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: Dec-16 — WINTER NATURAL AIR CHANGE RATE 0.307 — HEAT LOSS ΔT °F. 72 — CSA-F280-12
BUILDER: GREENPARK HOMES — TYPE: JUNIPER 11 — GFA: 2961 — LO# 71355 — SUMMER NATURAL AIR CHANGE RATE 0.105 — HEAT GAIN ΔT °F. 14 — ENERGYSTAR

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH			ENS-4		
EXP. WALL			37			24			7			12			25			36			7			8		
CLG. HT.			10			9			9			9			9			10			9			9		
	FACTORS																									
GRS.WALL AREA	LOSS	GAIN	370			216			63			108			225			360			63			72		
GLAZING			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	0	0	0	17	303	269	0	0	0	0	0	0	7	125	111	0	0	0
EAST	17.9	41.4	0	0	0	0	0	0	0	0	0	0	0	0	20	357	828	36	643	1491	0	0	0	16	286	663
SOUTH	17.9	24.8	36	643	892	0	0	0	0	0	0	0	0	0	0	0	0	36	643	892	0	0	0	0	0	0
WEST	17.9	41.4	22	393	911	21	375	870	11	196	456	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
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
NET EXPOSED WALL	2.6	0.5	312	816	158	186	487	94	52	136	26	91	238	46	205	536	104	288	754	146	56	147	28	56	147	28
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
EXPOSED CLG	1.4	0.7	304	419	208	113	156	77	112	154	77	203	280	139	185	255	127	191	263	131	154	212	106	90	124	62
NO ATTIC EXPOSED CLG	2.2	1.1	0	0	0	30	67	33	0	0	0	0	0	0	20	45	22	40	90	45	0	0	0	0	0	0
EXPOSED FLOOR	2.2	0.4	0	0	0	0	0	0	0	0	0	0	0	0	193	423	82	0	0	0	133	292	56	70	153	30
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				2271			1245			487			821			1616			2392			775			710	
SUB TOTAL HT GAIN					2169			1217			559			454			1163			2704			301			782
LEVEL FACTOR / MULTIPLIER			0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27	
AIR CHANGE HEAT LOSS				619			339			133			224			441			652			211			193	
AIR CHANGE HEAT GAIN					148			83			38			31			79			184			21			63
DUCT LOSS				0			0			0			0			206			0			99			90	
DUCT GAIN					0			0			0			0			226			0			32			84
HEAT GAIN PEOPLE	240		2		480	1		240	0		0	1		240	1		240	1		240	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					775			0			0			775			775			775			0			0
TOTAL HT LOSS BTU/H				2890			1585			619			1045			2263			3044			1085			993	
TOTAL HT GAIN x 1.3 BTU/H					4644			2003			776			1951			3229			5075			460			1195

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 11F MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS — APR 11, 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
JUNIPER 11F
BUILDING DIVISION

ROOM USE			LV/DN				KT/FM				LAUN			W/R			FOY				WOD			BAS		
EXP. WALL			50				76				21			26			30				39			177		
CLG. HT.			10				10				9			11			10				10			10		
	FACTORS																									
GRS.WALL AREA	LOSS	GAIN	500				760				189			286			300				366			1266		
GLAZING			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	11	196	174	0	0	0		0	0	0	9	161	143
EAST	17.9	41.4	50	893	2071		0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
SOUTH	17.9	24.8	50	893	1238		50	893	1238		42	750	1040	0	0	0	56	1000	1387		0	0	0	0	0	0
WEST	17.9	41.4	0	0	0		95	1696	3935		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
DOORS	24.1	4.7	0	0	0		0	0	0		0	0	0	20	481	93	20	481	93		0	0	0	20	481	93
NET EXPOSED WALL	2.6	0.5	400	1047	202		615	1609	311		147	385	74	255	667	129	224	586	113		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		231	771	149	416	1387	268
EXPOSED CLG	1.4	0.7	12	17	8		6	8	4		240	331	164	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		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
BASEMENT/CRAWL HEAT LOSS				0				0				0			0			0						5909		
SLAB ON GRADE HEAT LOSS				0				0				0			0			0				0				
SUBTOTAL HT LOSS				2848				4206				1465			1345			2067				771			7938	
SUB TOTAL HT GAIN					3520				5489				1279			396			1593				149			504
LEVEL FACTOR / MULTIPLIER			0.30	0.46			0.30	0.48			0.20	0.27		0.30	0.46		0.30	0.46						0.50	0.92	
AIR CHANGE HEAT LOSS				1311				1936				399			619			951							8030	
AIR CHANGE HEAT GAIN					240				374				87			27			109							45
DUCT LOSS				0				0				0			0			0						0		
DUCT GAIN					0				0				0			0			0							0
HEAT GAIN PEOPLE	240		0		0		1		240		1		240	0		0	0		0		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					775				775				775			0			0				0			0
TOTAL HT LOSS BTU/H				4159				6142				1864			1964			3018				771			15968	
TOTAL HT GAIN x 1.3 BTU/H					5896				8941				3096			550			2212				194			713

TOTAL HEAT GAIN BTU/H: 41390 — TONS: 3.45 — LOSS DUE TO VENTILATION LOAD BTU/H: 2354 — STRUCTURAL HEAT LOSS: 47411 — TOTAL COMBINED HEAT LOSS BTU/H: 49765

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: JUNIPER 11
DATE: Dec-16
GFA: 2961
LO# 71355

HEATING CFM	1316	COOLING CFM	1316	furnace pressure	0.6
TOTAL HEAT LOSS	47,411	TOTAL HEAT GAIN	40,935	furnace filter	0.05
AIR FLOW RATE CFM	27.76	AIR FLOW RATE CFM	32.15	a/c coil pressure	0.2
				available pressure for s/a & r/a	0.35

~*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	11	7	5
R/A	0	0	5	2	1

plenum pressure s/a	0.18	r/a pressure	0.17
max s/a dif press. loss	0.02	r/a grille press. Loss	0.02
min adjusted pressure s/a	0.16	adjusted pressure r/a	0.15

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	10	11	12	13	14	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-4	MBR	ENS-4	LV/DN	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.44	1.58	0.62	1.05	2.26	1.52	1.09	1.52	1.44	0.99	2.08	2.08	2.05	2.05	2.05	1.86	1.96	3.02	3.35	3.35	3.35	3.35
CFM PER RUN HEAT	40	44	17	29	63	42	30	42	40	28	58	58	57	57	57	52	55	84	93	93	93	93
RM GAIN MBH.	2.32	2.00	0.78	1.95	3.23	2.54	0.46	2.54	2.32	1.20	2.95	2.95	2.98	2.98	2.98	3.10	0.55	2.21	0.18	0.18	0.18	0.18
CFM PER RUN COOLING	75	64	25	63	104	82	15	82	75	38	95	95	96	96	96	100	18	71	6	6	6	6
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.16	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	38	40	34	33	42	58	34	47	43	35	37	33	26	20	32	36	27	19	23	25	12	27
EQUIVALENT LENGTH	150	120	160	100	130	130	140	130	130	120	130	130	120	130	100	120	100	120	110	110	130	140
TOTAL EFFECTIVE LENGTH	188	160	194	133	172	188	174	177	173	155	167	163	146	150	132	156	127	139	133	135	142	167
ADJUSTED PRESSURE	0.09	0.11	0.09	0.13	0.09	0.09	0.1	0.09	0.1	0.11	0.1	0.1	0.11	0.11	0.12	0.1	0.14	0.12	0.12	0.12	0.11	0.1
ROUND DUCT SIZE	5	5	4	4	6	5	4	5	5	4	5	5	5	5	5	6	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	294	323	195	333	321	308	344	308	294	321	426	426	419	419	419	265	631	617	683	683	683	683
COOLING VELOCITY (ft/min)	551	470	287	723	530	602	172	602	551	436	698	698	705	705	705	510	207	521	44	44	44	44
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	A	B	A	E	E	E	D	B	E	D	D	A	A	B	B	A	E	A	B	E	D

RUN #	25
ROOM NAME	BAS
RM LOSS MBH.	3.35
CFM PER RUN HEAT	93
RM GAIN MBH.	0.18
CFM PER RUN COOLING	6
ADJUSTED PRESSURE	0.16
ACTUAL DUCT LGH.	36
EQUIVALENT LENGTH	120
TOTAL EFFECTIVE LENGTH	156
ADJUSTED PRESSURE	0.1
ROUND DUCT SIZE	5
HEATING VELOCITY (ft/min)	683
COOLING VELOCITY (ft/min)	44
OUTLET GRILL SIZE	3X10
TRUNK	D

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 11F
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	335	0.11	8.6	10	x	8	603	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	299	0.09	8.7	10	x	8	538	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	634	0.09	11.5	18	x	8	634	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	344	0.09	9.1	10	x	8	619	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	684	0.09	11.8	18	x	8	684	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	270	0.05	9.7	12	x	8	405
TRUNK X	1316	0.05	17.5	28	x	10	677
TRUNK Y	1100	0.05	16.3	30	x	8	660
TRUNK Z	565	0.05	12.7	18	x	8	565
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	155	85	75	135	380	135	135	0	0	0	0	0	0	0	0	216
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.	52	63	60	67	33	46	62	1	1	1	1	1	1	1	1	16
EQUIVALENT LENGTH	200	205	215	230	185	225	235	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	252	268	275	297	218	271	297	1	1	1	1	1	1	1	1	161
ADJUSTED PRESSURE	0.06	0.06	0.05	0.05	0.07	0.05	0.05	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	7.5	10.1	7.5	7.5	0	0	0	0	0	0	0	0	7.7
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	30	14	14	0	0	0	0	0	0	0	0	24

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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TYPE: JUNIPER 11 LO # 71355
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	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: 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	0.35

SUPPLEMENTAL FANS NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
ENS-4	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

65 % 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
JUNIPER 11F
BUILDING DIVISION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 11F MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 11, 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: December-16

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: JUNIPER 11 **BUILDER:** GREENPARK HOMES
SFQT: 2961 **LO#** 71355 **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):	40435.5	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:	6.5 ft
LENGTH: 38.5 ft	WIDTH: 50.0 ft	EXPOSED PERIMETER:	177.0 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

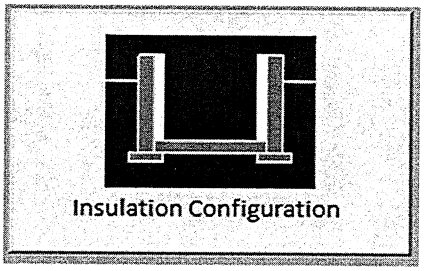
INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

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):	11.7	 Insulation Configuration
Floor Width (m):	15.2	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.9	
Depth Below Grade (m):	2.0	
Window Area (m^2):	0.8	
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):	**1731**

TYPE: JUNIPER 11
LO# 71355

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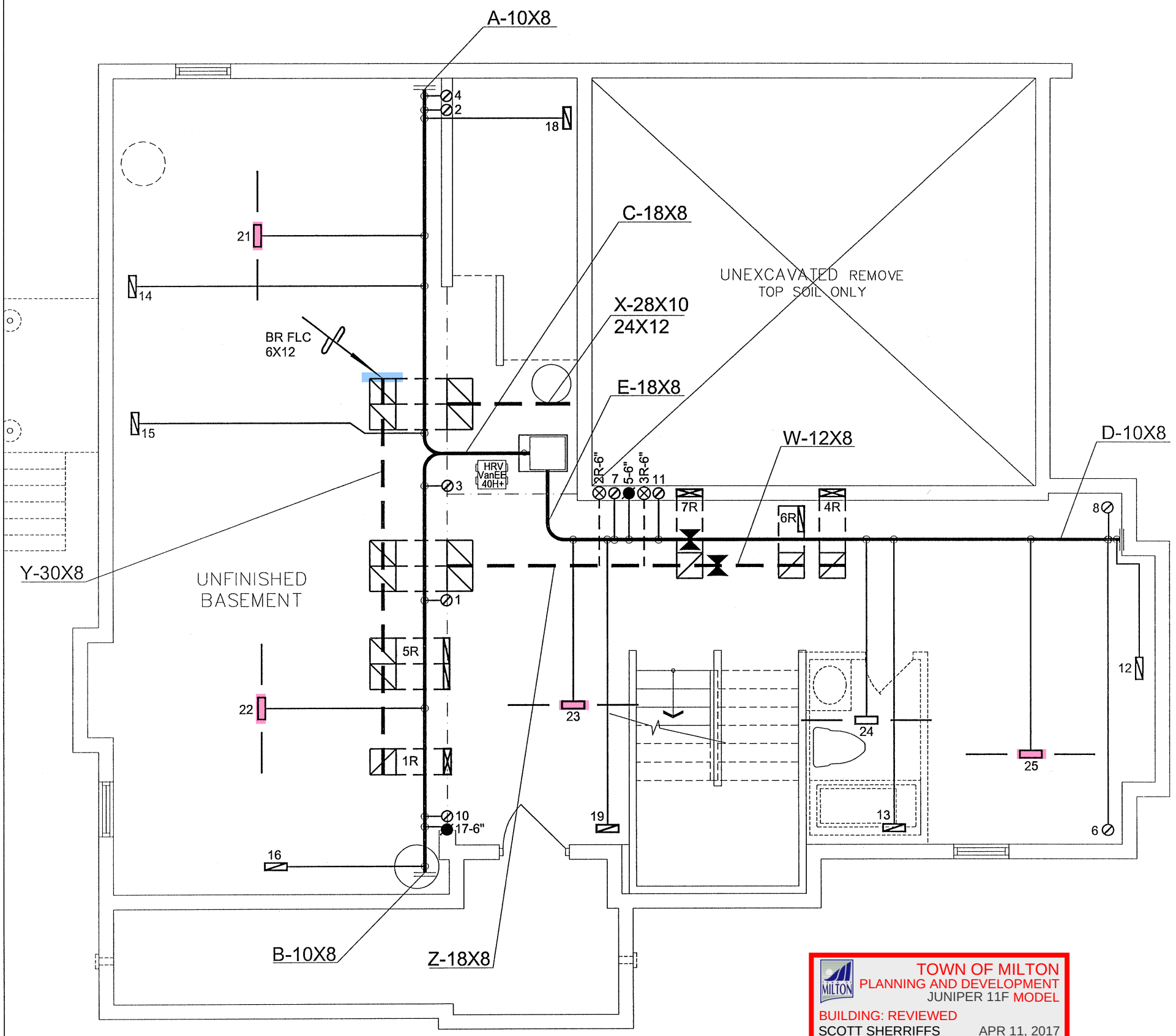
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	6.71
Building Configuration	
Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	1145.0
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1526.3 cm^2
	3.57 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):	**0.307**
Cooling Air Leakage Rate (ACH/H):	**0.105**

TYPE: JUNIPER 11
LO# 71355



BASEMENT FLOOR PLAN

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 11F MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 11, 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
JUNIPER 11F
BUILDING DIVISION

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

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

Client
GREENPARK HOMES

Project Name
LECCO RIDGE
MILTON, ONTARIO

JUNIPER 11 2961 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
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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 49765 BTU/H

UNIT DATA

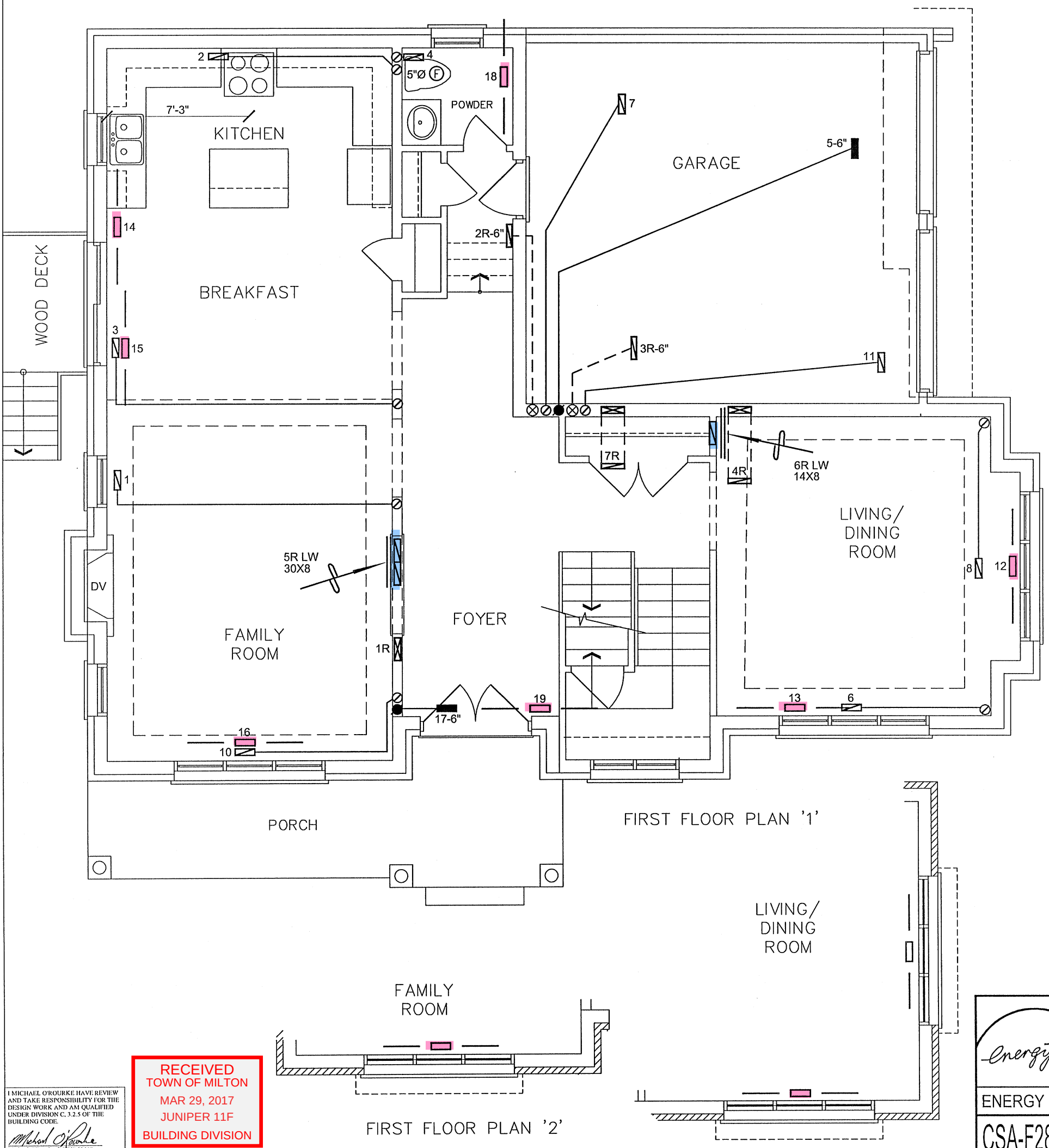
MAKE	AMANA
MODEL	AMVC960804CNA
INPUT	80 MBTU/H
OUTPUT	76.8 MBTU/H
COOLING	3.5 TONS
FAN SPEED	1316 cfm @ 0.5" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	11	5	3
1ST FLOOR	7	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 DEC/2016
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71355



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— ▬ —	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

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Sheet Title
FIRST FLOOR HEATING LAYOUT

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BCIN# 19669
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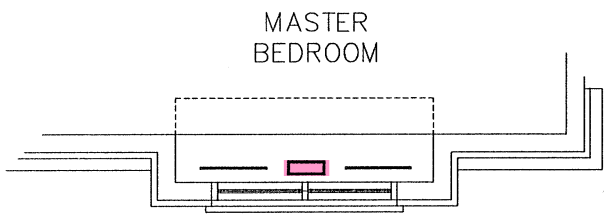
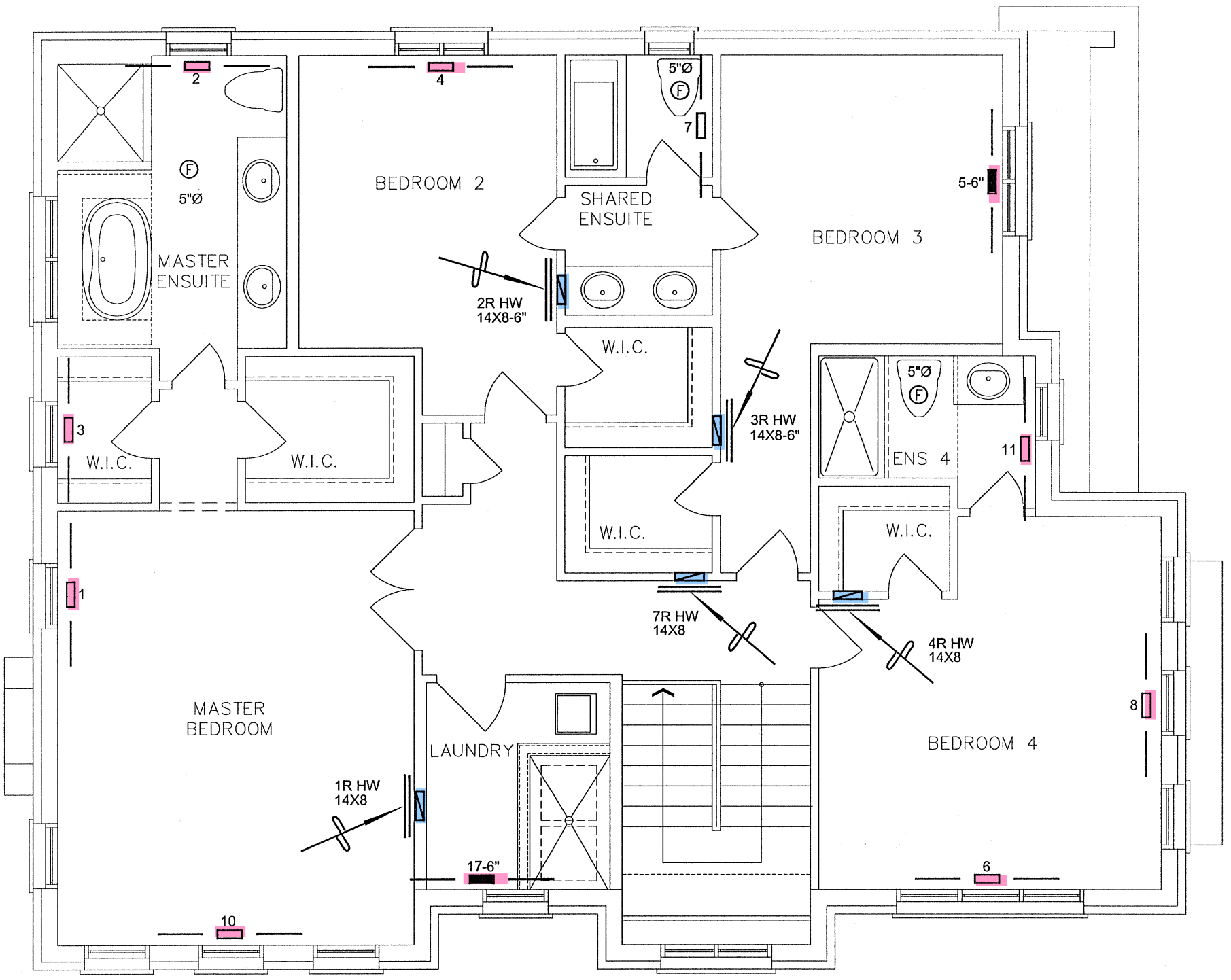
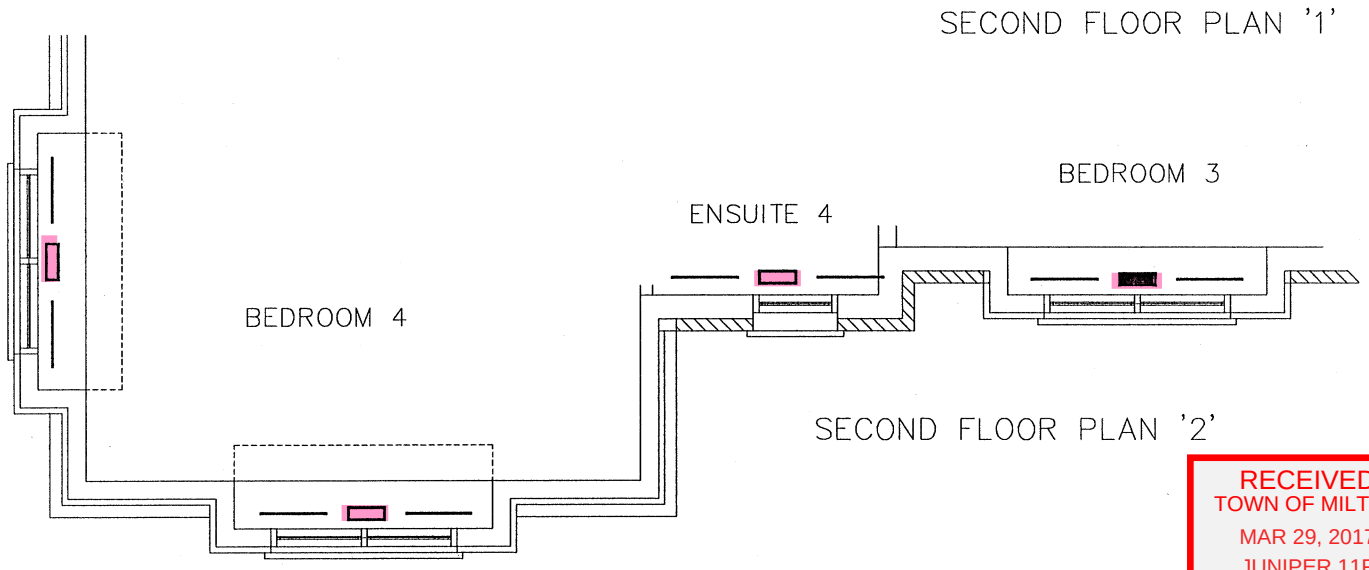


SECOND FLOOR PLAN '2'



SECOND FLOOR PLAN '1'



SECOND FLOOR PLAN '2'

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