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 0.262 — HEAT LOSS ΔT °F. 72 — CSA-F280-12
BUILDER: GREENPARK HOMES — TYPE: IVY 4 — GFA: 1864 — LO# 71715 — SUMMER NATURAL AIR CHANGE RATE 0.087 — HEAT GAIN ΔT °F. 14 — ENERGYSTAR

ROOM USE			MBR			ENS				BED-2			BED-3			BATH								
EXP. WALL			16			9				11			21			0								
CLG. HT.			9			9				9			9			9								
	FACTORS																							
GRS.WALL AREA	LOSS	GAIN	144			81				99			189			0								
GLAZING			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN							
NORTH	20.4	16.3	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0						
EAST	20.4	41.9	0	0	0	0	0	0		√26	530	1090	√43	877	1802	0	0	0						
SOUTH	20.4	25.3	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0						
WEST	20.4	41.9	30√	612	1257	√3	265	545		0	0	0	0	0	0	0	0	0						
SKYLT.	35.7	102.2	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0						
DOORS	24.1	4.7	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0						
NET EXPOSED WALL	3.1	0.6	114	350	68	68	209	40		73	224	43	146	448	87	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	208	301	150	90	130	66		140	203	101	176	253	126	100	145	72						
NO ATTIC EXPOSED CLG	2.3	1.2	0	0	0	0	0	0		0	0	0	20	47	23	0	0	0						
EXPOSED FLOOR	2.3	0.5	56	131	25	0	0	0		140	327	63	0	0	0	48	112	22						
BASEMENT/CRAWL HEAT LOSS				0			0				0			0			0							
SLAB ON GRADE HEAT LOSS				0			0				0			0			0							
SUBTOTAL HT LOSS				1394			604				1284			1625			257							
SUB TOTAL HT GAIN					1500			650				1297			2038			94						
LEVEL FACTOR / MULTIPLIER			0.20	0.31		0.20	0.31			0.20	0.31		0.20	0.31		0.20	0.31							
AIR CHANGE HEAT LOSS				439			190				404			612			81							
AIR CHANGE HEAT GAIN					131			57				114			178			8						
DUCT LOSS				183			0				169			0			34							
DUCT GAIN					265			0				209			0			10						
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240	0		0						
HEAT GAIN APPLIANCES/LIGHTS					434			0				434			434			0						
TOTAL HT LOSS BTU/H				2016			794				1857			2137			372							
TOTAL HT GAIN x 1.3 BTU/H					3641			919				2982			3758			146						

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 4 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 4
BUILDING DIVISION

ROOM USE			LV/DN				KT/FM				LAUN				FOY			MUD				WOD			BAS		
EXP. WALL			20				46				0				14			17				31			91		
CLG. HT.			10				10				9				11			11				9			9		
	FACTORS																										
GRS.WALL AREA	LOSS	GAIN	200				460				0				154			187				279			805		
GLAZING			LOSS	GAIN			LOSS	GAIN			LOSS	GAIN			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN	
NORTH	20.4	16.3	0	0	0		0	0	0		0	0	0		8	163	131	0	0	0		0	0	0	0	0	0
EAST	20.4	41.9	√28	571	1174		0	0	0		0	0	0		0	0	0	0	0	0		0	0	0	0	0	0
SOUTH	20.4	25.3	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0		0	0	0	0	0	0
WEST	20.4	41.9	0	0	0		√66	1347	2766		0	0	0		0	0	0	0	0	0		12	245	603	0	0	0
SKYLT.	35.7	102.2	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0		0	0	0	0	0	0
DOORS	24.1	4.7	0	0	0		20	481	93		0	0	0		25	601	116	20	481	93		0	0	0	20	481	93
NET EXPOSED WALL	3.1	0.6	172	528	102		374	1147	222		0	0	0		121	371	72	167	512	99		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	0	0	0		174	630	122	14	51	10
EXPOSED CLG	1.4	0.7	0	0	0		128	185	92		225	326	162		0	0	0	0	0	0		0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.3	1.2	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0		0	0	0	0	0	0
EXPOSED FLOOR	2.3	0.5	0	0	0		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			0						2635	
SLAB ON GRADE HEAT LOSS				0				0				0				0			0				0			
SUBTOTAL HT LOSS				1099				3160				326				1136			993				875		3168	
SUB TOTAL HT GAIN					1276				3173				162				319			192				625			103
LEVEL FACTOR / MULTIPLIER			0.30	0.41			0.30	0.41			0.20	0.31			0.30	0.41		0.30	0.41						0.50	1.07	
AIR CHANGE HEAT LOSS				446				1283				103				461			403						4323	
AIR CHANGE HEAT GAIN					112				278				14				28			17							64
DUCT LOSS				0				0				0				0			0						0	
DUCT GAIN					0				0				0				0			0							0
HEAT GAIN PEOPLE	240		0		0		1		240		0		0		0		0	0		0		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					434				434				434				0			434				0			434
TOTAL HT LOSS BTU/H				1545				4443				428				1597			1397				875		7491	
TOTAL HT GAIN x 1.3 BTU/H					2368				5363				794				451			836				812			782

TOTAL HEAT GAIN BTU/H: 23294 — TONS: 1.94 — LOSS DUE TO VENTILATION LOAD BTU/H: 2286 — STRUCTURAL HEAT LOSS: 24953 — TOTAL COMBINED HEAT LOSS BTU/H: 27239

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 4 DATE: Jan-17 GFA: 1864 LO# 71715

HEATING CFM	895	COOLING CFM	895	furnace pressure	0.6
TOTAL HEAT LOSS	24,953	TOTAL HEAT GAIN	22,852	furnace filter	0.05
AIR FLOW RATE CFM	35.87	AIR FLOW RATE CFM	39.16	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 = 895
CFM @ .6 " E.S.P.
TEMPERATURE RISE 30 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	5	4
R/A	0	0	3	2	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	6	7	10	12	14	15	17	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-3	BED-3	BATH	MBR	LV/DN	KT/FM	KT/FM	LAUN	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.01	0.79	1.86	1.07	1.07	0.37	1.01	1.55	2.22	2.22	0.43	1.60	1.40	2.09	2.09	2.09	2.09
CFM PER RUN HEAT	36	28	67	38	38	13	36	55	80	80	15	57	50	75	75	75	75
RM GAIN MBH.	1.82	0.92	2.98	1.88	1.88	0.15	1.82	2.37	2.68	2.68	0.79	0.45	0.84	0.40	0.40	0.40	0.40
CFM PER RUN COOLING	71	36	117	74	74	6	71	93	105	105	31	18	33	16	16	16	16
ADJUSTED PRESSURE	0.17	0.17	0.15	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	33	21	64	38	45	47	42	29	23	29	35	37	38	19	30	27	26
EQUIVALENT LENGTH	140	170	110	140	110	150	175	110	120	110	130	100	130	130	140	90	100
TOTAL EFFECTIVE LENGTH	173	191	174	178	155	197	217	139	143	139	165	137	168	149	170	117	126
ADJUSTED PRESSURE	0.1	0.09	0.09	0.1	0.11	0.09	0.08	0.12	0.11	0.12	0.1	0.13	0.1	0.12	0.1	0.15	0.14
ROUND DUCT SIZE	5	4	6	5	5	4	5	5	6	6	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	264	321	342	279	279	149	264	404	408	408	172	654	574	551	551	551	551
COOLING VELOCITY (ft/min)	521	413	597	543	543	69	521	683	535	535	356	207	379	117	117	117	117
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	B	A	C	C	A	A	C	B	A	B	C	A	B	A	B	C

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
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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	321	0.08	9.2	10	x	8	578	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	630	0.08	11.8	18	x	8	630	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	263	0.10	8	8	x	8	592	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	895	0.06	14.5	24	x	8	671
TRUNK Y	440	0.06	11.1	14	x	8	566
TRUNK Z	0	0.06	0	0	x	8	0
DROP	895	0.06	14.5	24	x	10	537

RETURN AIR #	1	2	3	4	5											BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	130	130	130	180	185	0	0	0	0	0	0	0	0	0	0	140
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.	58	64	73	34	38	1	1	1	1	1	1	1	1	1	1	20
EQUIVALENT LENGTH	180	180	180	155	145	0	0	0	0	0	0	0	0	0	0	175
TOTAL EFFECTIVE LH	238	244	253	189	183	1	1	1	1	1	1	1	1	1	1	195
ADJUSTED PRESSURE	0.06	0.06	0.06	0.08	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08
ROUND DUCT SIZE	7	7	7	7.4	7.5	0	0	0	0	0	0	0	0	0	0	6.7
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	14	0	0	0	0	0	0	0	0	0	0	14

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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TYPE: IVY 4 LO # 71715
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	5	@ 10.6 cfm	53.0	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
More than 5 - Part 6	TOTAL	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	159	cfm
Less Principal Ventil. Capacity	86	cfm
Required Supplemental Capacity	73.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 40H+ Location: BSMT

86.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
86.0 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

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: C

Township PI

Address

Roll #

RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 4
BUILDING DIVISION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 4 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

BUILDER: GR

Name:

Address:

City:

Telephone #:

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 4 **BUILDER:** GREENPARK HOMES
SFQT: 1864 **LO#** 71715 **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)	72

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):	25506.0	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:	6.8 ft
LENGTH: 49.0 ft	WIDTH: 21.0 ft	EXPOSED PERIMETER:	91.0 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	

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke

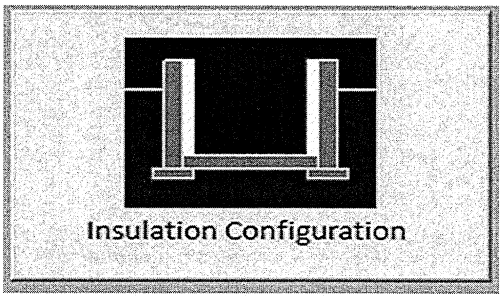
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	**14.9**	
Floor Width (m):	**6.4**	
Exposed Perimeter (m):	**27.7**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**2.07**	
Window Area (m^2):	**1.1**	
Door Area (m^2):	**1.9**	


Insulation Configuration

Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**772**	

TYPE: IVY 4
LO# 71715

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

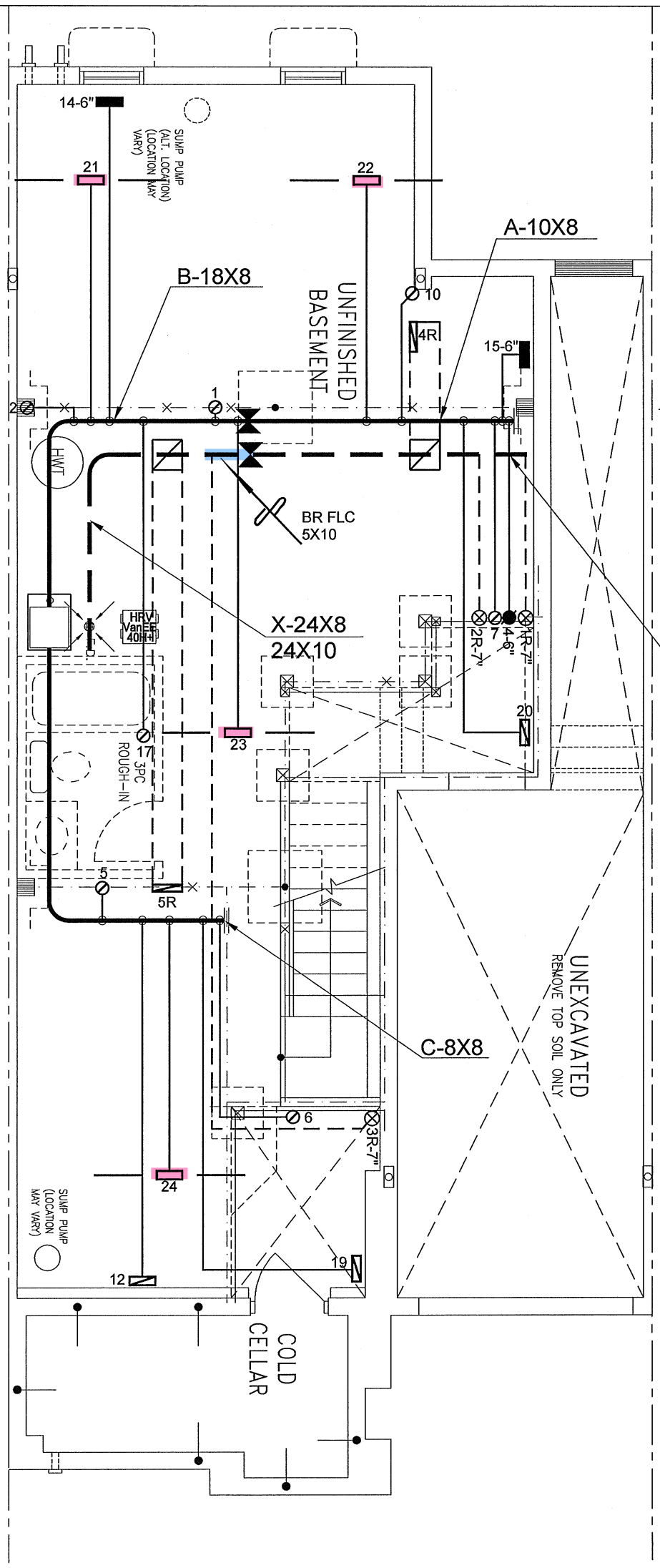
Air Infiltration Residential Load Calculator

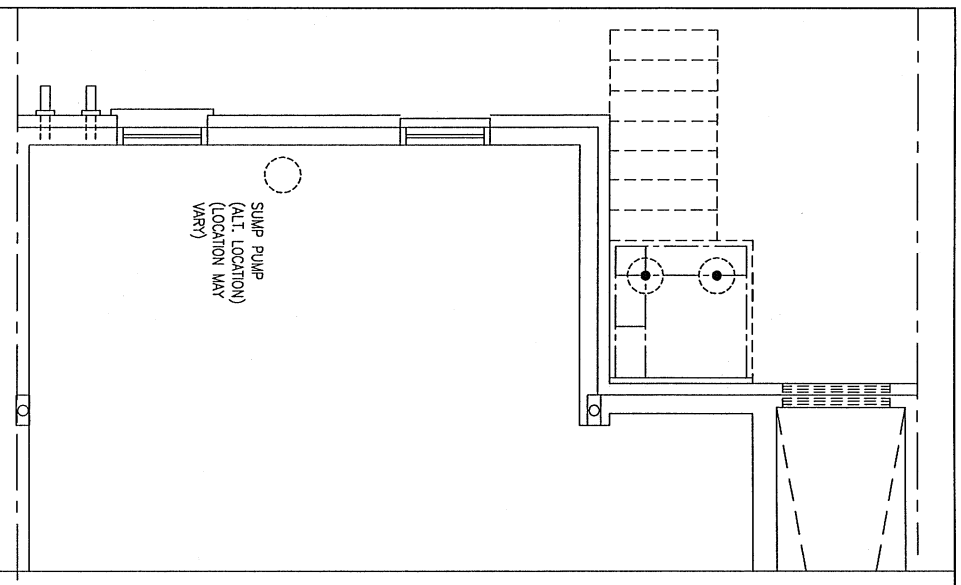
Supplemental tool for CAN/CSA-F280

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):	6.46
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	722.2
Air Leakage/Ventilation	
Air Tightness Type:	Energy Star Attached (3.0 ACH)
Custom BDT Data:	ELA @ 10 Pa. 809.1 cm^2
	3.00 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 40.6 / Total Exhaust 40.6
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.262**
Cooling Air Leakage Rate (ACH/H):	**0.087**

TYPE: IVY 4
LO# 71715

BASEMENT PLAN - ELEV. 1





PART. BASEMENT PLAN
W.O.D CONDITION

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 4 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
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RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 4
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
	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

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENPARK HOMES

Project Name
LECCO RIDGE
MILTON, ONTARIO

IVY 4 1864 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.

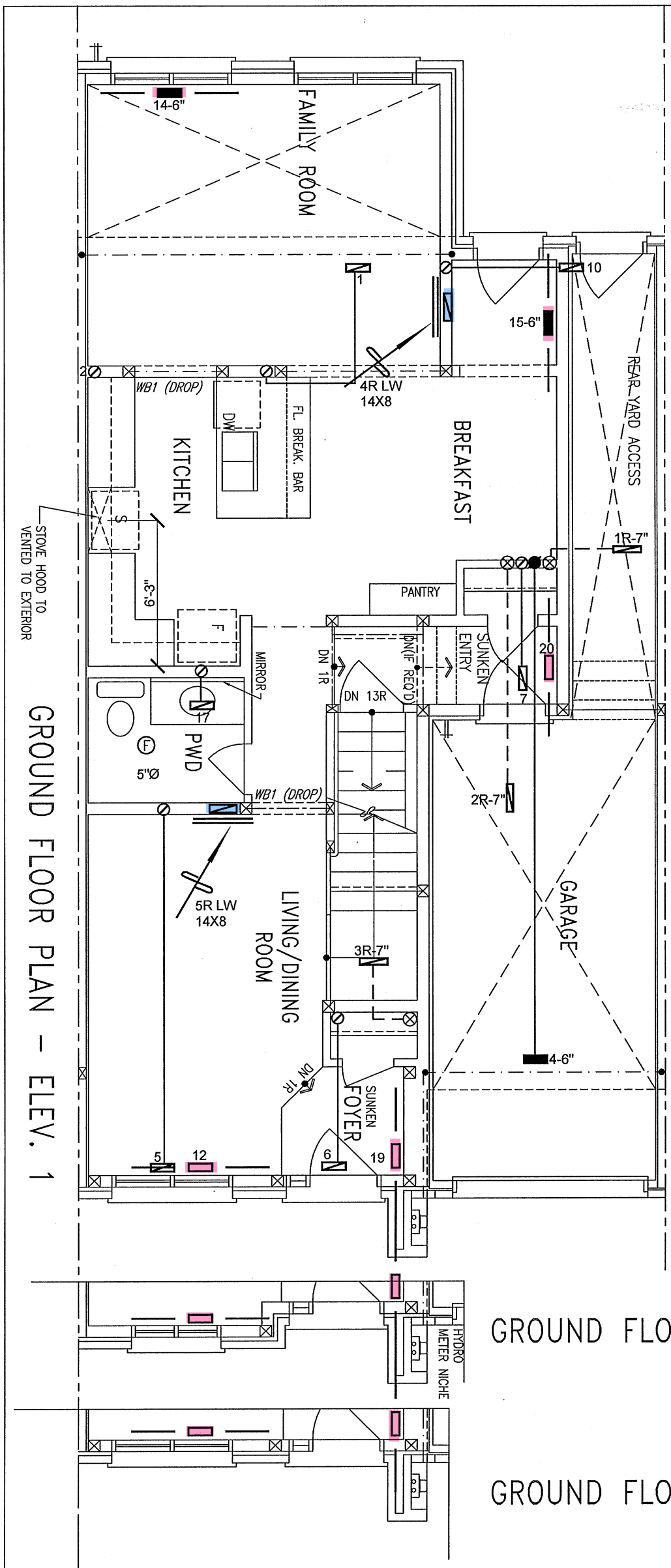
HEAT LOSS 27239 BTU/H	
UNIT DATA	
MAKE	AMANA
MODEL	AMEC960302BNA-30
INPUT	30 MBTU/H
OUTPUT	28.8 MBTU/H
COOLING	2.0 TONS
FAN SPEED	895 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	8	3	3
1ST FLOOR	5	2	2
BASEMENT	4	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# 71715



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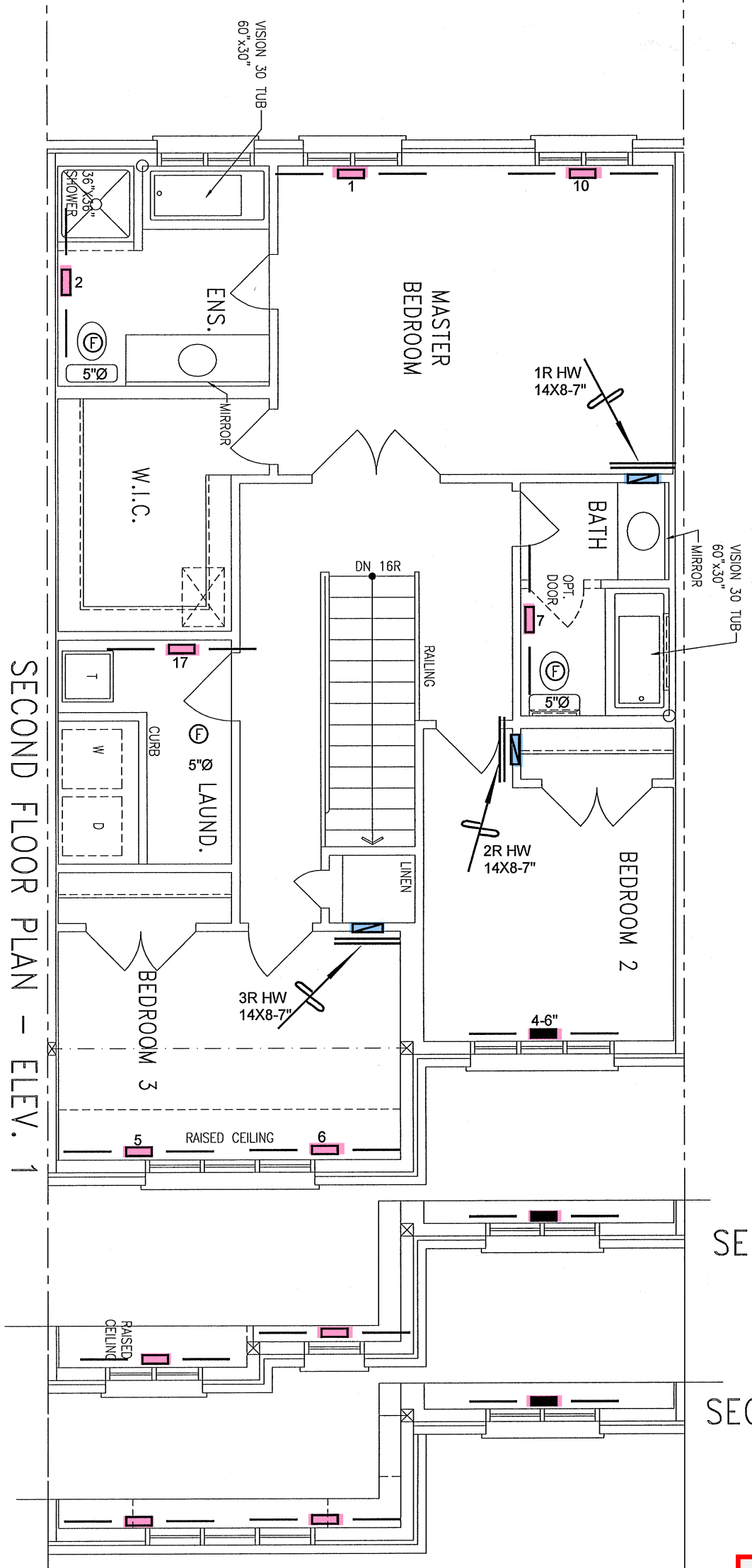
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71715



SECOND FLOOR PLAN – ELEV. 1

SECOND FLOOR PLAN – ELEV. 2

SECOND FLOOR PLAN – ELEV. 3

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ENERGY STAR

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Sheet Title
SECOND FLOOR HEATING LAYOUT

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BCIN# 19669
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