

SITE NAME: PINE VALLEY & TESTON ELEVATION B DATE: Oct-18 WINTER NATURAL AIR CHANGE RATE 0.330 HEAT LOSS AT °F. 76 CSA-F280-12
BUILDER: GOLD PARK HOMES TYPE: 5001 - THE HILL SBOROUGH LO# 77472 SUMMER NATURAL AIR CHANGE RATE 0.111 HEAT GAIN AT °F. 43 SB-42 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-4
GRS. WALL AREA	410	225	90	99	180	333	180	63	54
GLAZING	21.3	16.0	0	0	0	0	0	0	0
NORTH	21.3	16.0	0	0	0	0	0	0	0
EAST	21.3	16.0	0	0	0	0	0	0	0
SOUTH	21.3	16.0	0	0	0	0	0	0	0
WEST	21.3	16.0	0	0	0	0	0	0	0
SKYL.T.	37.2	104.5	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	372	1650	280	197	879	148	4.5
NET EXPOSED BUILT WALL ABOVE GR	3.5	0.6	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	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	2805	1675	556	1038	1897	3317	1897	880	830
SUB TOTAL HT GAIN	0.20	0.31	0.20	0.31	0.20	0.31	0.20	0.31	0.20
LEVEL FACTOR / MULTIPLIER	911	525	174	325	595	1040	595	276	166
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	164	111	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0
HEAT GAIN APPLANCES/LIGHTS	761	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	3816	2200	730	1364	2492	4792	2492	1271	698
TOTAL HT GAIN x 1.3 BTU/H	4489	1589	194	1956	4647	4792	2943	466	427

ROOM USE	EXP. WALL	CLG. HT.	LIB	KTGT	DIN	LAUN	WIR	FOY	PLR-KID	LOD	BAS
GRS. WALL AREA	320	2380	2380	5423	1464	1356	223	420	286	468	1488
GLAZING	21.3	16.0	0	0	0	0	0	0	0	0	0
NORTH	21.3	16.0	0	0	0	0	0	0	0	0	0
EAST	21.3	16.0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	16.0	0	0	0	0	0	0	0	0	0
WEST	21.3	16.0	0	0	0	0	0	0	0	0	0
SKYL.T.	37.2	104.5	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	268	1196	166	741	125	179	125	179	125
NET EXPOSED BUILT WALL ABOVE GR	3.5	0.6	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	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
SUBTOTAL HT LOSS	2380	2380	2380	5423	1464	1356	223	420	286	468	1488
SUB TOTAL HT GAIN	0.30	0.45	0.30	0.45	0.30	0.45	0.30	0.45	0.30	0.45	0.30
LEVEL FACTOR / MULTIPLIER	1080	1080	1080	2462	665	437	101	1595	1595	1595	1595
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	190	190	190	525	77	0	3	129	768	1003	8328
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLANCES/LIGHTS	761	0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	3460	4341	3460	7886	2129	1832	324	5112	2460	1476	19450
TOTAL HT GAIN x 1.3 BTU/H	4499	5643	4499	10251	2798	2340	63	1377	1377	1310	668

TOTAL HEAT GAIN BTU/H: 43048 TONS: 3.59
TOTAL HEAT LOSS BTU/H: 3181
TOTAL COMBINED HEAT LOSS BTU/H: 64671
STRUCTURAL HEAT LOSS: 64890
REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C.2.2.5 OF THE BUILDING CODE
MICHAEL CHAMBERLAIN
INDIVIDUAL BCIN: 19669
MICHAEL CHAMBERLAIN

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMESELEVATION B
TYPE: 5001 - THE HILLSBOROUGH

DATE: Oct-18

GFA: 3602 LO# 77472

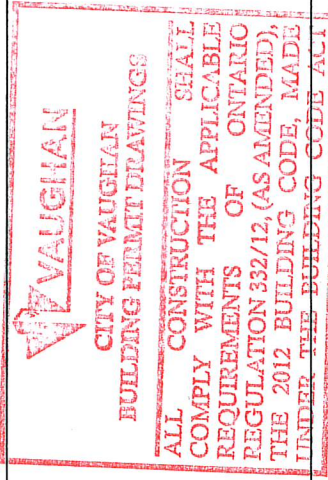
HEATING CFM 1255 COOLING CFM 1255
TOTAL HEAT LOSS 61,490 TOTAL HEAT GAIN 42,512
AIR FLOW RATE CFM 20.41 AIR FLOW RATE CFM 29.52AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	9	5
R/A	0	0	4	2	1

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

All S/A runs 5'Ø unless noted otherwise on layout.

RUN#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-3	BATH	MBR	ENS-4	LIB	LIB	KT/GT	KT/GT	DIN	LAUN	WIR	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.91	2.20	0.73	1.36	2.40	2.49	0.64	2.40	0.64	1.91	0.70	1.73	1.73	2.63	2.63	2.13	1.83	0.32	5.11	2.46	4.19	4.19	4.19	4.19
CFM PER RUN HEAT	39	45	15	28	49	51	13	49	13	39	14	35	35	54	54	43	37	7	104	50	85	85	85	85
RM GAIN MBH	2.24	1.97	0.19	1.96	2.32	2.94	0.23	2.32	0.23	2.24	0.43	2.17	2.17	3.42	3.42	2.34	2.80	0.05	2.28	1.38	0.40	0.40	0.40	0.40
CFM PER RUN COOLING	66	58	6	58	69	87	7	69	7	66	13	64	64	101	101	69	83	2	67	41	12	12	12	12
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.16	0.17	0.16	0.17	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	205	165	110	135	125	180	145	105	165	205	220	120	120	120	120	190	160	100	150	170	120	190	160	160
TOTAL EFFECTIVE LENGTH	269	214	141	165	174	228	175	150	191	280	268	170	165	170	157	219	210	105	181	181	160	218	189	207
ADJUSTED PRESSURE	0.06	0.08	0.12	0.1	0.1	0.07	0.1	0.11	0.09	0.06	0.06	0.1	0.1	0.1	0.1	0.08	0.08	0.16	0.09	0.1	0.01	0.07	0.09	0.08
ROUND DUCT SIZE	5	5	4	5	5	6	4	5	4	5	4	5	5	6	6	5	6	4	6	4	5	6	5	6
HEATING VELOCITY (ft/min)	286	330	172	206	360	260	149	360	149	286	161	257	257	275	275	316	189	80	530	574	624	433	624	433
COOLING VELOCITY (ft/min)	485	426	69	426	507	444	80	507	80	485	149	470	470	515	515	507	423	23	342	470	88	61	88	61
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	3X10	4X10	3X10	3X10	4X10	3X10	4X10
TRUNK	A	D	C	D	D	A	D	D	D	A	A	B	B	A	A	B	B	C	B	D	A	A	D	B



RUN #	25	26
ROOM NAME	BAS	KT/GT
RM LOSS MBH	4.19	2.63
CFM PER RUN HEAT	85	54
RM GAIN MBH	0.40	3.42
CFM PER RUN COOLING	12	101
ADJUSTED PRESSURE	0.16	0.16
EQUIVALENT LENGTH	40	35
TOTAL EFFECTIVE LENGTH	110	130
ADJUSTED PRESSURE	0.11	0.11
ROUND DUCT SIZE	5	6
HEATING VELOCITY (ft/min)	624	275
COOLING VELOCITY (ft/min)	88	515
OUTLET GRILL SIZE	3X10	4X10
TRUNK	B	D

SUPPLY AIR TRUNK SIZE	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	RETURN AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	421	0.06	10.9	14	8	0	0.00	0	0	8	TRUNK O	0	0.06	0	0	8
TRUNK B	424	0.08	10.2	12	8	0	0.00	0	0	8	TRUNK P	0	0.06	0	0	8
TRUNK C	867	0.06	14.3	24	8	0	0.00	0	0	8	TRUNK Q	0	0.06	0	0	8
TRUNK D	386	0.08	9.8	12	8	0	0.00	0	0	8	TRUNK R	0	0.06	0	0	8
TRUNK E	0	0.00	0	0	8	0	0.00	0	0	8	TRUNK S	0	0.06	0	0	8
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	8	TRUNK T	0	0.06	0	0	8
RETURN AIR #	1	2	3	4	5	6	7	8	9	10	TRUNK U	0	0.06	0	0	8
AIR VOLUME	110	155	155	125	340	175	0	0	0	0	TRUNK V	0	0.06	0	0	8
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0	0	0	0	TRUNK W	0	0.06	0	0	8
ACTUAL DUCT LGH.	47	36	37	59	20	28	1	1	1	1	TRUNK X	1130	0.06	15.8	30	8
EQUIVALENT LENGTH	205	190	185	180	135	198	1	1	1	1	TRUNK Y	310	0.06	9.7	12	8
TOTAL EFFECTIVE LGH	252	226	222	219	155	198	1	1	1	1	TRUNK Z	0	0.06	0	0	8
ADJUSTED PRESSURE	0.06	0.07	0.07	0.07	0.10	0.07	14.80	14.80	14.80	14.80	DROP	1255	0.06	18.4	24	12
ROUND DUCT SIZE	6.6	7.2	7.2	6.7	8.9	7.5	0	0	0	0						
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X						

TYPE: 5001 - THE HILLSBOROUGH
SITE NAME: PINE VALLEY & TESTON

LO # 77472
ELEVATION B

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	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	190.8 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
TOTAL		79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	190.8	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	35.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 65H	Location: BSMT
155.0 cfm	3.0 sones
☒ HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
155.0 CFM	76 F	1.08	0.25

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	✓
BATH	QTXEN050C	50	✓
ENS-4	QTXEN050C	50	✓
W/R	QTXEN050C	50	✓

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

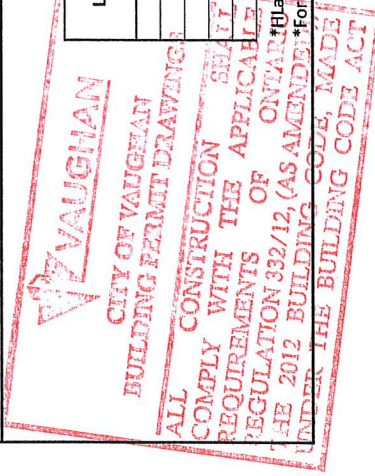
LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

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, 1992 BUILDING CODE, MADE UNDER THE BUILDING CODE ACT	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	October-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																			
Formula Sheet (For Air Leakage / Ventilation Calculation)																																			
LO#: 77472		Model: 5001 - THE HILLSBOROUGH		Builder: GOLD PARK HOMES		Date: 10/5/2018																													
Volume Calculation																																			
House Volume		Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																															
Level		1666	9	14994																															
Bsmt		1666	10	16660																															
First		1993	9	17937																															
Second		0	9	0																															
Third		0	9	0																															
Fourth																																			
Total:		49,591.0 ft³																																	
Total:		1404.3 m³																																	
Air Change & Delta T Data																																			
		WINTER NATURAL AIR CHANGE RATE		0.330																															
		SUMMER NATURAL AIR CHANGE RATE		0.111																															
Design Temperature Difference																																			
		Tin °C	Tout °C	ΔT °C																															
		22	-20	42																															
		24	31	7																															
		Winter DTDh		76																															
		Summer DTDc		13																															
6.2.6 Sensible Gain due to Air Leakage																																			
$HG_{sdlb} = LR_{airc} \times \frac{V_h}{3.6} \times DTD_c \times 1.2$																																			
0.330	x	390.07	x	42 °C	x	1.2	=	369 W																											
								=	1259 Btu/h																										
5.2.3.1 Heat Loss due to Air Leakage																																			
$HL_{airb} = LR_{airh} \times \frac{V_h}{3.6} \times DTD_h \times 1.2$																																			
0.330	x	390.07	x	42 °C	x	1.2	=	6519 W																											
								=	22243 Btu/h																										
5.2.3.2 Heat Loss due to Mechanical Ventilation																																			
$HL_{mbirb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																			
155 CFM	x	76 °F	x	1.08	x	0.25	=	3181 Btu/h																											
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agcleve} + HL_{bgcleve})\}$																																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HL-airve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL-level)</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5">22,243</td> <td>9,805</td> <td>1.134</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>14,698</td> <td>0.454</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>14,193</td> <td>0.313</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </tbody> </table>										Level	Level Factor (LF)	HL-airve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL-level)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	22,243	9,805	1.134	2	0.3	14,698	0.454	3	0.2	14,193	0.313	4	0	0	0.000	5	0	0	0.000
Level	Level Factor (LF)	HL-airve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL-level)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																															
1	0.5	22,243	9,805	1.134																															
2	0.3		14,698	0.454																															
3	0.2		14,193	0.313																															
4	0		0	0.000																															
5	0		0	0.000																															



HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5001 - THE HILLSBOROUGH	ELEVATION B	BUILDER: GOLD PARK HOMES
SFQT: 3602	LO# 77472	SITE: PINE VALLEY & TESTON

DESIGN ASSUMPTIONS

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

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):	49591.0	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:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	196.0 ft

2012 OBC - COMPLIANCE PACKAGE
Component

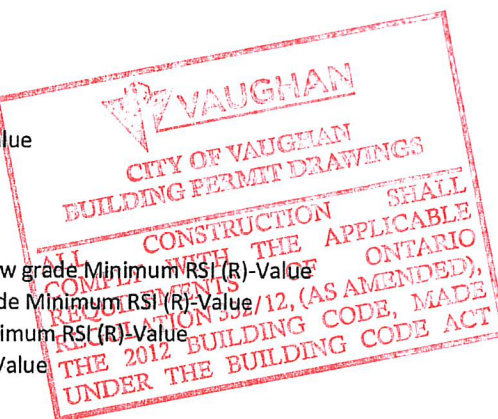
Ceiling with Attic Space Minimum RSI (R)-Value
Ceiling Without Attic Space Minimum RSI (R)-Value
Exposed Floor Minimum RSI (R)-Value
Walls Above Grade Minimum RSI (R)-Value
Basement Walls Minimum RSI (R)-Value
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value
Windows and Sliding Glass Doors Maximum U-Value
Skylights Maximum U-Value
Space Heating Equipment Minimum AFUE
HRV Minimum Efficiency
Domestic Hot Water Heater Minimum EF

**Compliance Package
A1**

Nominal	Min. Eff.
60	59.22
31	27.65
31	29.80
22	17.03
20 ci	21.12
-	-
10	10
10	11.13
0.28	-
0.49	-
0.96	-
75%	-
0.8	-

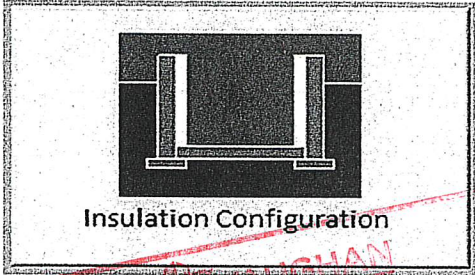
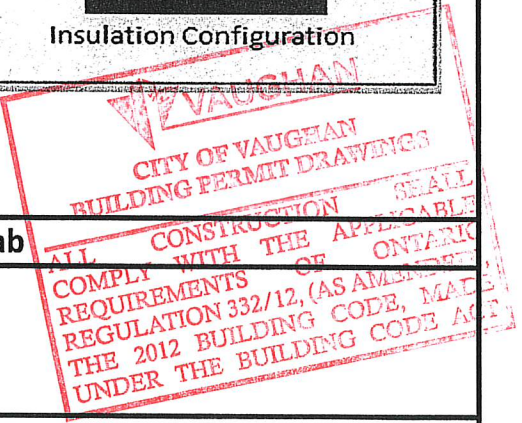
INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	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):	17.1	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.4	
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):	1964	

TYPE: 5001 - THE HILLSBOROUGH
LO# 77472

ELEVATION B

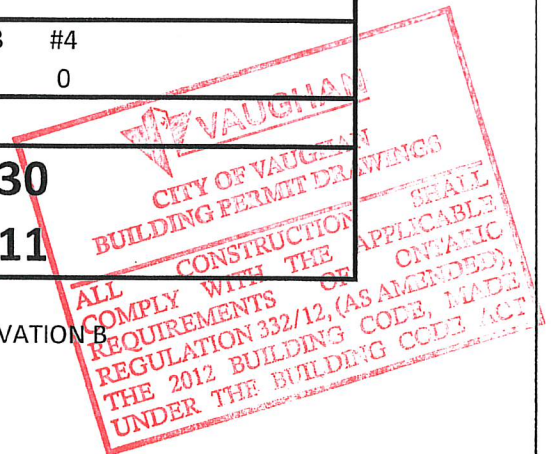
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

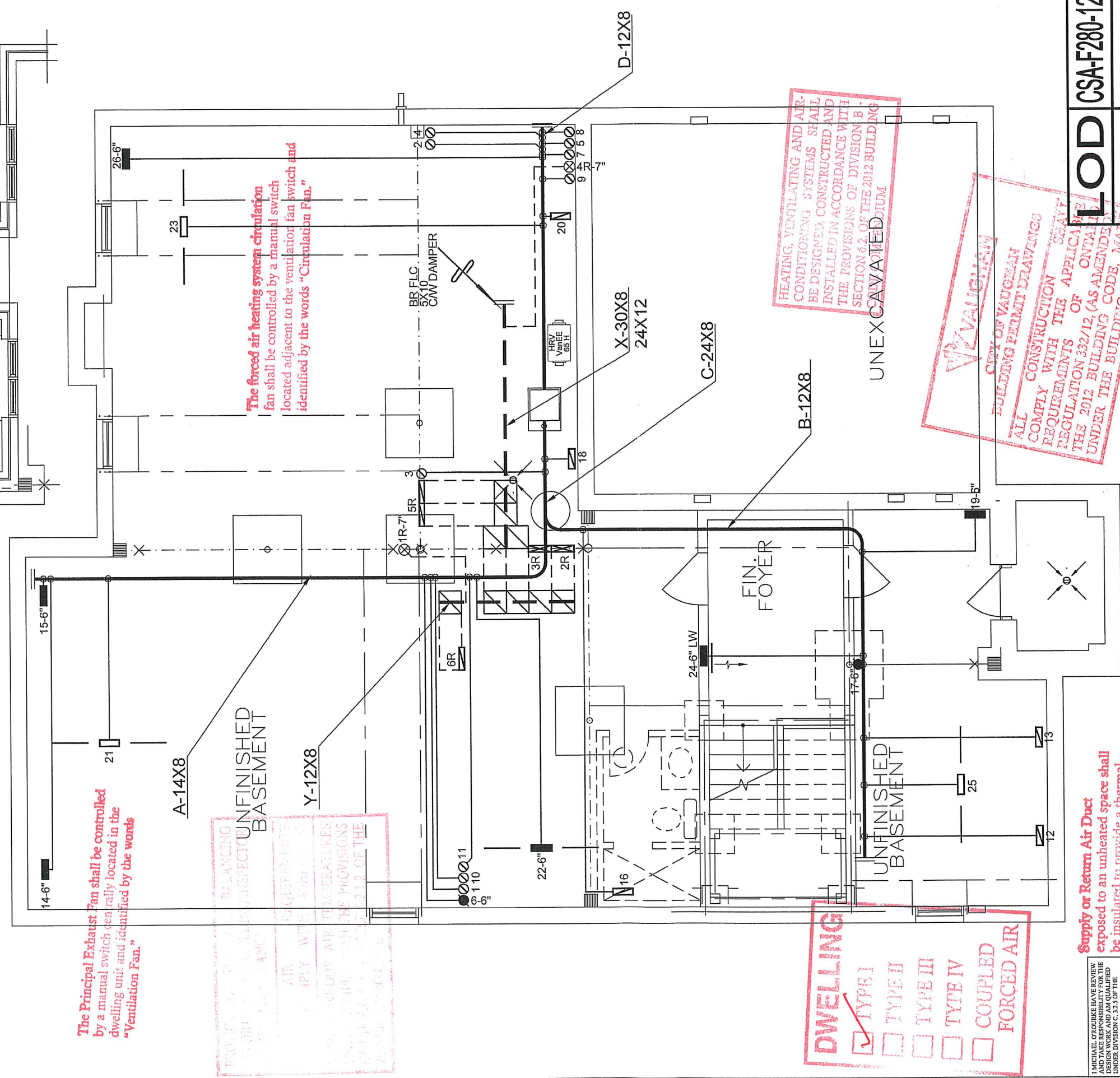
Weather Station Description			
Province:	Ontario		
Region:	Vaughan (Woodbridge)		
Weather Station Location:	Open flat terrain, grass		
Anemometer height (m):	10		
Local Shielding			
Building Site:	Suburban, forest		
Walls:	Heavy		
Flue:	Heavy		
Highest Ceiling Height (m):	6.71		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1404.3		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1871.9 cm ²	
	3.57	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	73.2	73.2	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
		#4	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.330		
Cooling Air Leakage Rate (ACH/H):	0.111		

TYPE: 5001 - THE HILLSBOROUGH
LO# 77472

ELEVATION B



PART. BASEMENT PLAN
ELEV. 'A' & 'B' - L.O.D. COND.



Supply or Return Air Duct
exposed to an unheated space shall
be insulated to provide a thermal
resistance of not less than RSI 2.1 (R12)

L O D	CSA-F280-12
W O D	PACKAGE A1

HVAC LEGEND									
SYMBOL		DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION			
—		SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
—		SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x6" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.
		SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA-FLOOR RETURN AIR GRILLE		REDUCER	No.
									REVISIONS
									DECK CONDITIONS ADDED
									OCT/2018
									Date

	SUPPLY AIR DUCT ABOVE		0 SUPPLY AIR STRAIGHT RUN	
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GOLD PARK HOMES

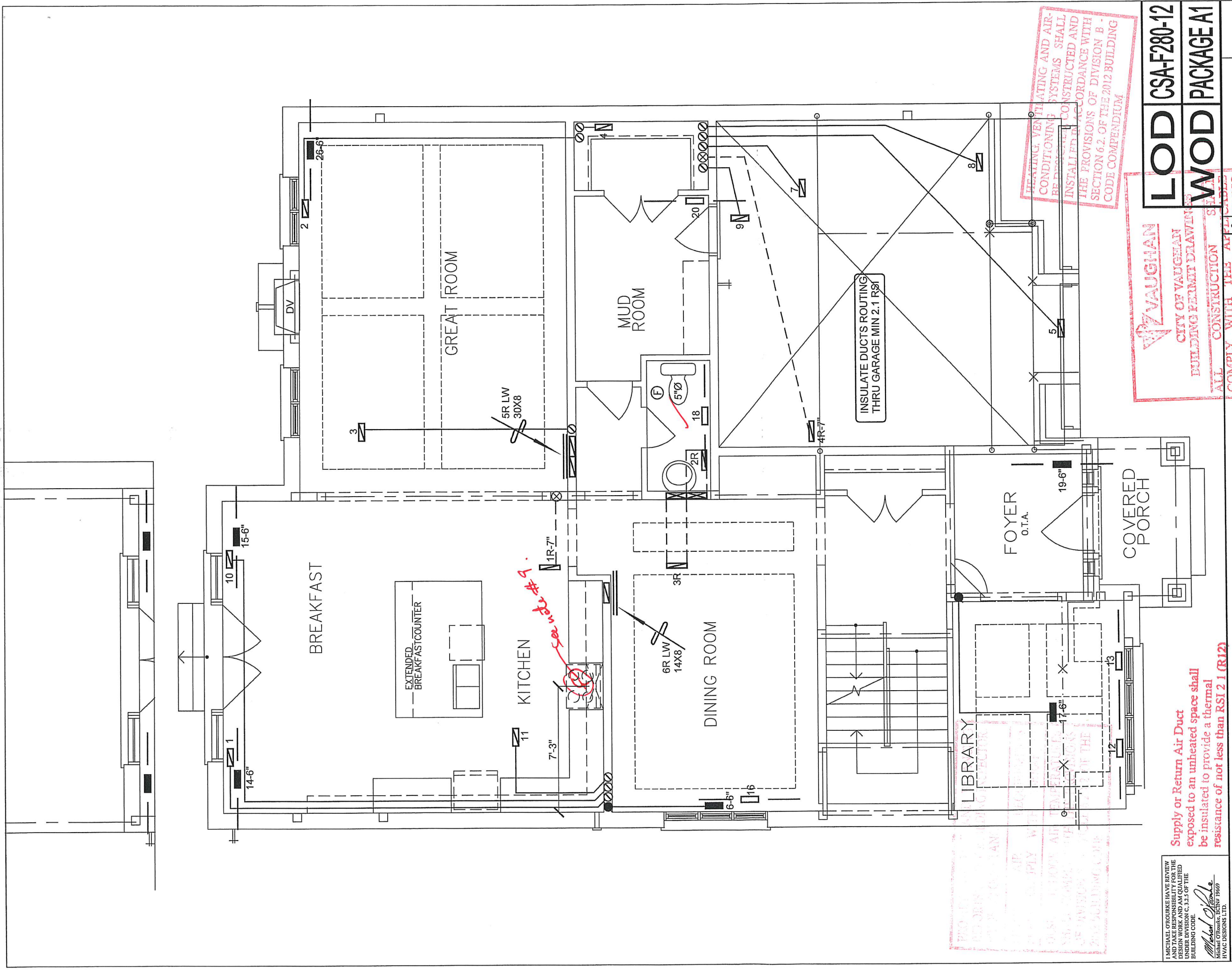
Project Name
PINE VALLEY & TESTON
VAUGHAN, ONTARIO
ELEVATION B
THE HILLSBOROUGH
5001 3602

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca

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 64575 BTU/H		# OF RUNS		S/A	R/A	FANS
UNIT DATA		3RD FLOOR				
MAKE	LENNOX	2ND FLOOR	12	4	3	
MODEL	EL296UH090XE48C	1ST FLOOR	9	2	2	
INPUT	88	BASEMENT	5	1	0	
OUTPUT	85	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5'0" UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A				
COOLING	3.5					
FAN SPEED	1255					

Please see back side for Notes Φ



I MICHAEL OTTOURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN AND CONSTRUCTION OF THE HEATING SYSTEM SHOWN ON THESE DRAWINGS IN ACCORDANCE WITH THE PROVISIONS OF DIVISION B - CODE COMPENDIUM

Michael Ottourke
Michael Ottourke, Techn 19669
HVAC DESIGNS LTD.

Supply or Return Air Duct exposed to an unheated space shall be insulated to provide a thermal resistance of not less than RSI 2.1 (R12)

HVAC LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		14"x8" RETURN AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT		30"x8" RETURN AIR GRILLE
	SUPPLY AIR BOOT		FRA - FLOOR RETURN AIR GRILLE
	SUPPLY AIR BOOT ABOVE		FRA - FLOOR RETURN AIR GRILLE

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Client		Sheet Title	
GOLD PARK HOMES		FIRST FLOOR HEATING LAYOUT	
Project Name		Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO		Scale	3/16" = 1'-0"
ELEVATION B		BCIN#	19669
THE HILLSBOROUGH		LO#	77472
5001		3602 sqft	

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdsgns.ca

Specializing in Residential Mechanical Design Services

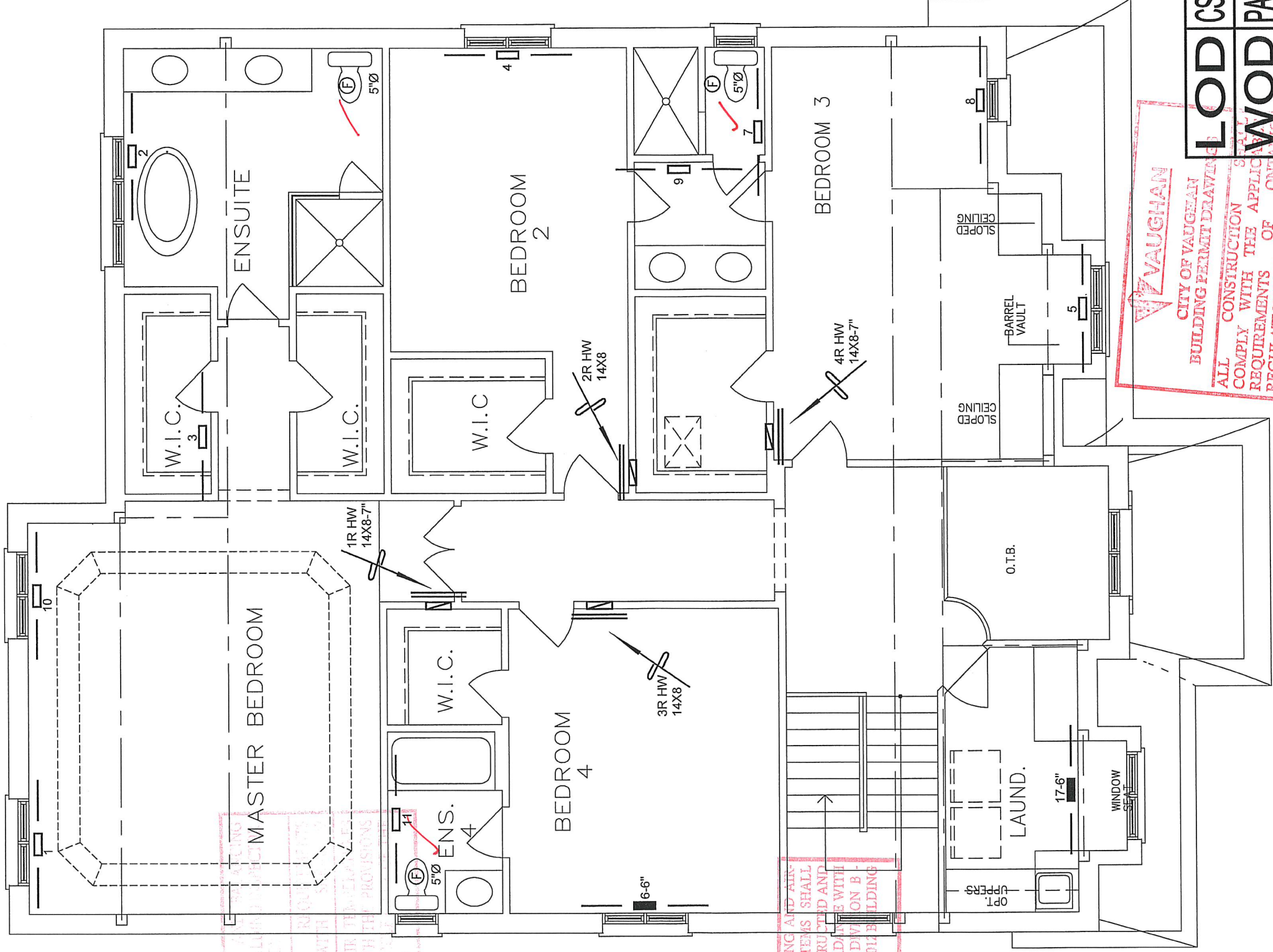
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

VAUGHAN
CITY OF VAUGHAN
BUILDING PERMIT DRAWING
ALL CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE REGULATION 612, (AS AMENDED), THE 1997 BUILDING CODE, MADE UNDER THE BUILDING ACT, 1992

MECHANICAL, VENTILATING AND AIR-CONDITIONING SYSTEMS SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF DIVISION B - SECTION 6.2 OF THE 2012 BUILDING CODE COMPENDIUM

LOD CSA-F280-12

WOD PACKAGE A1



I MICHAEL OROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED TO SIGN THESE DRAWINGS IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, H1919 1969
HVAC DESIGNS LTD.

LOD CSA-F280-12
WOD PACKAGE A1

VAUGHAN
CITY OF VAUGHAN
BUILDING PERMIT DRAWING
ALL CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE REGULATION 339/12 (AS AMENDED), THE 2012 BUILDING CODE MADE UNDER THE BUILDING CODE ACT.

HVAC LEGEND			REVISIONS		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	DECK CONDITIONS ADDED	OCT/2018
	6" SUPPLY AIR GRILLE		14"x8" RETURN AIR GRILLE	1. RETURN AIR STACK ABOVE	No.
	6" SUPPLY AIR GRILLE 6" BOOT		30"x8" RETURN AIR GRILLE	2. RETURN AIR STACK 2nd FLOOR	Date
	6" SUPPLY AIR GRILLE 6" BOOT ABOVE		FRA- FLOOR RETURN AIR GRILLE	3. REDUCER	

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Client

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON

VAUGHAN, ONTARIO

ELEVATION B

THE HILLSBOROUGH

5001

3602 sqft

Sheet Title

SECOND FLOOR

HEATING

LAYOUT

Date JAN/2018

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 77472



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L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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Specializing in Residential Mechanical Design Services
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