

SITE NAME: LECCO RIDGE
BUILDER: GREENPARK HOMES

WUP
TYPE: JUNIPER 3

GFA: 2765

DATE: Feb-17
LO# 72383

WINTER NATURAL AIR CHANGE RATE 0.303
SUMMER NATURAL AIR CHANGE RATE 0.104

HEAT LOSS AT °F. 72
HEAT GAIN AT °F. 14

CSA-F280-12
ENERGYSTAR

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	BED-2	BED-3	BED-4	BATH	ENS-2	ENS-2			
			16	31	23	43	32	10	16	16			
			9	9	10	10	9	9	9	9			
GRS.WALL AREA	FACTORS		150	279	230	430	288	90	144	144			
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	23 411 364	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0			
EAST	17.9 41.4	0 0 0	0 0 0	45 803 1864	0 0 0	0 0 0	0 0 0	0 0 0	13 232 538	13 232 538			
SOUTH	17.9 24.8	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	7 125 173	0 0 0	0 0 0			
WEST	17.9 41.4	36 643 1491	16 286 663	0 0 0	0 0 0	16 286 663	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	114 299 58	240 628 121	185 484 94	385 1007 195	272 712 138	83 217 42	131 343 66	131 343 66	131 343 66			
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	200 276 137	196 270 134	193 266 132	231 318 158	162 223 111	60 83 41	60 83 41	60 83 41			
NO ATTIC EXPOSED CLG	2.2 1.1	0 0 0	20 45 22	70 157 78	95 213 106	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	266 583 113	0 0 0	0 0 0	0 0 0	0 0 0	60 132 25	60 132 25			
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		1405	1645	2298	2290	1316	565	789	789	789			
SUB TOTAL HT GAIN		1779	1308	2283	2297	959	326	671	671	671			
LEVEL FACTOR / MULTIPLIER	0.20 0.29	0.20 0.29	475	0.20 0.29	0.20 0.29	0.20 0.29	0.20 0.29	0.20 0.29	0.20 0.29	0.20 0.29			
AIR CHANGE HEAT LOSS	406	138	101	664	661	380	163	228	228	228			
AIR CHANGE HEAT GAIN		0	0	177	178	74	25	52	52	52			
DUCT LOSS		0	0	296	0	0	0	102	102	102			
DUCT GAIN		0	0	334	0	0	0	72	72	72			
HEAT GAIN PEOPLE	240	2	480	1	240	1	240	0	0	0			
HEAT GAIN APPLIANCES/LIGHTS		637	637	637	637	637	637	0	0	0			
TOTAL HT LOSS BTU/H		1811	2120	3258	2951	1696	729	1119	1119	1119			
TOTAL HT GAIN x 1.3 BTU/H		3944	2660	4771	4357	2482	457	1034	1034	1034			

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 3 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 relieves 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 of Ontario, By-laws of the Region of Halton and Town of Milton

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 3
BUILDING DIVISION

ROOM USE	EXP. WALL	CLG. HT.	LVDN	KT/FM	LAUN	W/R	FOY	PANT			WUP	BAS
			48	51	35	7	18	14			15	168
			10	10	12	10	11	10			10	10
GRS.WALL AREA	FACTORS		480	510	420	70	198	140			143	1159
GLAZING	LOSS GAIN		LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN			LOSS GAIN	LOSS GAIN
NORTH	17.9 15.8	20 357 317	0 0 0	0 0 0	9 161 143	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	10 179 158	
EAST	17.9 41.4	20 357 828	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	
SOUTH	17.9 24.8	48 857 1189	0 0 0	0 0 0	0 0 0	7 125 173	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
WEST	17.9 41.4	0 0 0	102 1821 4225	0 0 0	0 0 0	0 0 0	0 0 0	7 125 290	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	0 0 0	
DOORS	24.1 4.7	0 0 0	0 0 0	0 0 0	20 481 93	0 0 0	45 1082 209	0 0 0	0 0 0	20 481 93	20 481 93	
NET EXPOSED WALL	2.6 0.5	392 1026 198	408 1068 206	391 1023 198	63 165 32	153 400 77	133 348 67	123 321 62	0 0 0	0 0 0	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	0 0 0	437 1458 282	
EXPOSED CLG	1.4 0.7	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	0 0 0	
NO ATTIC EXPOSED CLG	2.2 1.1	0 0 0	10 22 11	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 FLOOR	2.2 0.4	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	0 0 0	
BASEMENT/CRAWL HEAT LOSS		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	
SUBTOTAL HT LOSS		2597	2911	1665	290	1483	473	357			802	7421
SUB TOTAL HT GAIN		2532	4442	433	205	287	357				155	533
LEVEL FACTOR / MULTIPLIER	0.30 0.47	0.30 0.47	1380	0.30 0.47	0.30 0.47	0.30 0.47	0.30 0.47	0.30 0.47	0.30 0.47	0.30 0.47	0.50 0.91	
AIR CHANGE HEAT LOSS	1231	197	345	789	137	703	224	28			7443	
AIR CHANGE HEAT GAIN		0	0	0	0	0	0	0			0	
DUCT LOSS		0	0	0	0	0	0	0			0	
DUCT GAIN		0	0	0	0	0	0	0			0	
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0			0	
HEAT GAIN APPLIANCES/LIGHTS		637	637	637	637	637	637	0			0	
TOTAL HT LOSS BTU/H		3828	4291	2454	427	2186	697	802			14864	
TOTAL HT GAIN x 1.3 BTU/H		4375	7051	1435	288	402	500	202			763	

TOTAL HEAT GAIN BTU/H: 35176 TONS: 2.93 LOSS DUE TO VENTILATION LOAD BTU/H: 2354 STRUCTURAL HEAT LOSS: 43232 TOTAL COMBINED HEAT LOSS BTU/H: 45586

SITE NAME: LECCO RIDGE
BUILDER: GREENPARK HOMES

WUP
TYPE: JUNIPER 3

DATE: Feb-17

GFA: 2765 LO# 72383

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 43,232 TOTAL HEAT GAIN 34,721
AIR FLOW RATE CFM 26.16 AIR FLOW RATE CFM 32.57

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

#AMANA
AMEC960603BNA
FAN SPEED 60

AFUE = 96.0 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	9	4
R/A	0	0	4	2	1

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

MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

DESIGN CFM = 1131
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	3	4	5	6	7	8	9	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-2	BED-3	ENS-2	LV/DN	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	PANT	BAS	BAS	BAS	BAS
RM LOSS MBH	1.81	1.06	1.06	1.63	1.48	1.70	0.73	1.63	1.48	1.12	1.91	1.91	1.43	1.43	1.43	2.45	0.43	2.19	0.70	3.92	3.92	3.92	3.92
CFM PER RUN HEAT	47	28	28	43	39	44	19	43	39	29	50	50	37	37	37	64	11	57	18	102	102	102	102
RM GAIN MBH	3.94	1.33	1.33	2.39	2.18	2.48	0.46	2.39	2.18	1.03	2.19	2.19	2.35	2.35	2.35	1.43	0.29	0.40	0.50	0.24	0.24	0.24	0.24
CFM PER RUN COOLING	128	43	43	78	71	81	15	78	71	34	71	71	77	77	77	47	9	13	16	8	8	8	8
ADJUSTED PRESSURE	0.15	0.17	0.17	0.17	0.17	0.16	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	0.16	0.16	0.16
ACTUAL DUCT LGH.	39	51	45	48	52	32	26	52	55	54	16	32	21	27	39	36	9	42	44	24	30	19	29
EQUIVALENT LENGTH	140	120	150	130	150	170	150	120	180	110	80	110	160	110	150	170	110	110	130	190	130	90	120
TOTAL EFFECTIVE LENGTH	179	171	195	178	202	202	176	172	235	164	96	142	181	137	189	206	119	152	174	214	160	109	149
ADJUSTED PRESSURE	0.08	0.1	0.09	0.1	0.09	0.08	0.1	0.1	0.07	0.1	0.18	0.12	0.1	0.13	0.09	0.08	0.14	0.11	0.1	0.08	0.1	0.15	0.11
ROUND DUCT SIZE	6	4	4	5	5	5	4	5	5	4	5	5	5	5	5	5	4	4	4	6	6	6	6
HEATING VELOCITY (ft/min)	240	321	321	316	286	323	218	316	286	333	367	367	272	272	272	470	126	654	207	520	520	520	520
COOLING VELOCITY (ft/min)	653	493	493	573	521	595	172	573	521	390	521	521	565	565	565	345	103	149	184	41	41	41	41
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	B	A	A	B	C	B	D	B	C	B	D	C	B	B	A	A	D	C	A	B	A	D	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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SUPPLY AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT	VELOCITY		TRUNK	STATIC	ROUND	RECT	VELOCITY
	CFM	PRESS.	DUCT	DUCT	(ft/min)		CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK A	277	0.08	8.7	10	x 8	499	TRUNK G	0	0.00	0	0 x 8
TRUNK B	659	0.08	12	18	x 8	659	TRUNK H	0	0.00	0	0 x 8
TRUNK C	287	0.07	9.1	10	x 8	517	TRUNK I	0	0.00	0	0 x 8
TRUNK D	469	0.07	10.9	14	x 8	603	TRUNK J	0	0.00	0	0 x 8
TRUNK E	0	0.00	0	0	x 8	0	TRUNK K	0	0.00	0	0 x 8
TRUNK F	0	0.00	0	0	x 8	0	TRUNK L	0	0.00	0	0 x 8

RETURN AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT	VELOCITY		TRUNK	STATIC	ROUND	RECT	VELOCITY
	CFM	PRESS.	DUCT	DUCT	(ft/min)		CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK O	0	0.05	0	0	x 8	0	TRUNK O	0	0.05	0	0 x 8
TRUNK P	0	0.05	0	0	x 8	0	TRUNK P	0	0.05	0	0 x 8
TRUNK Q	0	0.05	0	0	x 8	0	TRUNK Q	0	0.05	0	0 x 8
TRUNK R	0	0.05	0	0	x 8	0	TRUNK R	0	0.05	0	0 x 8
TRUNK S	0	0.05	0	0	x 8	0	TRUNK S	0	0.05	0	0 x 8
TRUNK T	0	0.05	0	0	x 8	0	TRUNK T	0	0.05	0	0 x 8
TRUNK U	0	0.05	0	0	x 8	0	TRUNK U	0	0.05	0	0 x 8
TRUNK V	0	0.05	0	0	x 8	0	TRUNK V	0	0.05	0	0 x 8
TRUNK W	0	0.05	0	0	x 8	0	TRUNK W	0	0.05	0	0 x 8
TRUNK X	1131	0.05	16.5	32	x 8	636	TRUNK X	1131	0.05	16.5	32 x 8
TRUNK Y	365	0.05	10.8	14	x 8	469	TRUNK Y	365	0.05	10.8	14 x 8
TRUNK Z	270	0.05	9.7	12	x 8	405	TRUNK Z	270	0.05	9.7	12 x 8
DROP	1131	0.05	16.5	24	x 10	679	DROP	1131	0.05	16.5	24 x 10

RETURN AIR #	1	2	3	4	5	6																		BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	185	85	75	95	205	290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	196
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	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	53	57	63	46	20	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
EQUIVALENT LENGTH	140	175	210	175	135	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	193	232	273	221	155	200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	161
ADJUSTED PRESSURE	0.08	0.06	0.05	0.07	0.10	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	7.5	6	6	6	7.3	9.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.4
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	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	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14

TYPE: JUNIPER 3
SITE NAME: LECCO RIDGE

LO # 72383
WUP

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	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	169.6 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	79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	169.6	cfm
Less Principal Ventil. Capacity	86	cfm
Required Supplemental Capacity	83.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 40H+	Location: BSMT
86.0 cfm	3.0 sones
<input checked="" type="checkbox"/>	HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION					
CFM	ΔT °F	FACTOR	% LOSS		
86.0 CFM	72 F	X	1.08	X	0.35

SUPPLEMENTAL FANS		NUTONE
Location	Model	cfm HVI Sones
ENS	QTXEN050C	50 ✓ 0.3
BATH	QTXEN050C	50 ✓ 0.3
ENS-2	QTXEN050C	50 ✓ 0.3
W/R	QTXEN050C	50 ✓ 0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 40H+		
86 cfm high	37 cfm low	
65 % Sensible Efficiency	<input checked="" type="checkbox"/> HVI Approved	
@ 32 deg F (0 deg C)		

LOCATION OF INSTALLATION	
Lot:	
Township	
Address	
Roll #	

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 3
BUILDING DIVISION

TOWN OF MILTON PLANNING AND DEVELOPMENT JUNIPER 3 MODEL	
BUILDER:	SCOTT SHERRIFFS
Name:	APR 7, 2017
Address:	DATE
City:	Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relieves 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 of Ontario, By-laws of the Region of Halton and Town of Milton
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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	February-17

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: JUNIPER 3	WUP	BUILDER: GREENPARK HOMES
SFQT: 2765	LO# 72383	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 (ft³):	37957.5	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.9 ft
LENGTH: 46.0 ft	WIDTH: 38.0 ft	EXPOSED PERIMETER:	168.0 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

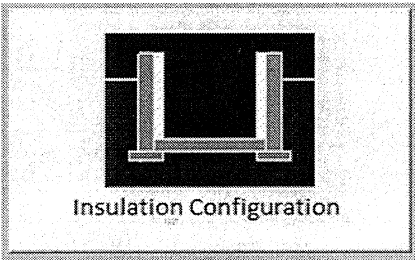
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TOWN OF MILTON
MAR 29, 2017
JUNIPER 3
BUILDING DIVISION

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke

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 sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	14.0	 Insulation Configuration
Floor Width (m):	11.6	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.9	
Depth Below Grade (m):	2.1	
Window Area (m ²):	0.9	
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):		1554

TYPE: JUNIPER 3

WUP

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Air Infiltration Residential Load Calculator

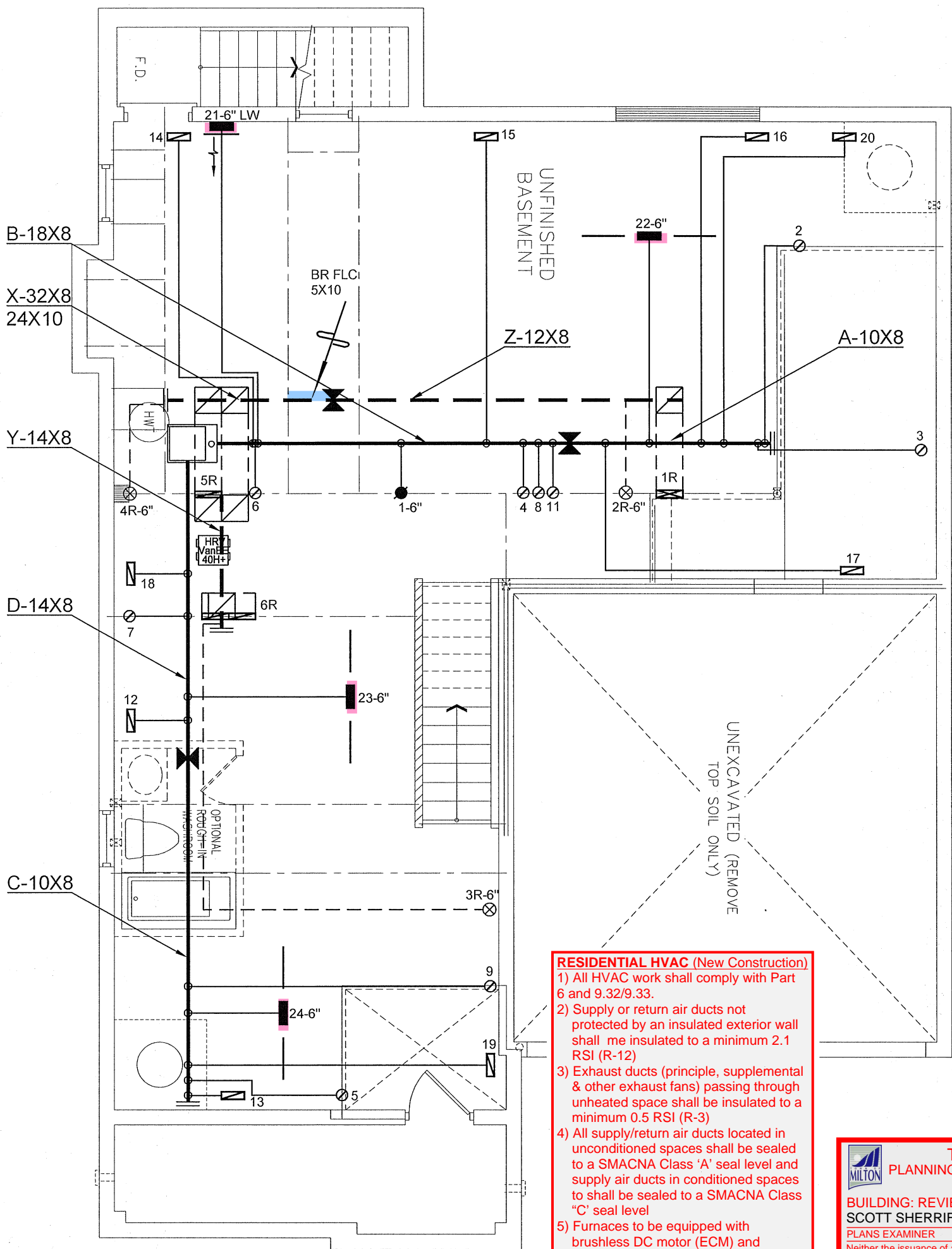
Supplemental tool for CAN/CSA-F280

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):	6.58			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1074.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1432.8 cm ²		
	3.57	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):	0.303			
Cooling Air Leakage Rate (ACH/H):	0.104			

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LO# 72383

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- 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 be 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 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
JUNIPER 3 MODEL

BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE

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MAR 29, 2017
JUNIPER 3
BUILDING DIVISION

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Energy

ENERGY STAR

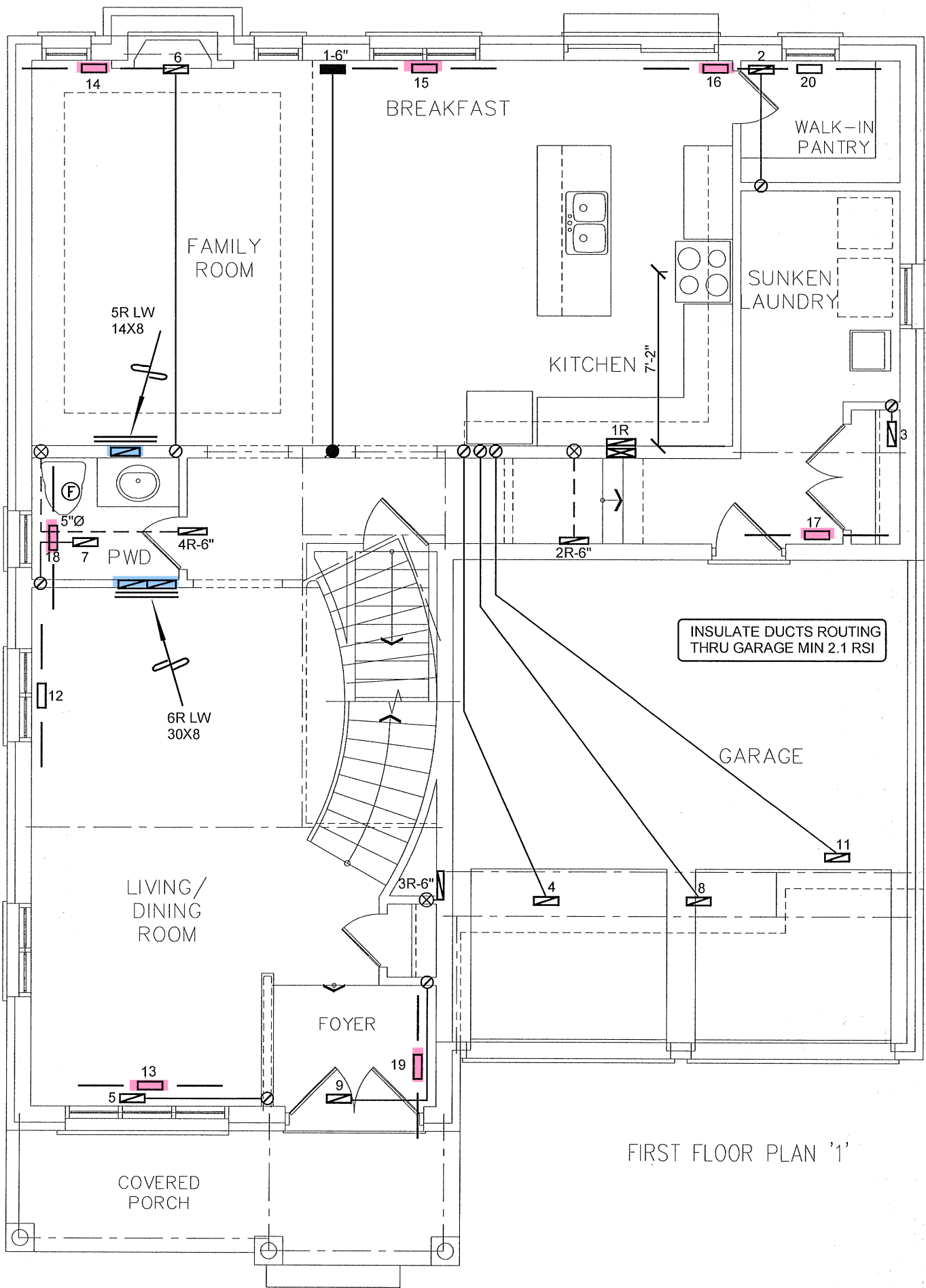
I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

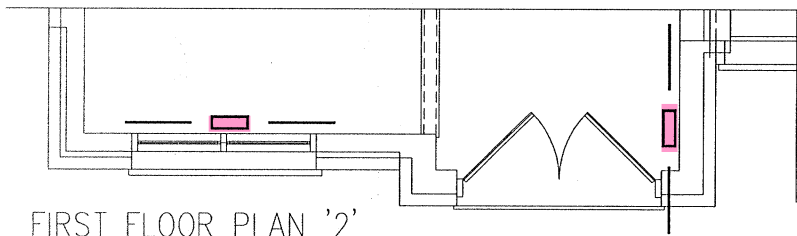
HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR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

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.

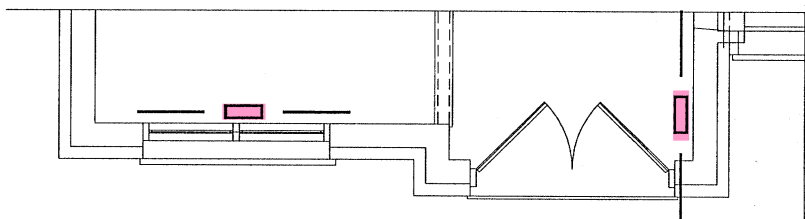
Client GREENPARK HOMES		<div><p>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</p><p>Installation to comply with the latest Ontario Building Code. 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.</p></div>	HEAT LOSS 45586 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title BASEMENT HEATING LAYOUT		
Project Name LECCO RIDGE MILTON, ONTARIO			MAKE AMANA	2ND FLOOR		10	4	4	Date FEB/2017	
			MODEL AMEC960603BNA	1ST FLOOR		9	2	2		
			INPUT 60 MBTU/H	BASEMENT		4	1	0		
			OUTPUT 57.6 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						
			COOLING 3.0 TONS							
JUNIPER 3 WUP 2765 sqft			FAN SPEED 1131 cfm @ 0.6" w.c.	Scale 3/16" = 1'-0"						
		BCIN# 19669								
		LO# 72383								



FIRST FLOOR PLAN '1'



FIRST FLOOR PLAN '2'



FIRST FLOOR PLAN '3'

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JUNIPER 3
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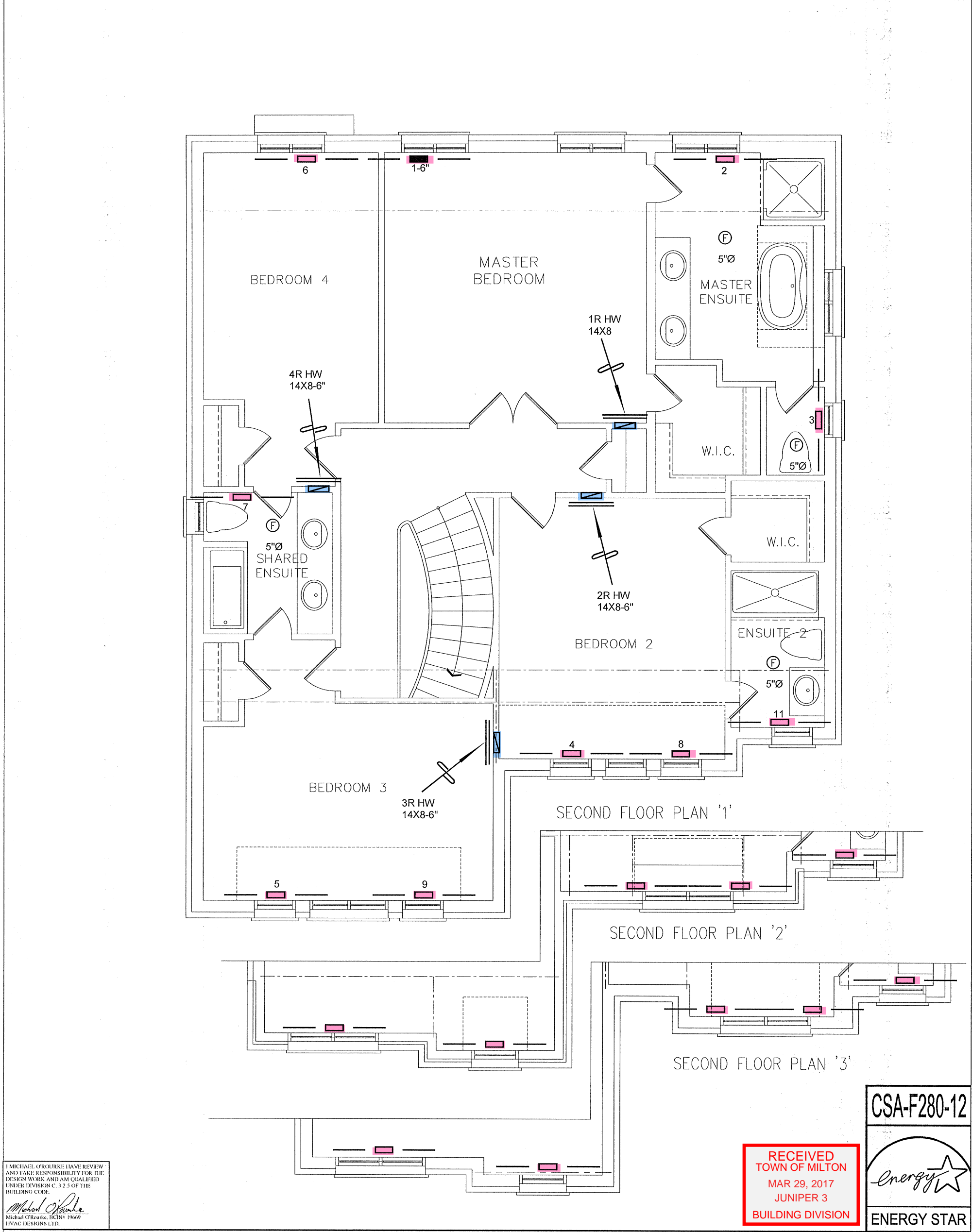
ENERGY STAR

I, MICHAEL O'ROURKE HAVE REVIEWED 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.	
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	FLOOR 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 GREENPARK HOMES		<div><p>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacadesigns.ca Web: www.hvacadesigns.ca Specializing in Residential Mechanical Design Services</p></div>	<div><p>TOWN OF MILTON PLANNING AND DEVELOPMENT JUNIPER 3 MODEL</p><p>BUILDING: REVIEWED SCOTT SHERRIFFS APR 7, 2017 PLANS EXAMINER DATE</p><p>Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relieves 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 of Ontario, By-laws of the Region of Halton and Town of Milton</p></div>	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name LECCO RIDGE MILTON, ONTARIO				Date FEB/2017	Scale 3/16" = 1'-0"
JUNIPER 3 WUP 2765 sqft		BCIN# 19669			
		LO# 72383			



I MICHAEL O'ROURKE HAVE REVIEWED 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.

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 3
BUILDING DIVISION

CSA-F280-12

ENERGY STAR

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

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Client
GREENPARK HOMES

Project Name
**LECCO RIDGE
MILTON, ONTARIO**

JUNIPER 3 WUP 2765 sqft

HVAC DESIGNS LTD.

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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.

**TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 3 MODEL**

BUILDING: REVIEWED
SCOTT SHERRIFFS **APR 7, 2017**
PLANS EXAMINER **DATE**

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Sheet Title
**SECOND FLOOR
HEATING
LAYOUT**

Date **FEB/2017**

Scale **3/16" = 1'-0"**

BCIN# 19669

LO# 72383