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 | LOT 100 | DATE: Mar-17 | WINTER NATURAL AIR CHANGE RATE 0.316 | HEAT LOSS ΔT °F. 72 | CSA-F280-12
BUILDER: GREENPARK HOMES | TYPE: JUNIPER 9 | GFA: 3475 | LO# 73317 | SUMMER NATURAL AIR CHANGE RATE 0.108 | HEAT GAIN ΔT °F. 14 | ENERGYSTAR

ROOM USE			MBR			ENS			BED-2			BED-3			BED-4			BATH			BED-5			ENS-4			ENS-5		
EXP. WALL			37			28			15			45			37			7			18			17			9		
CLG. HT.			10			9			9			10			10			9			9			9			9		
FACTORS																													
GRS.WALL AREA	LOSS	GAIN	370			252			135			428			352			63			162			153			81		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	17.9	15.8	0	0	0	9	161	143	15	268	238	0	0	0	0	0	0	7	125	111	0	0	0	0	0	0	0	0	0
EAST	17.9	41.4	0	0	0	0	0	0	0	0	0	52	928	2154	40	714	1657	0	0	0	0	0	0	11	196	456	0	0	0
SOUTH	17.9	24.8	0	0	0	0	0	0	0	0	0	0	0	0	8	143	198	0	0	0	24	428	594	0	0	0	8	143	198
WEST	17.9	41.4	34	607	1408	18	321	746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	30.6	101.2	0	0	0	0	0	0	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	0	0	0	0	0	0
NET EXPOSED WALL	2.6	0.5	336	879	170	225	589	114	120	314	61	376	983	190	304	794	154	56	147	28	138	361	70	142	372	72	73	191	37
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	0	0	0	0	0	0	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	336	463	230	159	219	109	255	351	175	302	416	207	250	344	171	84	116	58	306	422	210	84	116	58	180	248	123
NO ATTIC EXPOSED CLG	2.2	1.1	0	0	0	28	63	31	0	0	0	55	124	61	20	45	22	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.2	0.4	0	0	0	0	0	0	0	0	0	357	783	151	0	0	0	84	184	36	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0			0			0		
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0			0			0		
SUBTOTAL HT LOSS			1949			1353			933			3233			2040			571			1211			684			582		
SUB TOTAL HT GAIN					1808			1142			473			2763			2202			232			874			585			358
LEVEL FACTOR / MULTIPLIER			0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32	
AIR CHANGE HEAT LOSS			617			428			296			1024			646			181			384			217			184		
AIR CHANGE HEAT GAIN					157			99			41			241			192			20			76			51			31
DUCT LOSS			0			0			0			426			0			75			0			0			0		
DUCT GAIN					0			0			0			393			0			25			0			0			0
HEAT GAIN PEOPLE	240		2		480	0		0	1		240	1		240	1		240	0		0	1		240	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					686			0			686			686			686			0			686			0			0
TOTAL HT LOSS BTU/H			2566			1781			1229			4683			2687			828			1595			900			766		
TOTAL HT GAIN x 1.3 BTU/H					4072			1614			1873			5621			4316			361			2439			827			506

ROOM USE			LV/DN			OFF			KT/FM				LAUN			PWD			FOY			MUD					WUB			BAS		
EXP. WALL			50			29			78				0			11			17			21					19			196		
CLG. HT.			11			11			11				9			11			12			13					10			10		
FACTORS																																
GRS.WALL AREA	LOSS	GAIN	550			319			858				0			121			204			273					181			1274		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN				LOSS	GAIN		LOSS	GAIN	
NORTH	17.9	15.8	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	9	161	143			0	0	0	10	179	158
EAST	17.9	41.4	0	0	0	40	714	1657	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
SOUTH	17.9	24.8	38	678	941	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	10	179	248
WEST	17.9	41.4	0	0	0	0	0	0	124	2214	5136		0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	5	89	207
SKYLT.	30.6	101.2	0	0	0	0	0	0	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	45	1082	209	20	481	93			20	481	93	20	481	93
NET EXPOSED WALL	2.6	0.5	512	1340	259	279	730	141	734	1921	371		0	0	0	121	317	61	159	416	80	244	638	123			161	420	81	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	588	1963	380
EXPOSED CLG	1.4	0.7	0	0	0	0	0	0	0	0	0		72	99	49	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.2	1.1	0	0	0	0	0	0	10	22	11		0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
EXPOSED FLOOR	2.2	0.4	0	0	0	0	0	0	0	0	0		28	61	12	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0			0			0				0			0			0			0								6613		
SLAB ON GRADE HEAT LOSS			0			0			0				0			0			0			0					0					
SUBTOTAL HT LOSS			2018			1444			4157				161			317			1498			1280					901			9503		
SUB TOTAL HT GAIN					1200			1798			5519				61			61			290			359					174			1086
LEVEL FACTOR / MULTIPLIER			0.30	0.56		0.30	0.56		0.30	0.56			0.20	0.32		0.30	0.56		0.30	0.56		0.30	0.56							0.50	0.97	
AIR CHANGE HEAT LOSS			1138			814			2344					51			179			845			722								10070		
AIR CHANGE HEAT GAIN					105			157			481				5			5			25			31									110
DUCT LOSS			0			0			0				21			0			0			0								0		
DUCT GAIN					0			0			0				99			0			0			0									0
HEAT GAIN PEOPLE	240		0		0	0		0	1		240		1		240	0		0	0		0	0		0			0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					686			686			686				686			0			0			686					0			686
TOTAL HT LOSS BTU/H			3156			2258			6501				233			495			2343			2002					901			19573		
TOTAL HT GAIN x 1.3 BTU/H					2588			3433			9003				1420			87			409			1400					226			2446

TOTAL HEAT GAIN BTU/H: 43136 TONS: 3.59 LOSS DUE TO VENTILATION LOAD BTU/H: 2552 STRUCTURAL HEAT LOSS: 54497 TOTAL COMBINED HEAT LOSS BTU/H: 57049

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

TOWN OF MILTON
PLANNING AND DEVELOPMENT
BUILDING PERMIT: 17-4690
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 19, 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

RECEIVED
TOWN OF MILTON
MAR 29, 2017
17-4690
BUILDING DIVISION

HVAC DESIGNS LTD.

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SITE NAME: LECCO RIDGE
BUILDER: GREENPARK HOMES
LOT 100
TYPE: JUNIPER 9
DATE: Mar-17
GFA: 3475
LO# 73317

HEATING CFM	1316	COOLING CFM	1316
TOTAL HEAT LOSS	54,497	TOTAL HEAT GAIN	42,642
AIR FLOW RATE CFM	24.15	AIR FLOW RATE CFM	30.86

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	0.02
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

~*AMANA
AMVC960804CNA 80

FAN SPEED	
LOW	1316
MEDLOW	0
MEDIUM	1389
MEDIUM HIGH	0
HIGH	1396

AFUE = 96.0 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 76,800
DESIGN CFM = 1316
CFM @ .6 " E.S.P.
TEMPERATURE RISE 54 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	8	5
R/A	0	0	5	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	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	ENS	BED-2	BED-3	BED-4	BATH	BED-3	BED-4	MBR	ENS-5	LV/DN	OFF	KT/FM	KT/FM	KT/FM	MUD	PWD	FOY	ENS-4	BED-5	BAS	BAS	BAS
RM LOSS MBH.	1.28	0.89	0.89	1.23	2.34	1.34	0.83	2.34	1.34	1.28	0.77	3.16	2.26	2.17	2.17	2.17	2.00	0.50	2.34	0.90	1.59	4.09	4.09	4.09
CFM PER RUN HEAT	31	22	22	30	57	32	20	57	32	31	19	76	55	52	52	52	48	12	57	22	39	99	99	99
RM GAIN MBH.	2.04	0.81	0.81	1.87	2.81	2.16	0.36	2.81	2.16	2.04	0.51	2.59	3.43	3.00	3.00	3.00	1.40	0.09	0.41	0.83	2.44	0.53	0.53	0.53
CFM PER RUN COOLING	63	25	25	58	87	67	11	87	67	63	16	80	106	93	93	93	43	3	13	26	75	16	16	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16
ACTUAL DUCT LGH.	27	59	43	47	47	75	51	50	66	41	21	39	59	22	31	39	44	19	45	65	50	38	29	13
EQUIVALENT LENGTH	150	180	140	170	130	180	150	140	170	150	190	160	180	150	150	120	120	160	130	140	160	110	150	170
TOTAL EFFECTIVE LENGTH	177	239	183	217	177	255	201	190	236	191	211	199	239	172	181	159	164	179	175	205	210	148	179	183
ADJUSTED PRESSURE	0.1	0.07	0.09	0.08	0.09	0.07	0.09	0.09	0.07	0.09	0.08	0.09	0.07	0.09	0.09	0.1	0.1	0.1	0.1	0.08	0.08	0.11	0.09	0.09
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	4	5	6	6	6	5	4	4	5	4	5	5	6	6
HEATING VELOCITY (ft/min)	228	252	252	220	419	235	229	419	235	228	218	558	280	265	265	382	551	138	419	252	286	727	505	505
COOLING VELOCITY (ft/min)	463	287	287	426	639	492	126	639	492	463	184	587	540	474	474	683	493	34	95	298	551	117	82	82
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10
TRUNK	B	A	B	A	D	C	D	D	C	B	B	D	C	B	A	A	A	D	C	C	D	A	B	D

RUN #	25	26	27
ROOM NAME	BAS	BAS	LAUN
RM LOSS MBH.	4.09	4.09	0.23
CFM PER RUN HEAT	99	99	6
RM GAIN MBH.	0.53	0.53	1.42
CFM PER RUN COOLING	16	16	44
ADJUSTED PRESSURE	0.16	0.16	0.17
ACTUAL DUCT LGH.	37	49	38
EQUIVALENT LENGTH	90	150	180
TOTAL EFFECTIVE LENGTH	127	199	218
ADJUSTED PRESSURE	0.13	0.08	0.08
ROUND DUCT SIZE	5	6	4
HEATING VELOCITY (ft/min)	727	505	69
COOLING VELOCITY (ft/min)	117	82	505
OUTLET GRILL SIZE	3X10	4X10	3X10
TRUNK	D	C	D

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	303	0.07	9.3	10	x	8	545	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	557	0.07	11.6	16	x	8	627	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	297	0.07	9.2	10	x	8	535	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	762	0.07	13.1	20	x	8	686	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	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	876	0.05	15	26	x	8	606
TRUNK Y	675	0.05	13.6	22	x	8	552
TRUNK Z	440	0.05	11.6	16	x	8	495
DROP	1316	0.05	17.5	24	x	12	658

RETURN AIR #	1	2	3	4	5	6	7									BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	135	95	175	85	175	365	85	0	0	0	0	0	0	0	0	201
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	58	57	59	22	24	54	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	230	145	165	205	185	225	190	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	272	203	222	264	207	249	244	1	1	1	1	1	1	1	1	159
ADJUSTED PRESSURE	0.05	0.07	0.07	0.06	0.07	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	7.5	6	7.5	6	7.5	10.3	6	0	0	0	0	0	0	0	0	7.5
INLET GRILL SIZE	8	8	8	8	8	8	8	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	30	14	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.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

HVAC DESIGNS LTD.
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TYPE: JUNIPER 9 LO # 73317
SITE NAME: LECCO RIDGE LOT 100

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	4	@ 10.6 cfm	42.4	cfm
Kitchen & Bathrooms	6	@ 10.6 cfm	63.6	cfm
Other Rooms	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.		TOTAL	212.0	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	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY — 9.32.3.5.

Total Ventilation Capacity	212	cfm
Less Principal Ventil. Capacity	96	cfm
Required Supplemental Capacity	116.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 50H Location: BSMT

96.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
96.0 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
ENS-5	QTXEN050C	50	✓	0.3
PWD	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR — 9.32.3.11.

Model: VANEE 50H

96 cfm high 47 cfm low

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

LOCATION OF INSTALLATION

Lot: C

Township Pl

Address

Roll #

RECEIVED
TOWN OF MILTON
MAR 29, 2017
17-4690
BUILDING DIVISION

BUILDER: GR

Name:

Address:

City:

Telephone #:

TOWN OF MILTON
PLANNING AND DEVELOPMENT
BUILDING PERMIT: 17-4690
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 19, 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: March-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

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

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: JUNIPER 9 LOT 100 **BUILDER:** GREENPARK HOMES
SFQT: 3475 **LO#** 73317 **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:	DETACHED	# 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 (ft^3):	49192.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.5 ft
LENGTH: 60.0 ft	WIDTH: 38.0 ft	EXPOSED PERIMETER:	196.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package ENERGYSTAR
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 + 5
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

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MICHAEL O'ROURKE

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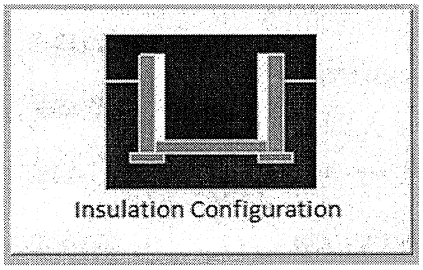
Residential Foundation Thermal Load Calculator

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):	**18.3**	 Insulation Configuration
Floor Width (m):	**11.6**	
Exposed Perimeter (m):	**0.0**	
Wall Height (m):	**2.9**	
Depth Below Grade (m):	**2.0**	
Window Area (m^2):	**2.3**	
Door Area (m^2):	**3.7**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**1938**	

TYPE: JUNIPER 9
LO# 73317

LOT 100

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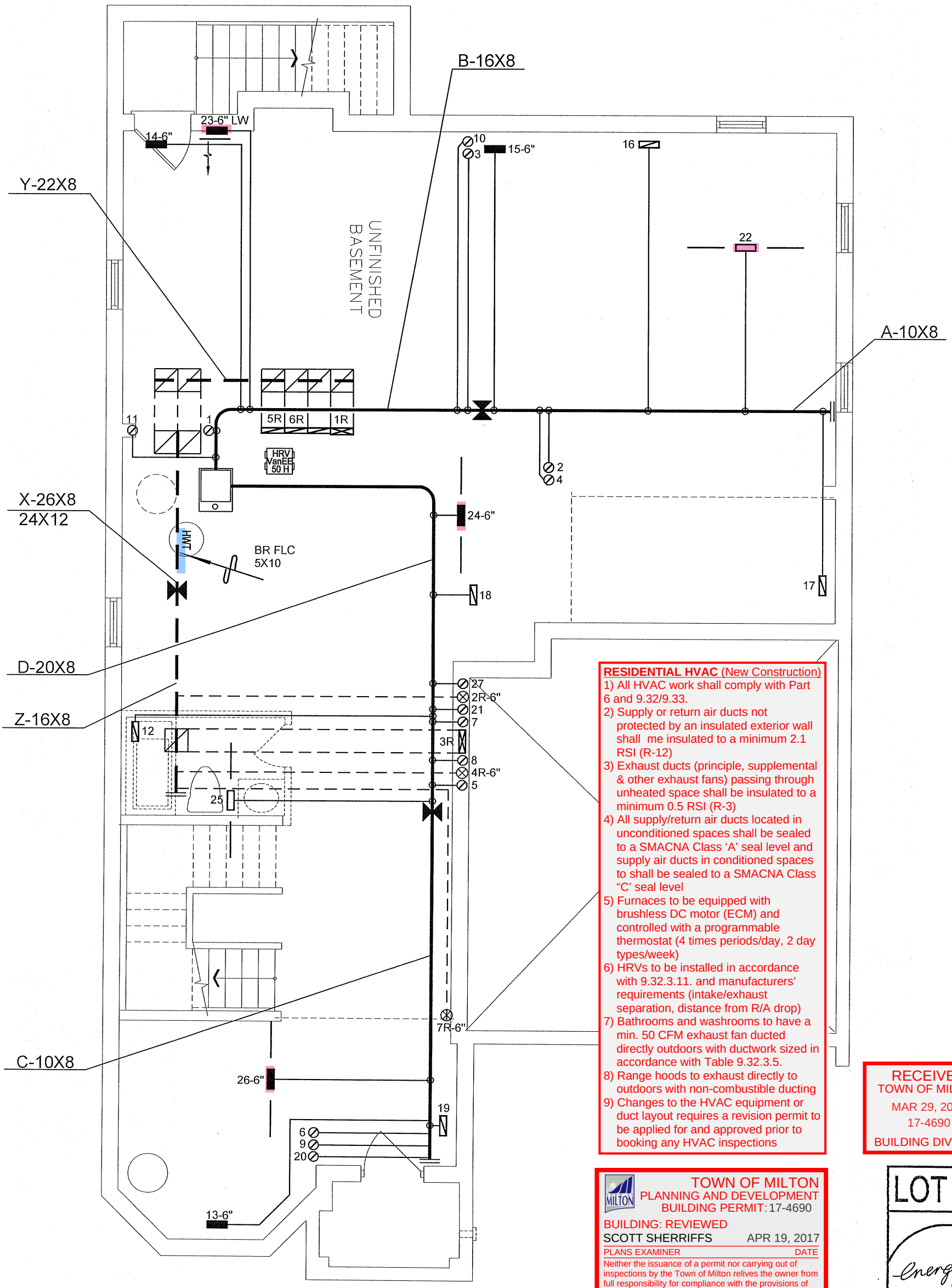
Air Infiltration Residential Load Calculator

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):	7.01	
Building Configuration		
Type:	Detached	
Number of Stories:	Two	
Foundation:	Full	
House Volume (m^3):	1393.0	
Air Leakage/Ventilation		
Air Tightness Type:	Present (1961-) (3.57 ACH)	
Custom BDT Data:	ELA @ 10 Pa.	1856.9 cm^2
	3.57	ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust
	45.3	45.3
Flue Size		
Flue #:	#1 #2 #3 #4	
Diameter (mm):	0 0 0 0	
Natural Infiltration Rates		
Heating Air Leakage Rate (ACH/H):	**0.316**	
Cooling Air Leakage Rate (ACH/H):	**0.108**	

TYPE: JUNIPER 9 LOT 100
LO# 73317



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

RECEIVED
TOWN OF MILTON
MAR 29, 2017
17-4690
BUILDING DIVISION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
BUILDING PERMIT: 17-4690
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 19, 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

LOT 100

ENERGY STAR

CSA-F280-12

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

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Client
GREENPARK HOMES

Project Name
LECCO RIDGE
MILTON, ONTARIO

LOT 100
JUNIPER 9 3475 sqft

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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.

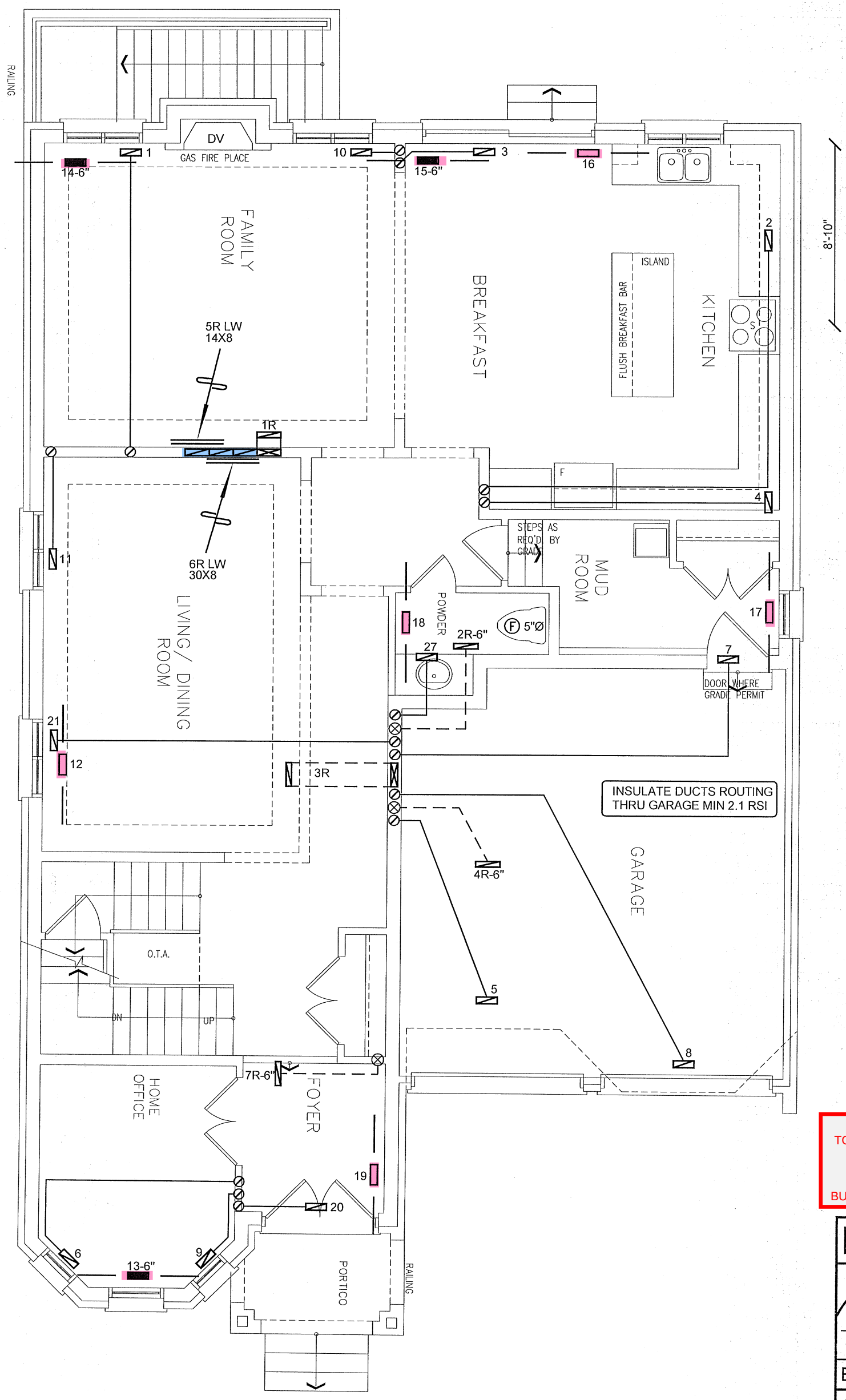
HEAT LOSS 57049 BTU/H		
UNIT DATA		
MAKE	AMANA	
MODEL	AMVC960804CNA	
INPUT	80	MBTU/H
OUTPUT	76.8	MBTU/H
COOLING	3.5	TONS
FAN SPEED	1316	cfm @ 0.5" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	14	5	6
1ST FLOOR	8	2	2
BASEMENT	5	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 MAR/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 73317



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TOWN OF MILTON
MAR 29, 2017
17-4690
BUILDING DIVISION

LOT 100

energy

ENERGY STAR

CSA-F280-12

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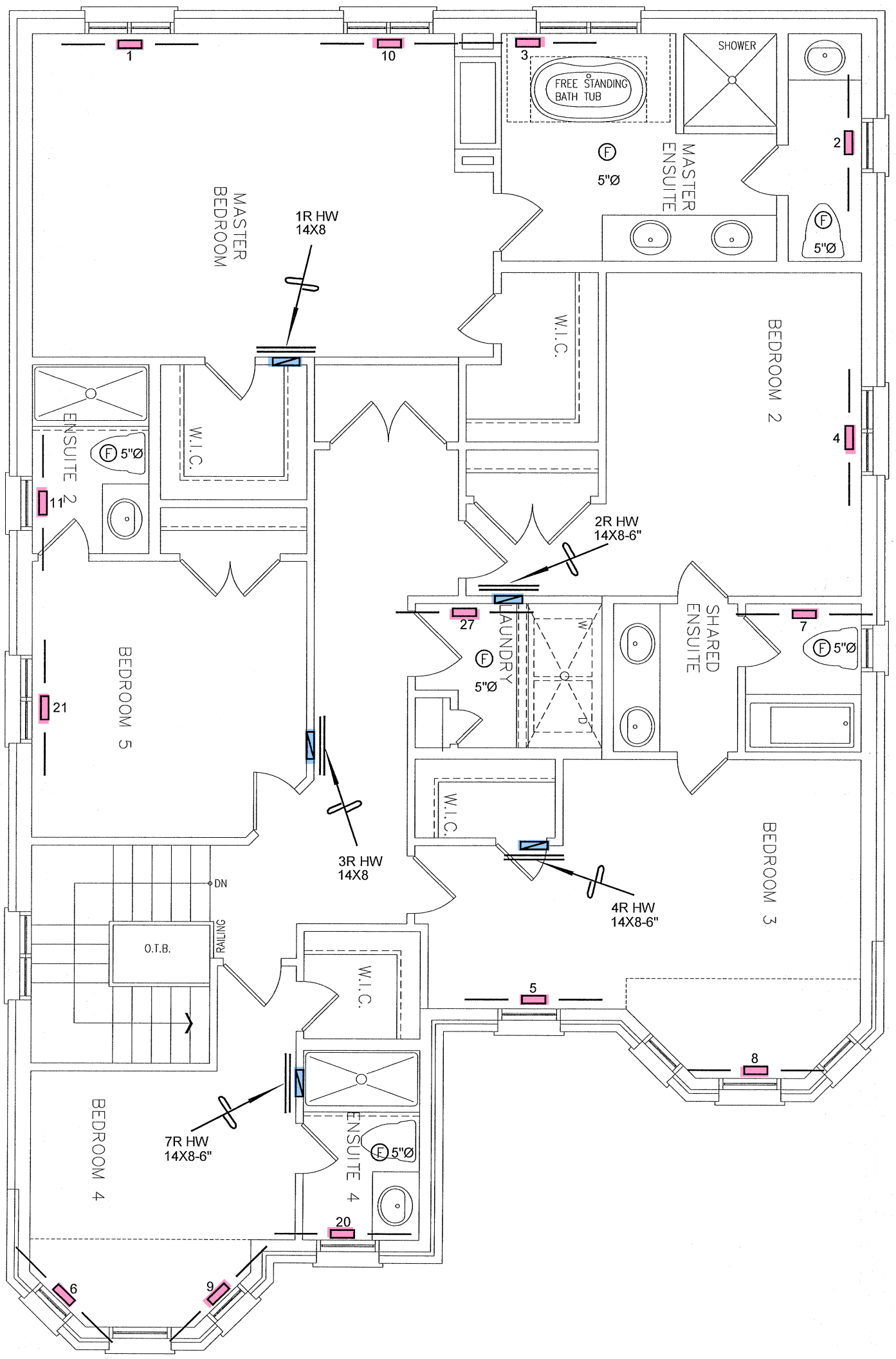
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date MAR/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 73317



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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date MAR/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 73317