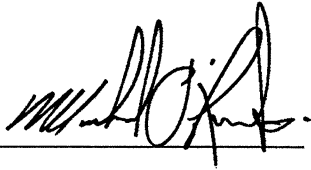


Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information			
Building number, street name		Unit no.	Lot/con.
Municipality VAUGHAN	Postal code	Plan number/ other description	
B. Individual who reviews and takes responsibility for design activities			
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.	
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdesigns.ca
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems			
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 25-7 – OPT 2ND Project: KLEINBURG GLEN	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name) ☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____ ☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u> ☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that: 1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.			
<u>January 20, 2016</u> Date		 Signature of Designer	

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d). of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

SITE NAME: KLEINBURG GLEN BUILDER: GOLD PARK HOMES										OPT. 2ND TYPE: 25-7		GFA: 3147		DATE: Jan-16 LO# 66917		WINTER NATURAL AIR CHANGE RATE 0.372 SUMMER NATURAL AIR CHANGE RATE 0.118		HEAT LOSS AT °F. 76 HEAT GAIN AT °F. 16		CSA-F280-12 SB-12 PACKAGE J	
ROOM USE EXP. WALL CLG. HT.		MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		ENS-2		HALL			
		31 10		21 9		10 9		26 9		30 10		29 9		20 9		5 9		77 10			
FACTORS																					
GRS.WALL AREA		310		189		90		234		285		261		180		45		732			
GLAZING		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN			
NORTH		24.1 17.3		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0			
EAST		24.1 42.5		14 337 595		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0			
SOUTH		24.1 26.1		0 0 0		0 0 0		16 385 417		0 0 0		0 0 0		22 530 574		8 193 209		10 241 261			
WEST		24.1 42.5		0 0 0		0 0 0		0 0 0		24 578 1020		16 385 680		0 0 0		0 0 0		0 0 0			
SKYLT.		24.1 88.1		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		25.2 5.3		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		20 505 106			
NET EXPOSED WALL		3.5 0.7		280 967 204		175 605 127		90 311 65		218 763 159		245 846 178		158 546 115		37 128 27		702 2423 510			
NET EXPOSED BSMT WALL ABOVE GR		6.3 1.3		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		1.5 0.8		228 347 173		104 158 79		48 73 36		249 378 189		160 243 122		190 289 144		60 91 46		0 0 0			
NO ATTIC EXPOSED CLG		2.5 1.2		0 0 0		0 0 0		0 0 0		40 98 49		0 0 0		0 0 0		0 0 0		0 0 0			
EXPOSED FLOOR		2.5 0.5		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		0 0		0 0		0 0		0 0			
SLAB ON GRADE HEAT LOSS		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0			
SUBTOTAL HT LOSS		2037		1100		384		1517		1821		1521		1365		412		3169			
SUB TOTAL HT GAIN		1526		801		102		765		1380		1003		833		281		877			
LEVEL FACTOR / MULTIPLIER		0.10 0.17		0.10 0.17		0.10 0.17		0.10 0.17		0.10 0.17		0.10 0.17		0.10 0.17		0.10 0.17		0.30 0.66			
AIR CHANGE HEAT LOSS		352		190		66		262		315		263		236		71		2100			
AIR CHANGE HEAT GAIN		107		56		7		54		97		70		59		20		62			
DUCT LOSS		0		0		0		0		0		0		0		0		0			
DUCT GAIN		2		0		0		1		240		1		0		0		0			
HEAT GAIN PEOPLE		415		415		0		415		415		415		415		415		415			
HEAT GAIN APPLIANCES/LIGHTS		2388		1290		450		1779		2136		1783		1600		483		5269			
TOTAL HT LOSS BTU/H		3287		1655		142		1917		2773		2247		1699		931		1761			

ROOM USE	FACTORS		LIV	DIN	KTFM	WIR-2	LAUN	WIR	FOY	GRT	BAS
EXP. WALL	CLG. HT.	LOSS GAIN	26 9	26 9	77 9	16 10	7 9	6 10	25 15	76 10	168 9
GRS.WALL AREA											
GLAZING		LOSS GAIN	229	229	678	152	62	60	375	722	1109
NORTH	24.1	17.3	0	0	0	0	0	0	0	0	0
EAST	24.1	42.5	0	0	0	0	0	0	0	0	0
SOUTH	24.1	26.1	0	0	51	10	0	9	0	75	6
WEST	24.1	42.5	0	0	1229	241	0	217	0	1807	145
SKYLT.	24.1	88.1	0	0	0	0	0	0	0	0	72
DOORS	25.2	5.3	40	0	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.7	189	229	587	142	62	51	44	647	0
NET EXPOSED BSMT WALL ABOVE GR	6.3	1.3	0	0	0	0	0	0	1111	2235	0
EXPOSED CLG	1.5	0.8	0	0	0	0	0	0	331	471	0
NO ATTIC EXPOSED CLG	2.5	1.2	0	0	0	0	0	0	1143	493	370
EXPOSED FLOOR	2.5	0.5	165	143	66	0	77	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	6389
SUBTOTAL HT LOSS			2067	1141	4404	731	402	393	2254	4042	8947
SUB TOTAL HT GAIN											
LEVEL FACTOR / MULTIPLIER	0.20		0.33	0.20	0.33	0.30	0.20	0.20	0.20	0.30	0.40
AIR CHANGE HEAT LOSS			680	376	1449	485	132	129	742	2678	826
AIR CHANGE HEAT GAIN			31	17	193	26	6	19	33	257	58
DUCT LOSS			275	152	585	0	53	0	0	0	0
DUCT GAIN			88	67	360	0	51	0	0	0	0
HEAT GAIN PEOPLE	240		0	0	1	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			415	415	415	1216	587	522	2996	415	0
TOTAL HT LOSS BTU/H			3022	1668	6439	507	723	660	660	6720	15964
TOTAL HT GAIN x 1.3 BTU/H			1260	962	5142	507	723	378	660	5629	1149

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES
TYPE: 25-7
OPT. 2ND
DATE: Jan-16
GFA: 3147
LO# 66917

HEATING CFM	1100	COOLING CFM	1100	AFUE = 95.0 %	
TOTAL HEAT LOSS	56,313	TOTAL HEAT GAIN	32,821	INPUT (BTU/H) = 66,000	
AIR FLOW RATE CFM	19.53	AIR FLOW RATE CFM	33.52	OUTPUT (BTU/H) = 63,000	
RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	8	8	4	4
R/A	0	4	2	1	1

All S/A diffusers 4"x10" unless noted otherwise on layout.

0.35	turnace pressure	0.35	turnace pressure	0.05	turnace filter	0.05	turnace filter
0.2	a/c coil pressure	0.2	a/c coil pressure	0.2	a/c coil pressure	0.2	a/c coil pressure
0.35	available pressure for s/a & r/a	0.35	available pressure for s/a & r/a	0.35	available pressure for s/a & r/a	0.35	available pressure for s/a & r/a
0.18	plenum pressure s/a	0.18	plenum pressure s/a	0.17	r/a pressure	0.17	r/a pressure
0.03	max s/a dir press. loss	0.03	max s/a dir press. loss	0.02	r/a grille press. loss	0.02	r/a grille press. loss
0.15	min adjusted pressure s/a	0.15	min adjusted pressure s/a	0.15	adjusted pressure r/a	0.15	adjusted pressure r/a

EL195UH070XE36B

FAN SPEED

LOW

MEDIUM

HIGH

0

995

1100

1200

.LENNOX

70

AFUE = 95.0 %

INPUT (BTU/H) = 66,000

OUTPUT (BTU/H) = 63,000

DESIGN CFM = 1100

CFM @ 5" E.S.P.

TEMPERATURE RISE

53

°F

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5'Ø unless noted otherwise on layout.

ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2	LIV	DIN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	GRT	BAS	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	2.39	1.29	0.45	1.78	2.14	1.78	1.30	0.48	3.02	1.67	2.15	2.15	2.15	0.59	0.52	3.00	3.36	3.99	3.99	3.99	3.99	3.99	
CFM PER RUN HEAT	47	25	9	35	42	35	31	9	59	33	42	42	42	11	10	59	66	78	78	78	78	78	
RM GAIN MBH	3.29	1.65	0.14	1.92	2.77	2.25	1.70	0.93	1.26	0.96	1.71	1.71	1.71	0.72	0.38	0.66	2.81	0.29	0.29	0.29	0.29	0.29	
CFM PER RUN COOLING	110	55	5	64	93	75	57	31	42	32	57	57	57	24	13	22	94	10	10	10	10	10	
ADJUSTED PRESSURE	0.15	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	0.16	0.17	0.17	0.17	0.17	0.17	
ACTUAL DUCT LGH	52	62	54	49	84	80	73	52	72	58	34	42	51	47	42	73	18	19	14	32	48	48	
EQUIVALENT LENGTH	180	190	190	180	230	210	200	220	190	150	180	130	120	150	160	170	100	100	130	120	90	90	
TOTAL EFFECTIVE LENGTH	232	252	244	229	314	290	273	220	262	214	172	171	197	197	202	243	118	119	144	152	138	138	
ADJUSTED PRESSURE	0.07	0.07	0.07	0.08	0.05	0.06	0.06	0.06	0.07	0.08	0.08	0.1	0.1	0.09	0.09	0.07	0.14	0.14	0.12	0.11	0.12	0.12	
ROUND DUCT SIZE	6	5	4	5	6	6	5	4	5	4	5	5	5	4	5	5	5	5	5	5	5	5	
HEATING VELOCITY (ft/min)	240	184	103	257	214	178	228	403	433	379	308	308	308	126	115	433	485	573	573	573	573	573	
COOLING VELOCITY (ft/min)	561	404	57	470	474	382	419	356	308	367	419	419	419	275	149	162	690	73	73	73	73	73	
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	
TRUNK	C	C	C	C	A	A	B	C	A	A	C	C	C	B	B	A	E	E	F	F	F	F	

25	26	27
RUN #	HALL	GRT
ROOM NAME	WIR-2	
RM LOSS MBH	1.22	3.36
CFM PER RUN HEAT	24	66
RM GAIN MBH	0.51	2.81
CFM PER RUN COOLING	17	94
ADJUSTED PRESSURE	0.17	0.16
ACTUAL DUCT LGH	15	34
EQUIVALENT LENGTH	120	100
TOTAL EFFECTIVE LENGTH	135	134
ADJUSTED PRESSURE	0.13	0.12
ROUND DUCT SIZE	4	5
HEATING VELOCITY (ft/min)	275	756
COOLING VELOCITY (ft/min)	195	433
OUTLET GRILL SIZE	3X10	3X10
TRUNK	F	F
		E

TRUNK	CFM	RECT	DUCT	STATIC PRESS.	ROUND DUCT	VELOCITY (ft/min)	TRUNK	CFM	RECT	DUCT	STATIC PRESS.	ROUND DUCT	VELOCITY (ft/min)	TRUNK	CFM	RECT	DUCT	STATIC PRESS.	ROUND DUCT	VELOCITY (ft/min)	TRUNK	CFM	RECT	DUCT	STATIC PRESS.	ROUND DUCT	VELOCITY (ft/min)
TRUNK A	228	0.05	9.1	0.05	10.2	410	TRUNK G	0	0.00	0	0.00	0	0	TRUNK H	0	0.00	0	0.00	0	0	TRUNK I	0	0.00	0	0.00	0	0
TRUNK B	315	0.06	8.5	0.06	10.2	473	TRUNK J	0	0.00	0	0.00	0	0	TRUNK K	0	0.00	0	0.00	0	0	TRUNK L	0	0.00	0	0.00	0	0
TRUNK C	216	0.05	8.5	0.05	10.2	486	TRUNK M	0	0.00	0	0.00	0	0	TRUNK N	0	0.00	0	0.00	0	0	TRUNK O	0	0.00	0	0.00	0	0
TRUNK D	531	0.05	12.4	0.05	14.8	546	TRUNK P	0	0.00	0	0.00	0	0	TRUNK Q	0	0.00	0	0.00	0	0	TRUNK R	0	0.00	0	0.00	0	0
TRUNK E	210	0.14	6.8	0.14	6.8	630	TRUNK S	0	0.00	0	0.00	0	0	TRUNK T	0	0.00	0	0.00	0	0	TRUNK U	0	0.00	0	0.00	0	0
TRUNK F	361	0.11	8.8	0.11	8.8	650	TRUNK V	0	0.00	0	0.00	0	0	TRUNK W	0	0.00	0	0.00	0	0	TRUNK X	0	0.00	0	0.00	0	0

RETURN AIR #	1	2	3	4	5	6	7	BR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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TYPE: 25-7
SITE NAME: KLEINBURG GLEN

LO # 66917
OPT. 2ND

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Other Rooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>212.0</u> 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	<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u>	cfm
Less Principal Ventil. Capacity	<u>95</u>	cfm
Required Supplemental Capacity	<u>117.0</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 50H
Location:	BSMT
<u>95.0</u> cfm	<u>3.0</u> sones
☒ HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION	
CFM	$\Delta T \cdot F$
95.0 CFM	76 F
X	X
FACTOR	% LOSS
1.08	0.34
X	X

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

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 50H	
<u>95</u>	cfm high	
<u>48</u>	cfm low	
<u>66</u>	% Sensible Efficiency	
@ 32 deg F (0 deg C)		
☒ HVI Approved		

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER:	
GOLD PARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

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:	
HRAI #	001820
Date:	January-16

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 25-7	OPT. 2ND	BUILDER: GOLD PARK HOMES
SFQT: 3147	LO# 66917	SITE: KLEINBURG GLEN

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	4
FRONT FACES:	WEST	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):	34679.8	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.40	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.6 ft
LENGTH: 65.0 ft	WIDTH: 19.0 ft	EXPOSED PERIMETER:	168.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package
	J
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	22
Basement Walls Minimum RSI (R)-Value	12
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	1.8
Skylights Maximum U-Value	2.8
Space Heating Equipment Minimum AFUE	0.94
HRV Minimum Efficiency	60%
Domestic Hot Water Heater Minimum EF	0.67

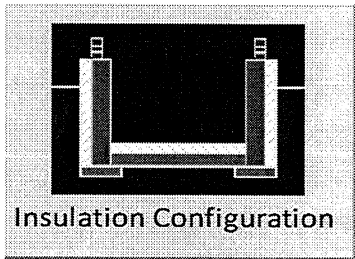
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	▼
Region:	Vaughan (Woodbridge)	▼
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Foundation Dimensions		
Floor Length (m):	19.8	 Insulation Configuration
Floor Width (m):	5.8	
Exposed Perimeter (m):	0	
Wall Height (m):	2.7	
Depth Below Grade (m):	2	
Window Area (m ²):	0.8	
Door Area (m ²):	0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1872	

51.2

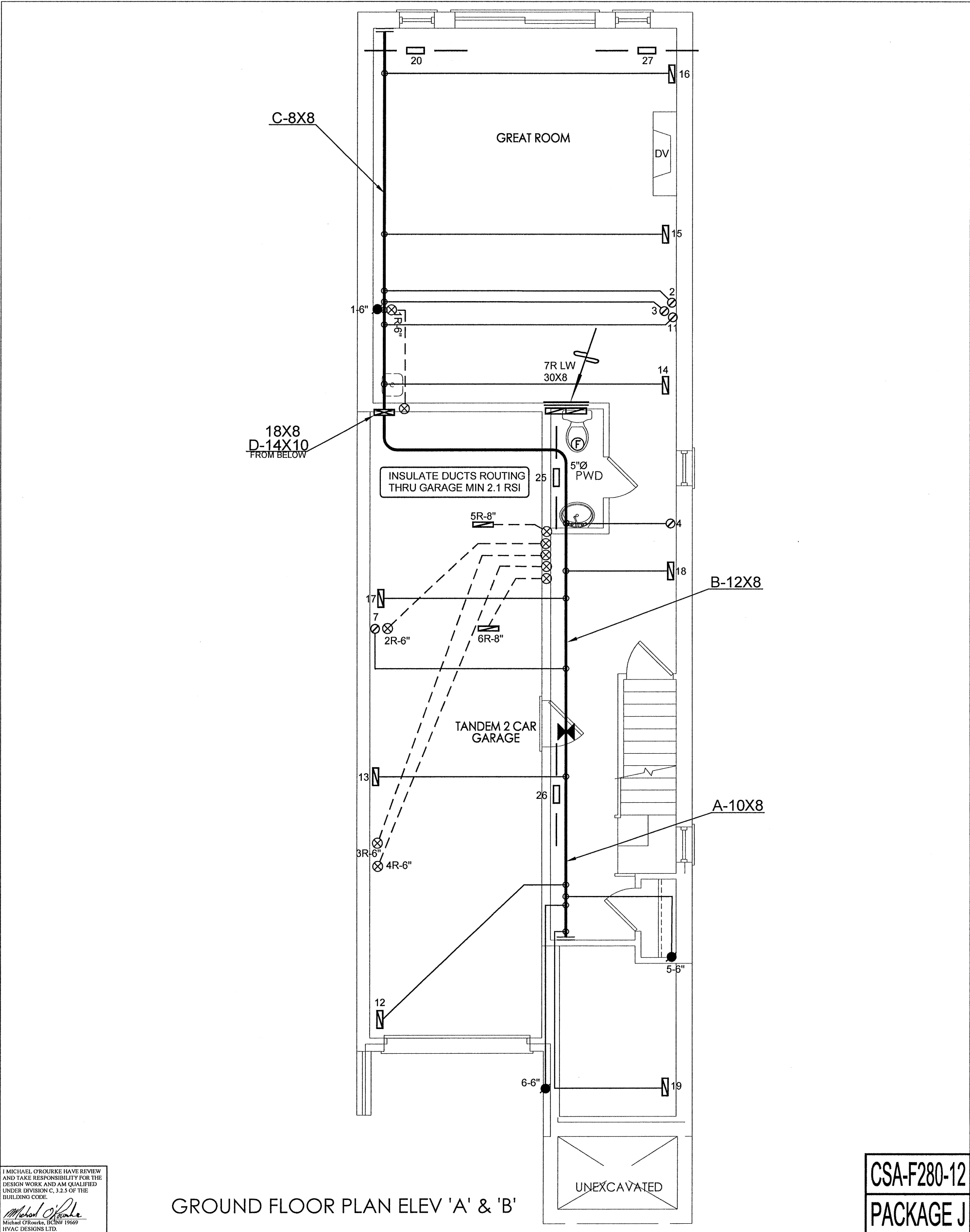
2.6 137.44

138.24

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
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):	8.99			
Building Configuration				
Type:	Detached			
Number of Stories:	Three			
Foundation:	Full			
House Volume (m ³):	982			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa. 716.42 cm ² 3.57 ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply:		Total Exhaust:	
	0		0	
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Change Rate (ACH/H):			0.372	
Cooling Air Change Rate (ACH/H):			0.118	



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.

GROUND FLOOR PLAN ELEV 'A' & 'B'

CSA-F280-12
PACKAGE J

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		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2016
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
25-7 OPT. 2ND	3147 sqft	LO#	66917	

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.

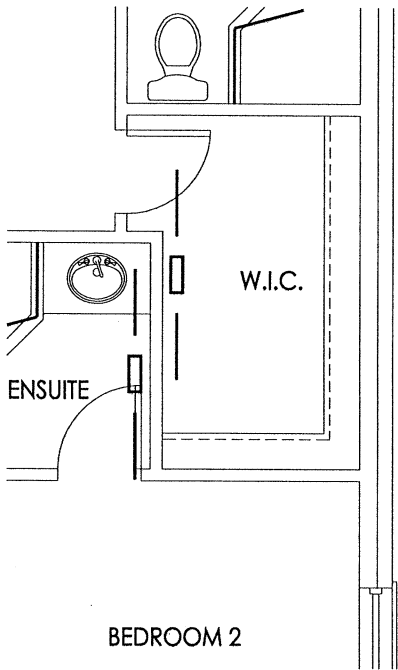
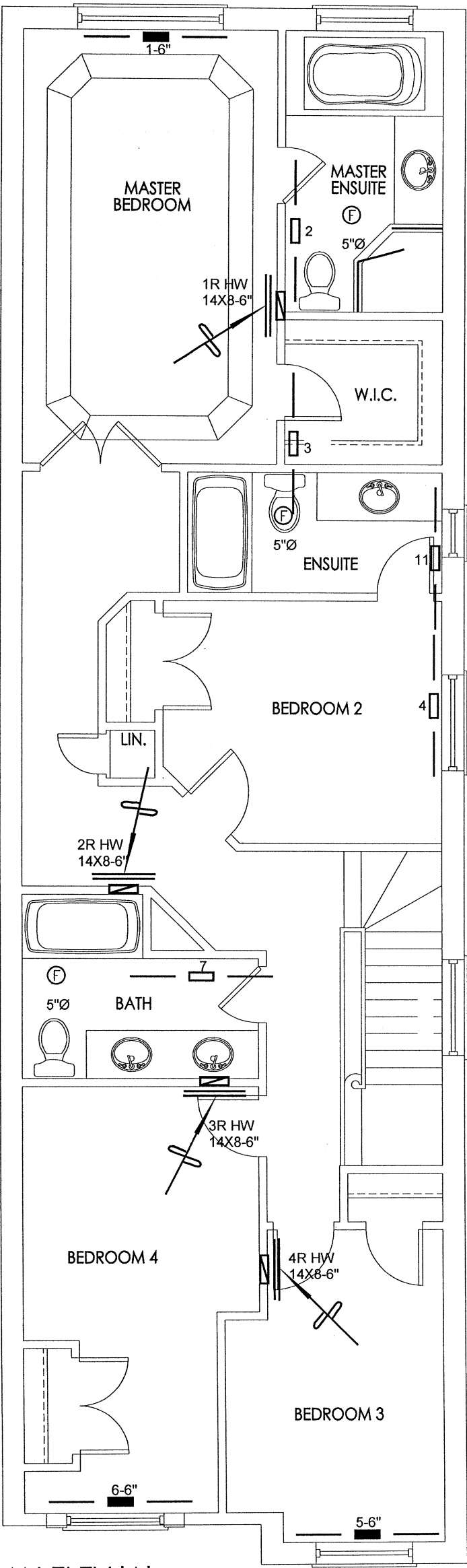
PART. OPT. MAIN FLOOR PLAN ELEV 'A'

CSA-F280-12
PACKAGE J

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		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title		SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2016		
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"		
25-7 OPT. 2ND 3147 sqft			BCIN# 19669		LO# 66917	



SECOND FLOOR PLAN ELEV 'A'

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.

CSA-F280-12

PACKAGE J

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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GOLD PARK HOMES			THIRD FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2016
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
25-7 OPT. 2ND 3147 sqft			BCIN# 19669	
			LO#	66917