton and Town of Milton

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: Michael O'Rourke.

HRAI # 001820

Date: January-17

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669 Michael O'Rourke. MICHAEL O'ROURKE

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: IVY 1 **BUILDER:** GREENPARK HOMES
SFQT: 1586 **LO#** 71712 **SITE:** LECCO RIDGE

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	73

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	21534.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.6 ft
LENGTH: 48.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	100.0 ft

2012 OBC - COMPLIANCE PACKAGE Component	Compliance Package ENERGYSTAR Nominal	
Ceiling with Attic Space Minimum RSI (R)-Value	50	
Ceiling Without Attic Space Minimum RSI (R)-Value	31	
Exposed Floor Minimum RSI (R)-Value	31	
Walls Above Grade Minimum RSI (R)-Value	20+3.6	
Basement Walls Minimum RSI (R)-Value	20	
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	
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	
Windows and Sliding Glass Doors Maximum U-Value	ZONE 2	
Skylights Maximum U-Value	ZONE 2	
Space Heating Equipment Minimum AFUE	0.95	
HRV Minimum Efficiency	65%	
Domestic Hot Water Heater Minimum EF	90% TE	

RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 1
BUILDING DIVISION

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

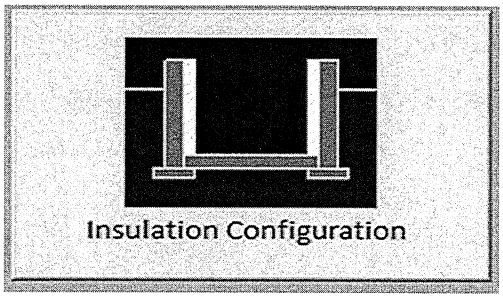
Michael O'Rourke

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Milton
Site Description	
Soil Conductivity:	Normal conductivity: dry dand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	**14.6**	 Insulation Configuration
Floor Width (m):	**6.1**	
Exposed Perimeter (m):	**30.5**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**2.01**	
Window Area (m^2):	**0.9**	
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):	**861**	

TYPE: IVY 1
LO# 71712

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

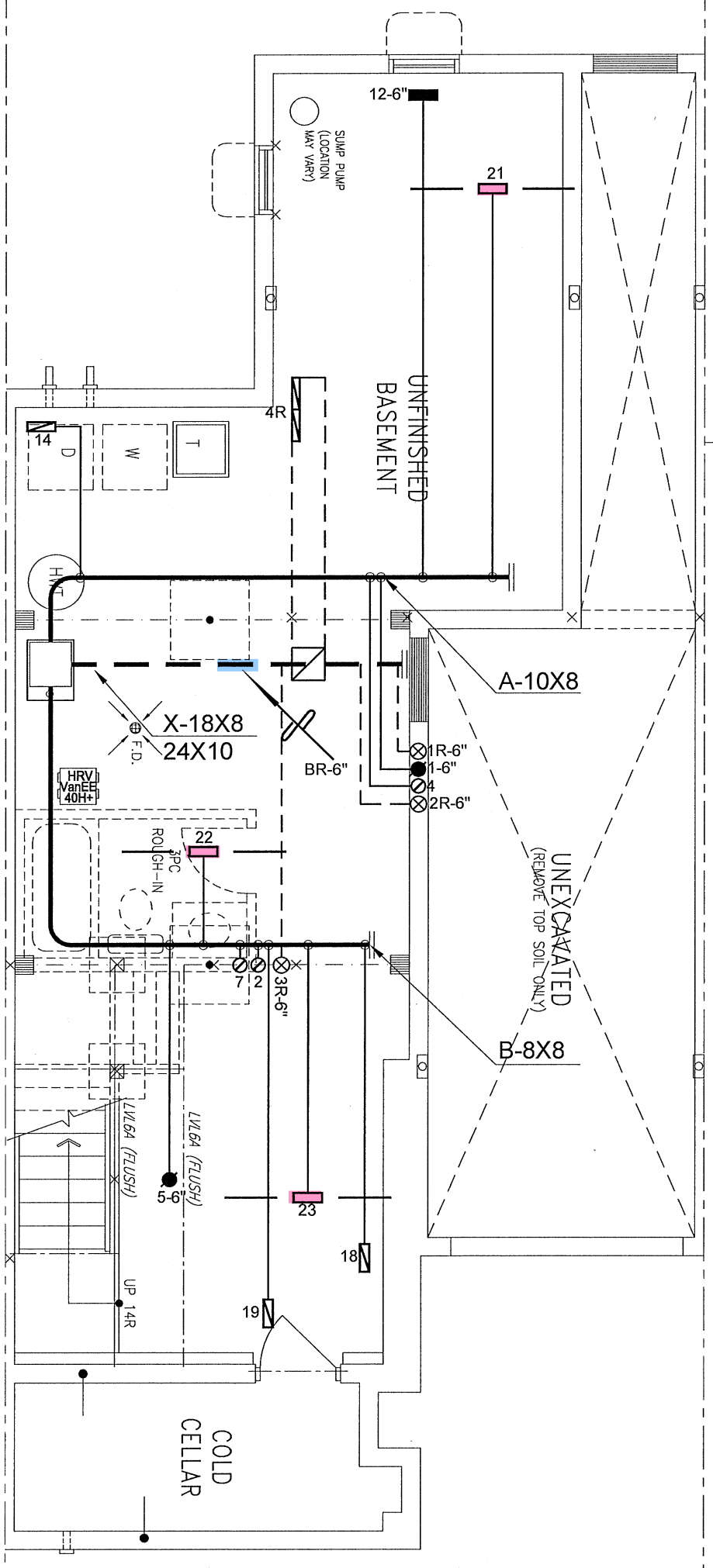
Air Infiltration Residential Load Calculator

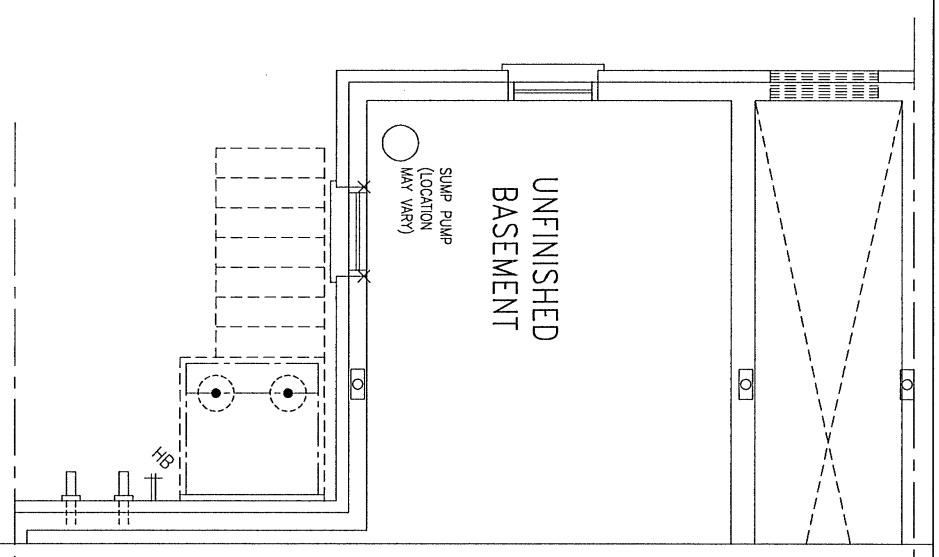
Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Milton
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):	6.52
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	609.8
Air Leakage/Ventilation	
Air Tightness Type:	Energy Star Attached (3.0 ACH)
Custom BDT Data:	ELA @ 10 Pa. 683.1 cm^2
	3.00 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 37.8 / Total Exhaust 37.8
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.263**
Cooling Air Leakage Rate (ACH/H):	**0.085**

TYPE: IVY 1
LO# 71712

BASEMENT PLAN – ELEV. 1





PART. BASEMENT PLAN
W.O.D CONDITION (8R OR MORE)

RESIDENTIAL HVAC (New Construction)

1) All HVAC work shall comply with Part 6 and 9.32/9.33.
2) Supply or return air ducts not protected by an insulated exterior wall shall me insulated to a minimum 2.1 RSI (R-12)
3) Exhaust ducts (principle, supplemental & other exhaust fans) passing through unheated space shall be insulated to a minimum 0.5 RSI (R-3)
4) All supply/return air ducts located in unconditioned spaces shall be sealed to a SMACNA Class 'A' seal level and supply air ducts in conditioned spaces to shall be sealed to a SMACNA Class "C' seal level
5) Furnaces to be equipped with brushless DC motor (ECM) and controlled with a programmable thermostat (4 times periods/day, 2 day types/week)
6) HRVs to be installed in accordance with 9.32.3.11. and manufacturers' requirements (intake/exhaust separation, distance from R/A drop)
7) Bathrooms and washrooms to have a min. 50 CFM exhaust fan ducted directly outdoors with ductwork sized in accordance with Table 9.32.3.5.
8) Range hoods to exhaust directly to outdoors with non-combustible ducting
9) Changes to the HVAC equipment or duct layout requires a revision permit to be applied for and approved prior to booking any HVAC inspections

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 1 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
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RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 1
BUILDING DIVISION

CSA-F280-12
ENERGY STAR

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, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR 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

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENPARK HOMES

Project Name
LECCO RIDGE
MILTON, ONTARIO

IVY 1 1586 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.

HEAT LOSS 25717 BTU/H		
UNIT DATA		
MAKE	AMANA	
MODEL	AMEC960302BNA-30	
INPUT	30	MBTU/H
OUTPUT	28.8	MBTU/H
COOLING	1.5	TONS
FAN SPEED	557	cfm @ 0.6" w.c.

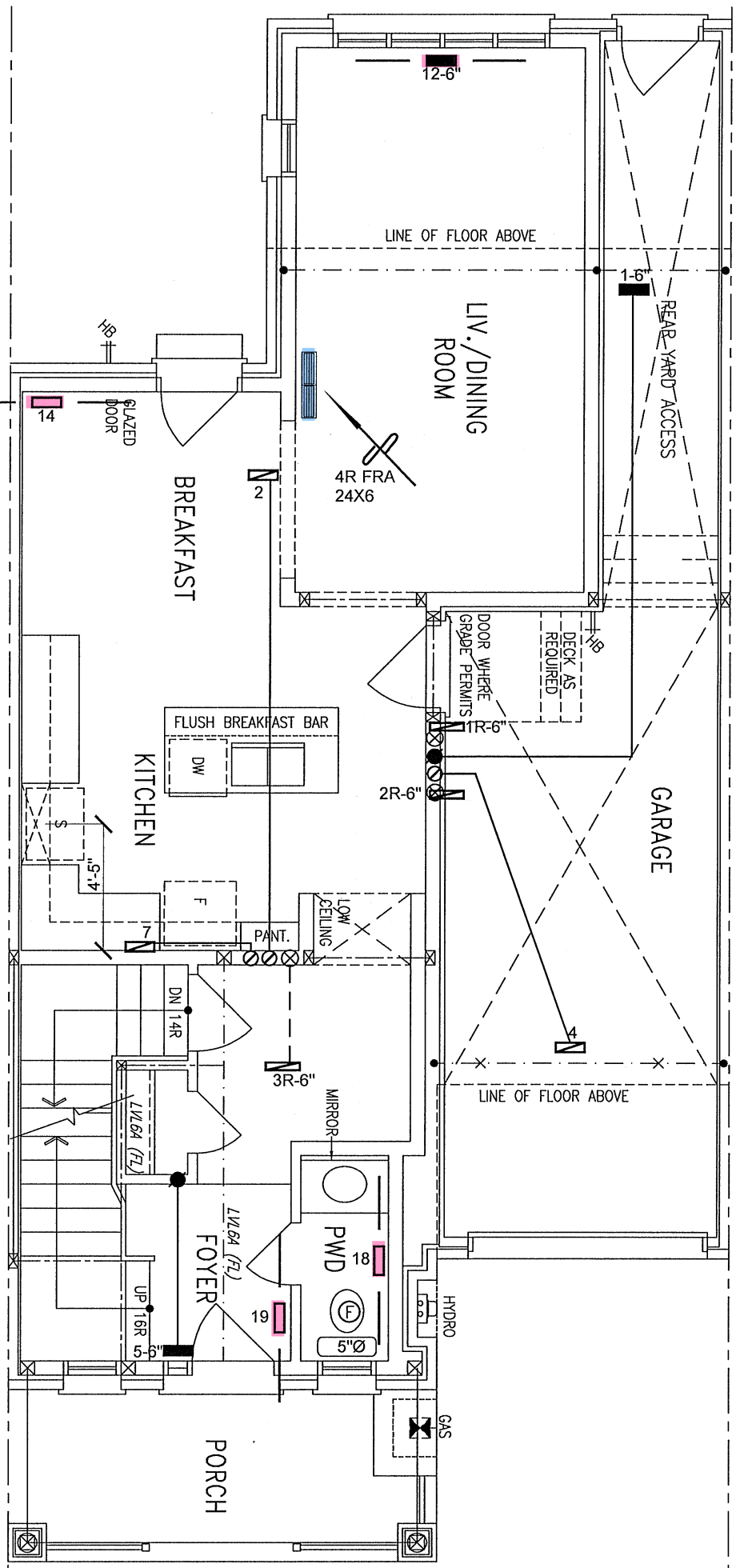
# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	5	3	2
1ST FLOOR	4	1	2
BASEMENT	3	1	0

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

Sheet Title
BASEMENT HEATING LAYOUT

Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71712

GROUND FLOOR PLAN – ELEV. 1



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PLANNING AND DEVELOPMENT
IVY 1 MODEL
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RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 1
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CSA-F280-12

ENERGY STAR

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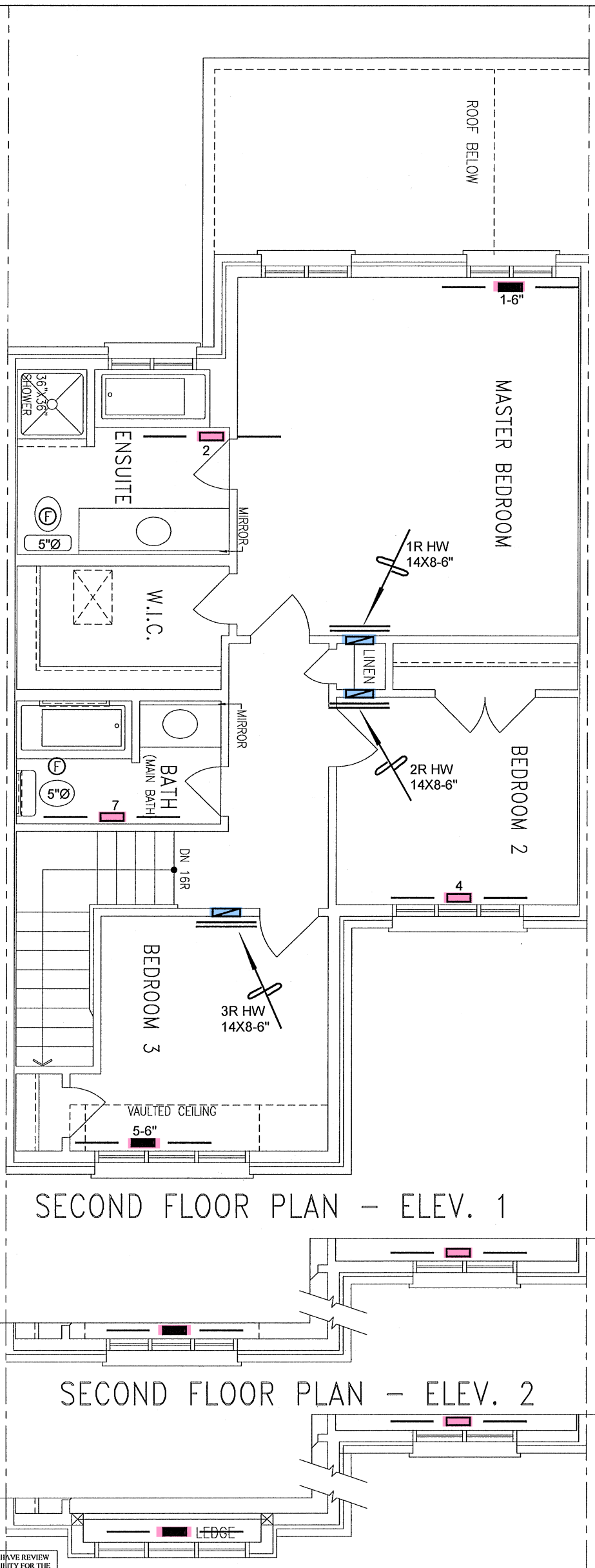
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71712



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TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 1 MODEL

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TOWN OF MILTON
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HVAC LEGEND

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REVISIONS

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GREENPARK HOMES

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LECCO RIDGE
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IVY 1 1586 sqft

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71712