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 0.268 | HEAT LOSS ΔT °F. 72 | CSA-F280-12
BUILDER: GREENPARK HOMES | TYPE: IVY 6E | GFA: 2134 | LO# 71717 | SUMMER NATURAL AIR CHANGE RATE 0.090 | HEAT GAIN ΔT °F. 14 | ENERGYSTAR

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH		
EXP. WALL			40			9			0			9			39			10			6		
CLG. HT.			9			9			9			9			10			9			9		
FACTORS																							
GRS.WALL AREA	LOSS	GAIN	360			81			0			81			371			90			54		
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	0	0	0	0	0	0	0	0	0	0	0	0
EAST	20.4	41.9	0	0	0	0	0	0	0	0	0	40	816	1677	29	592	1215	0	0	0	0	0	0
SOUTH	20.4	25.3	7	143	177	0	0	0	0	0	0	0	0	0	0	0	0	16	326	404	10	204	253
WEST	20.4	41.9	32	653	1341	14	286	587	0	0	0	0	0	0	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	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	0	0	0	0	0	0
NET EXPOSED WALL	3.1	0.6	321	985	190	67	206	40	0	0	0	41	126	24	342	1048	203	74	227	44	44	135	26
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	0	0	0	0	0	0
EXPOSED CLG	1.4	0.7	384	556	276	60	87	43	72	104	52	126	182	91	95	138	68	170	246	122	96	139	69
NO ATTIC EXPOSED CLG	2.3	1.2	0	0	0	0	0	0	0	0	0	0	0	0	45	105	52	0	0	0	0	0	0
EXPOSED FLOOR	2.3	0.5	0	0	0	0	0	0	0	0	0	126	294	57	12	28	5	20	47	9	12	28	5
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				2336			578			104			1419			1910			846			506	
SUB TOTAL HT GAIN					1985			670			52			1848			1544			579			353
LEVEL FACTOR / MULTIPLIER			0.20	0.26		0.20	0.26		0.20	0.26		0.20	0.26		0.20	0.26		0.20	0.26		0.20	0.26	
AIR CHANGE HEAT LOSS				602			149			27			365			492			218			130	
AIR CHANGE HEAT GAIN					160			54			4			149			125			47			29
DUCT LOSS				0			0			0			178			240			106			64	
DUCT GAIN					0			0			0			273			240			136			38
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0
HEAT GAIN APPLIANCES/LIGHTS					495			0			0			495			495			495			0
TOTAL HT LOSS BTU/H				2938			727			131			1962			2642			1171			700	
TOTAL HT GAIN x 1.3 BTU/H					4056			941			73			3908			3437			1947			546

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 6E 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 6E
BUILDING DIVISION

ROOM USE			LIV			KT/FM			LAUN			W/R			FOY			WOD			BAS		
EXP. WALL			30			61			0			7			20			26			129		
CLG. HT.			10			10			9			10			10			9			9		
FACTORS																							
GRS.WALL AREA	LOSS	GAIN	300			610			0			70			200			234			930		
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	0	0	0	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	14	286	587	0	0	0	0	0	0
SOUTH	20.4	25.3	21	428	530	0	0	0	0	0	0	8	163	202	0	0	0	0	0	0	8	163	202
WEST	20.4	41.9	0	0	0	55	1122	2305	0	0	0	0	0	0	0	0	0	6	122	251	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	0	0	0	40	962	186	0	0	0	20	481	93
NET EXPOSED WALL	3.1	0.6	251	770	149	535	1641	317	0	0	0	62	190	37	146	448	87	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	150	543	105	231	836	162
EXPOSED CLG	1.4	0.7	0	0	0	0	0	0	63	91	45	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	22	51	10	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0						4228	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0				
SUBTOTAL HT LOSS				1770			3244			143			353			1696			665			5708	
SUB TOTAL HT GAIN					1853			2716			55			239			859			356			457
LEVEL FACTOR / MULTIPLIER			0.30	0.43		0.30	0.43		0.20	0.26		0.30	0.43		0.30	0.43					0.50	0.79	
AIR CHANGE HEAT LOSS				759			1391			37			152			727						5049	
AIR CHANGE HEAT GAIN					150			219			4			19			69						66
DUCT LOSS				0			0			18			0			0						0	
DUCT GAIN					0			0			55			0			0						0
HEAT GAIN PEOPLE	240		0		0	2		480	0		0	0		0	0		0		0		0		0
HEAT GAIN APPLIANCES/LIGHTS					495			495			495			0			0		0				495
TOTAL HT LOSS BTU/H				2529			4636			197			505			2423			665			10757	
TOTAL HT GAIN x 1.3 BTU/H					3247			5083			793			336			1207			463			1323

TOTAL HEAT GAIN BTU/H: 27801 TONS: 2.32 LOSS DUE TO VENTILATION LOAD BTU/H: 2286 STRUCTURAL HEAT LOSS: 31983 TOTAL COMBINED HEAT LOSS BTU/H: 34270

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.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: LECCO RIDGE
BUILDER: GREENPARK HOMES

TYPE: IVY 6E DATE: Jan-17 GFA: 2134 LO# 71717

HEATING CFM	890		COOLING CFM	890			furnace pressure	0.6										#AMANA			AFUE = 96 %			
TOTAL HEAT LOSS	31,983		TOTAL HEAT GAIN	27,359			furnace filter	0.05										AMEC960402BNA	40		INPUT (BTU/H) = 40,000			
AIR FLOW RATE CFM	27.83		AIR FLOW RATE CFM	32.53			a/c coil pressure	0.2										FAN SPEED			OUTPUT (BTU/H) = **38,400**			
							available pressure for s/a & r/a	0.35										LOW						
																		MEDLOW			DESIGN CFM = **890**			
							plenum pressure s/a	0.18			r/a pressure	0.17						MEDIUM			CFM @ .6 " E.S.P.			
							max s/a dif press. loss	0.02			r/a grille press. Loss	0.02						MEDIUM HIGH						
							min adjusted pressure s/a	0.16			adjusted pressure r/a	0.15						HIGH	890		TEMPERATURE RISE 40 °F			

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	6	4
R/A	0	0	4	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	3	4	5	6	7	8	9	10	12	13	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	LIV	LIV	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.47	0.73	0.13	0.98	1.32	1.17	0.70	0.98	1.32	1.47	1.26	1.26	2.32	2.32	0.20	0.50	2.42	2.86	2.86	2.86	2.86
CFM PER RUN HEAT	41	20	4	27	37	33	19	27	37	41	35	35	65	65	5	14	67	79	79	79	79
RM GAIN MBH.	2.03	0.94	0.07	1.95	1.72	1.95	0.55	1.95	1.72	2.03	1.62	1.62	2.54	2.54	0.79	0.34	1.21	0.45	0.45	0.45	0.45
CFM PER RUN COOLING	66	31	2	64	56	63	18	64	56	66	53	53	83	83	26	11	39	15	15	15	15
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	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	62	64	48	47	33	22	23	49	33	55	19	8	46	43	43	25	32	40	46	11	16
EQUIVALENT LENGTH	150	160	160	160	130	180	190	170	130	160	140	190	160	160	160	150	170	190	190	140	170
TOTAL EFFECTIVE LENGTH	212	224	208	207	163	202	213	219	163	215	159	198	206	203	203	175	202	230	236	151	186
ADJUSTED PRESSURE	0.08	0.08	0.08	0.08	0.11	0.09	0.08	0.08	0.11	0.08	0.11	0.09	0.08	0.08	0.08	0.1	0.09	0.07	0.07	0.11	0.09
ROUND DUCT SIZE	5	4	4	5	4	5	4	5	4	5	5	5	**6**	**6**	4	4	5	**6**	**6**	5	5
HEATING VELOCITY (ft/min)	301	229	46	198	424	242	218	198	424	301	257	257	331	331	57	161	492	403	403	580	580
COOLING VELOCITY (ft/min)	485	356	23	470	642	463	207	470	642	485	389	389	423	423	298	126	286	76	76	110	110
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10
TRUNK	A	A	B	B	C	B	C	B	C	A	C	C	A	A	B	B	C	A	B	C	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	

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TOWN OF MILTON
MAR 29, 2017
IVY 6E
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	311	0.07	9.4	10	x	8	560	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	500	0.07	11.2	14	x	8	643	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	388	0.08	9.8	12	x	8	582	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	890	0.06	14.4	24	x	8	668
TRUNK Y	480	0.06	11.4	16	x	8	540
TRUNK Z	310	0.06	9.7	12	x	8	465
DROP	890	0.06	14.4	24	x	10	534

RETURN AIR #	1	2	3	4	5	6										BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	155	85	85	85	180	155	0	0	0	0	0	0	0	0	0	145
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.	59	41	53	56	20	43	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	195	225	135	185	110	200	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	254	266	188	241	130	243	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.06	0.06	0.08	0.06	0.11	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7.5	6	5.6	6	6.8	7.5	0	0	0	0	0	0	0	0	0	6.4
INLET GRILL SIZE	8	8	8	8	8	8	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	14	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 6E LO # 71717
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	3	@ 10.6 cfm	31.8	cfm
Kitchen & Bathrooms	4	@ 10.6 cfm	42.4	cfm
Other Rooms	4	@ 10.6 cfm	42.4	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	**79.5**	**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

Location	Model	NUTONE 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 6E
BUILDING DIVISION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 6E 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 6E **BUILDER:** GREENPARK HOMES
SFQT: 2134 **LO#** 71717 **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):	29041.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 50.0 ft	WIDTH: 26.0 ft	EXPOSED PERIMETER:	129.0 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	

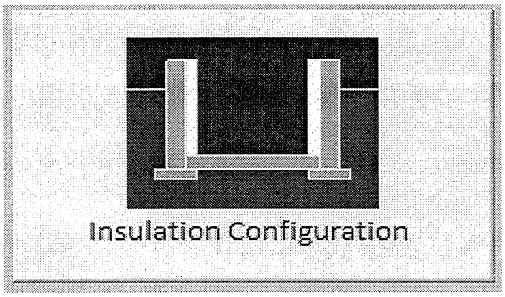
INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

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):	**15.2**	 Insulation Configuration
Floor Width (m):	**7.9**	
Exposed Perimeter (m):	**39.3**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.83**	
Window Area (m^2):	**1.3**	
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):	**1239**	

TYPE: IVY 6E
LO# 71717

HVAC Designs Ltd.
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Ajax ON, L1S 2E2
905-619-2300

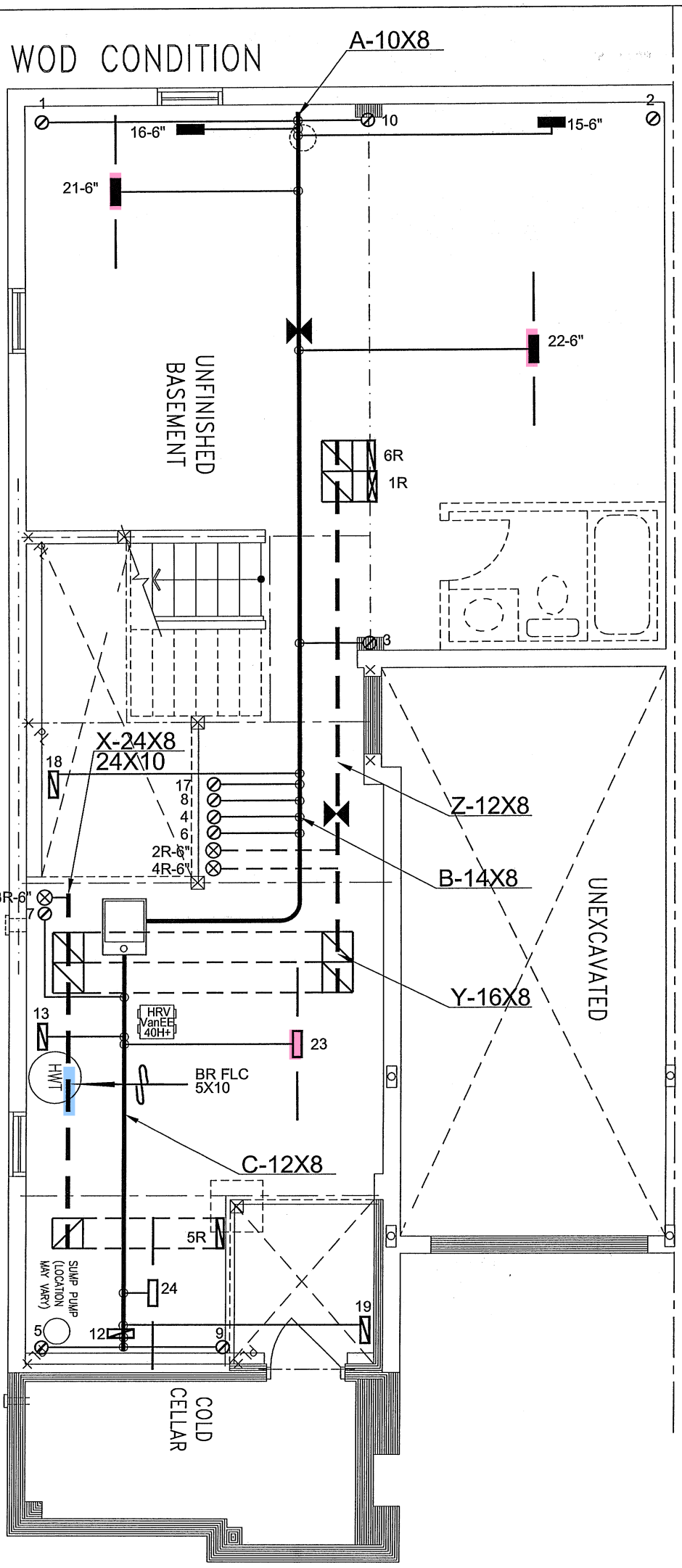
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

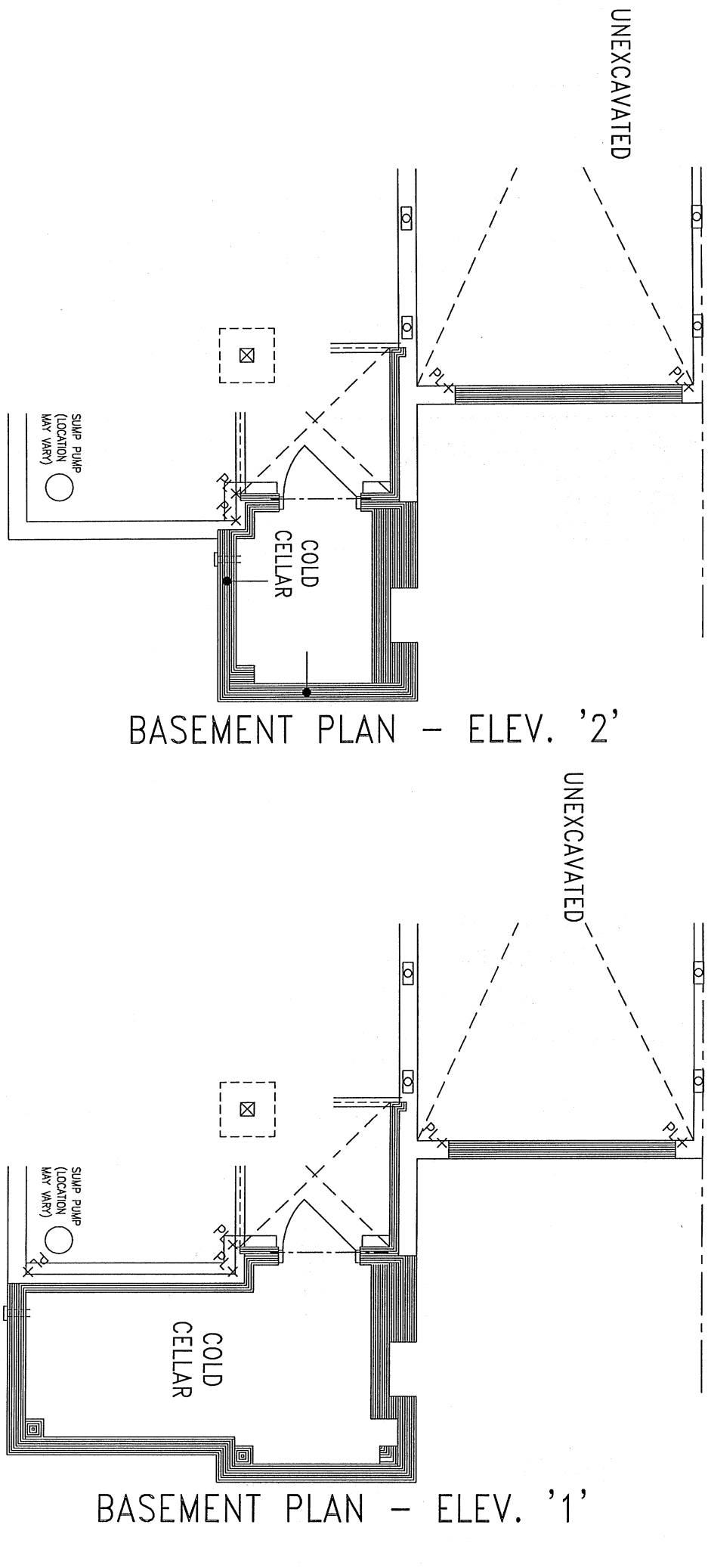
Weather Station Description					
Province:	Ontario				
Region:	Milton				
Weather Station Location:	Open flat terrain, grass				
Anemometer height (m):	10				
Local Shielding					
Building Site:	Suburban, forest				
Walls:	Heavy				
Flue:	Heavy				
Highest Ceiling Height (m):	6.71				
Building Configuration					
Type:	Semi				
Number of Stories:	Two				
Foundation:	Full				
House Volume (m^3):	822.3				
Air Leakage/Ventilation					
Air Tightness Type:	Energy Star Attached (3.0 ACH)				
Custom BDT Data:	ELA @ 10 Pa.				921.2 cm^2
	3.00				ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply				Total Exhaust
	40.6				40.6
Flue Size					
Flue #:	#1	#2	#3	#4	
Diameter (mm):	0	0	0	0	
Natural Infiltration Rates					
Heating Air Leakage Rate (ACH/H):	**0.268**				
Cooling Air Leakage Rate (ACH/H):	**0.090**				

TYPE: IVY 6E
LO# 71717

WOD CONDITION



BASEMENT PLAN – ELEV. '3'



BASEMENT PLAN – ELEV. '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, BCIN# 19669
HVAC DESIGNS LTD.

RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 6E
BUILDING DIVISION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 6E MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
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CSA-F280-12

ENERGY STAR

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 6E 2134 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
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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.

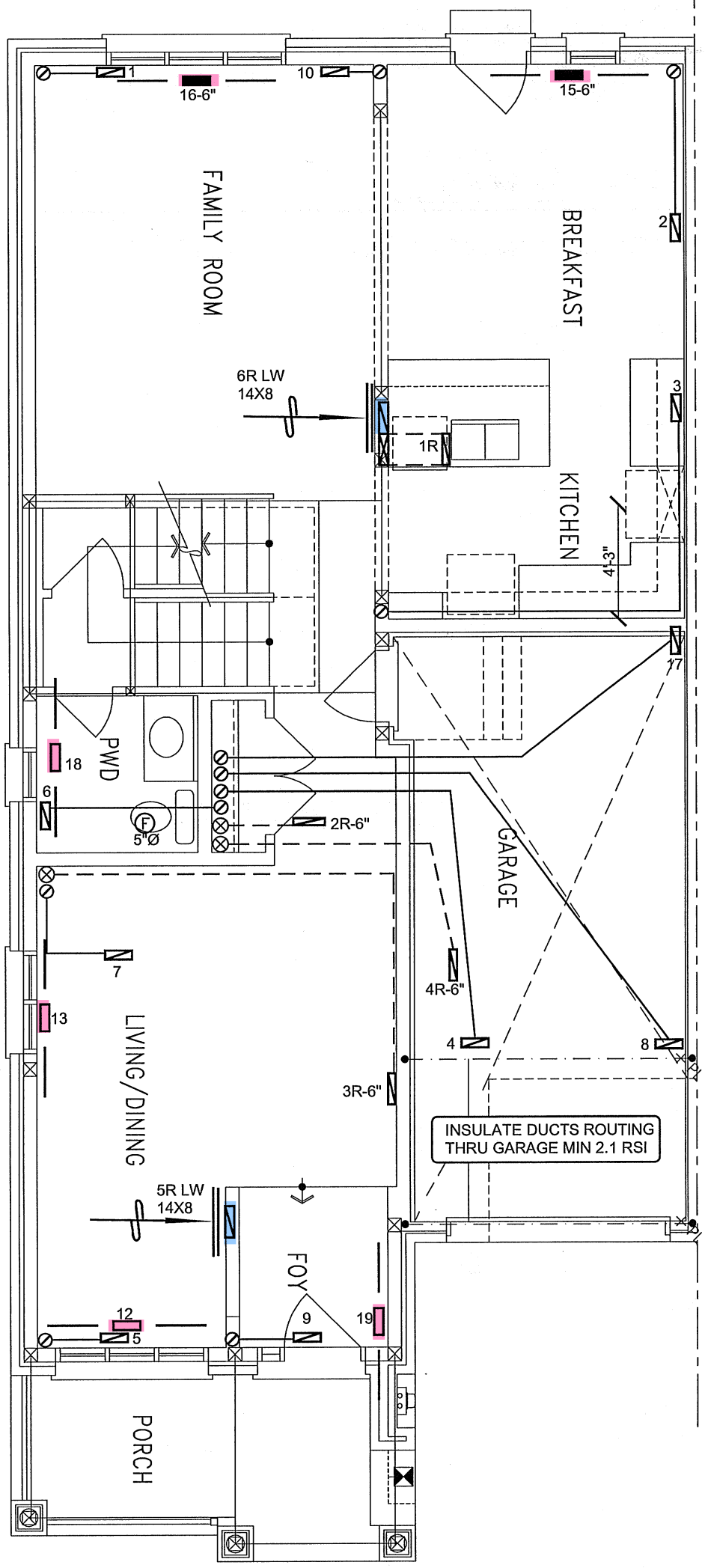
HEAT LOSS 34270 BTU/H		
UNIT DATA		
MAKE	AMANA	
MODEL	AMEC960402BNA-40	
INPUT	40	MBTU/H
OUTPUT	38.4	MBTU/H
COOLING	2.5	TONS
FAN SPEED	890	cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	11	4	3
1ST FLOOR	6	2	2
BASEMENT	4	1	0

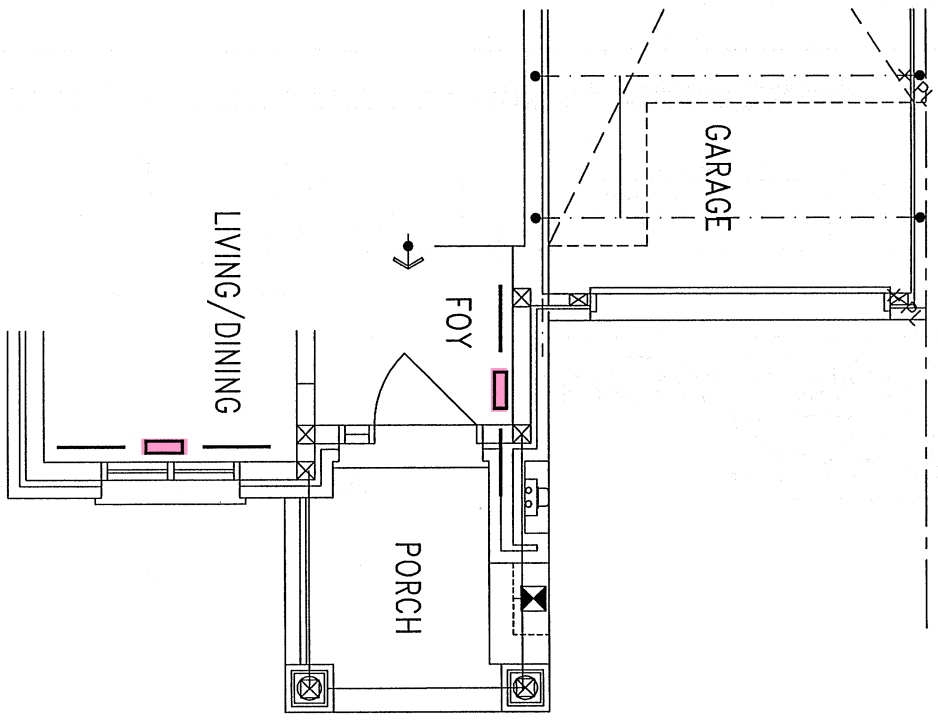
ALL S/A DIFFUSERS 4"x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title
BASEMENT HEATING LAYOUT

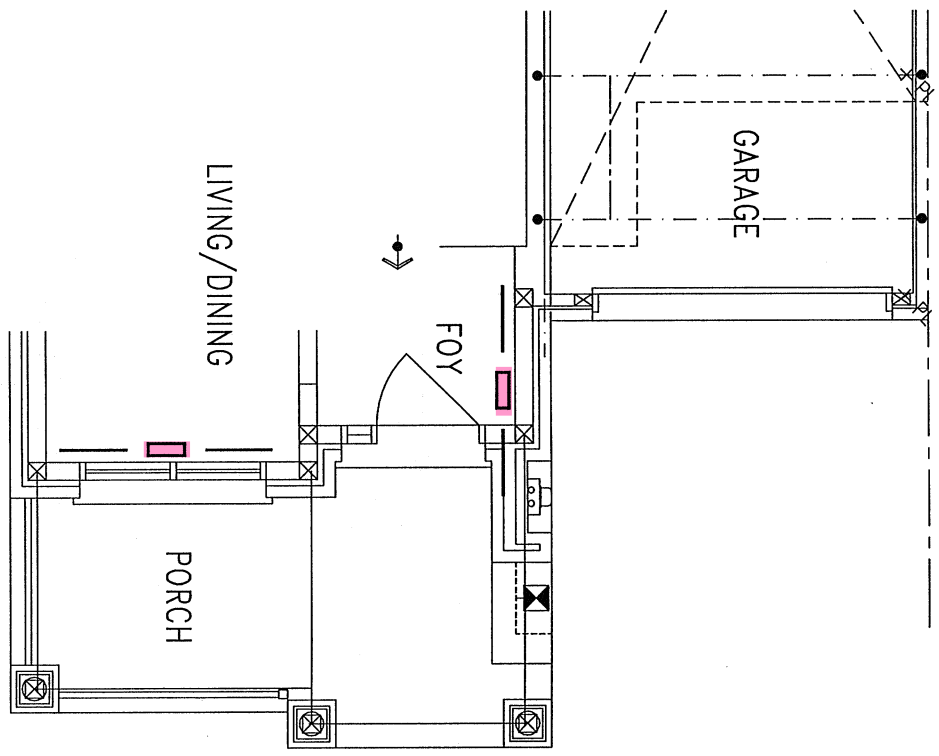
Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71717



GROUND FLOOR PLAN – ELEV. '3'



GROUND FLOOR PLAN – ELEV. '2'



GROUND FLOOR PLAN – ELEV. '1'

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TOWN OF MILTON
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IVY 6E
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TOWN OF MILTON
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IVY 6E MODEL
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— ▬ —	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

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Project Name
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IVY 6E 2134 sqft

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Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71717

TOWN OF MILTON
PLANNING AND DEVELOPMENT
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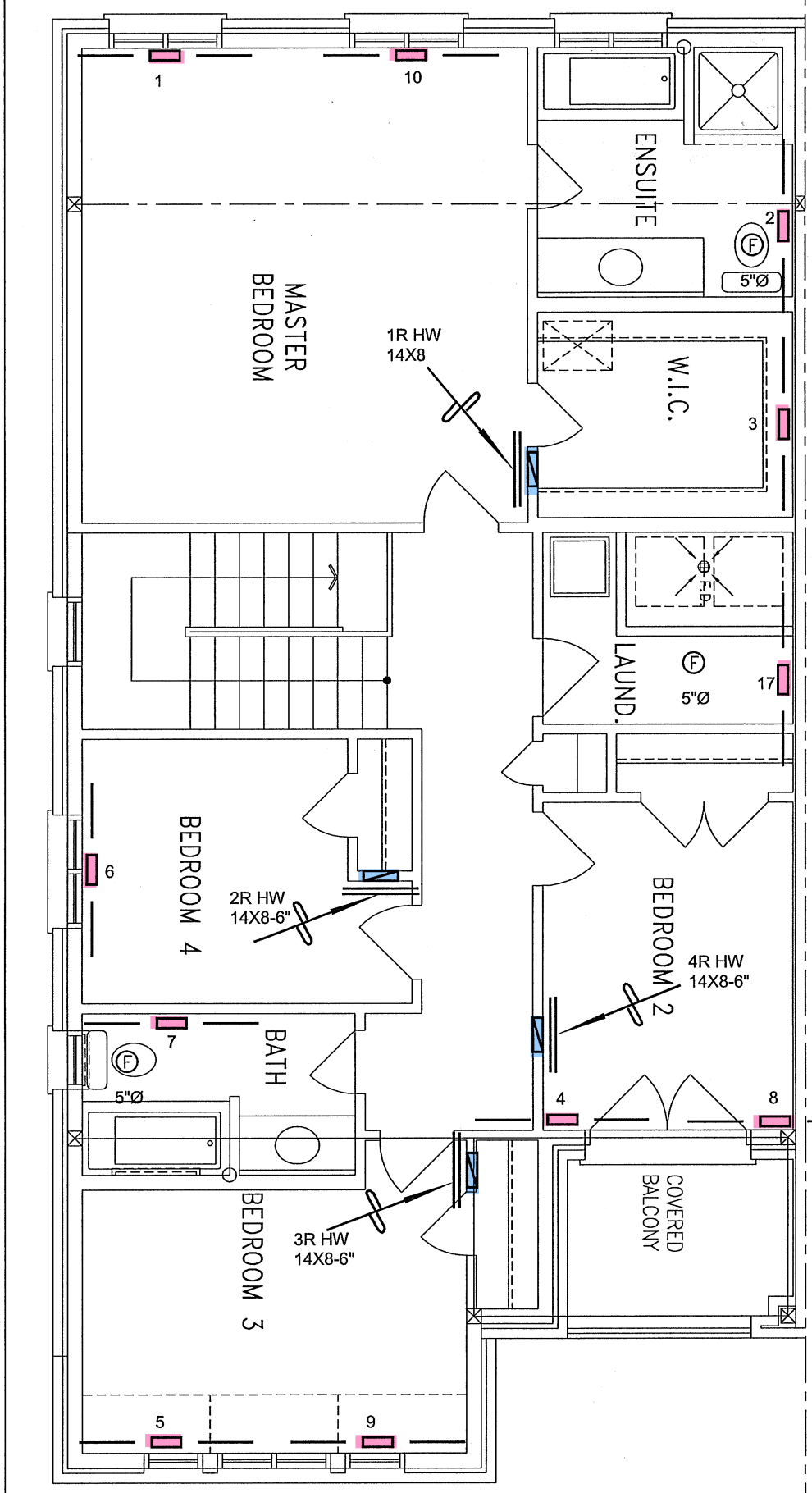
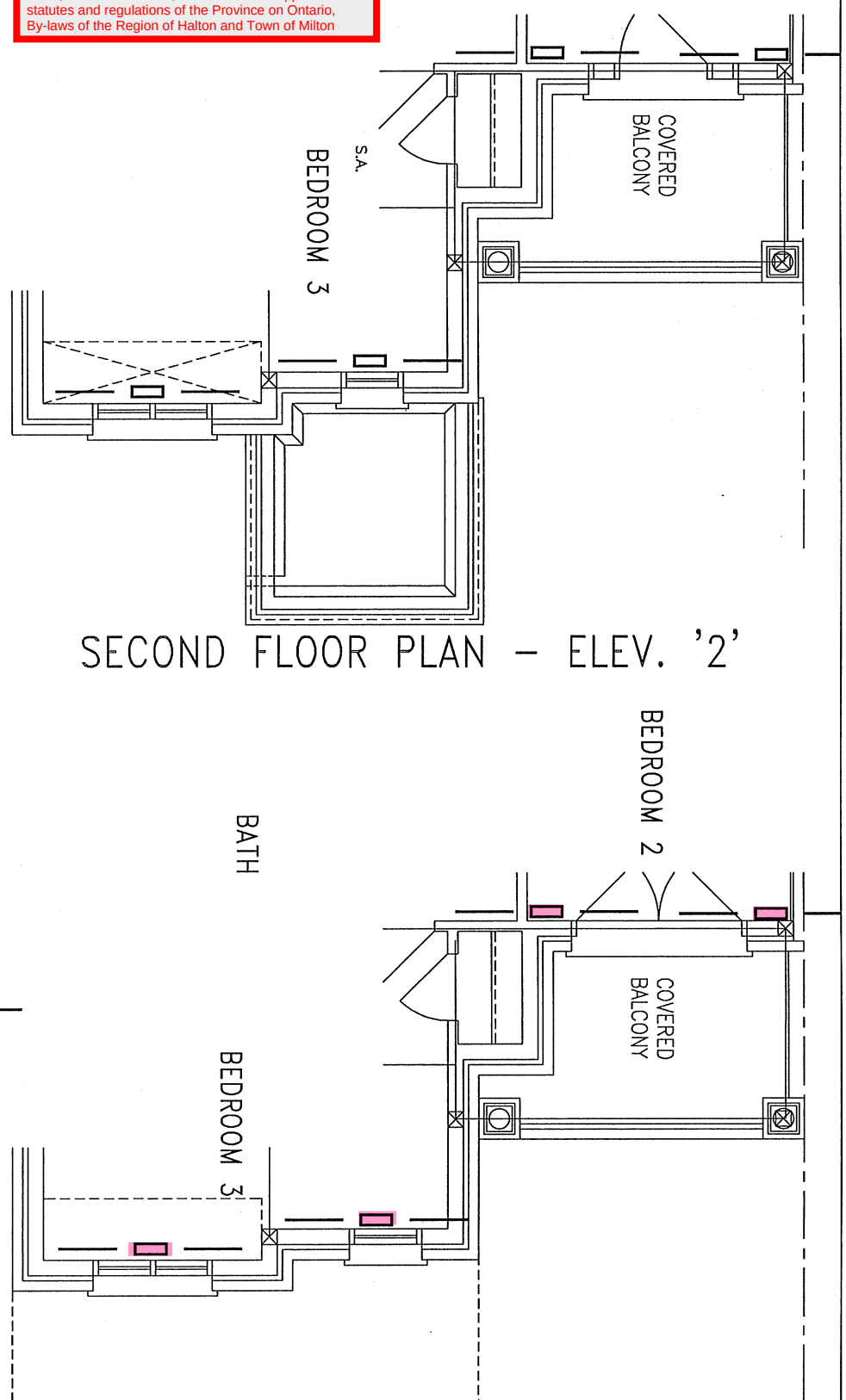


SECOND FLOOR PLAN – ELEV. '3'



SECOND FLOOR PLAN – ELEV. '2'

SECOND FLOOR PLAN – ELEV. '1'

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IVY 6E
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HVAC DESIGNS LTD.

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

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