 *Town of*
East Gwillimbury
Building Standards Branch BCIN #16487

These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amended. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

TOTAL HEAT GAIN BTU/H:	29303	TONS: 2.44	LOSS DUE TO VENTILATION LOAD BTU/H: 1747	STRUCTURAL HEAT LOSS: 46313	TOTAL COMBINED HEAT LOSS BTU/H: 48060
------------------------	-------	------------	--	-----------------------------	---------------------------------------

SITE NAME: TRINAR HALL HOMES
BUILDER: GREENPARK HOMES

LOT 019
TYPE: BRENTWOOD 2

DATE: Sep-20

GFA: 2793 LO# 87604

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 46,313 TOTAL HEAT GAIN 29,067
AIR FLOW RATE CFM 24.42 AIR FLOW RATE CFM 38.91

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

#GOODMAN
GMEC960603BNA 60
FAN SPEED LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

DESIGN CFM = 1131
CFM @ 6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	7	4
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.

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

TEMPERATURE RISE 47 °F

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	ENS-3	BED-2	MBR	ENS-4	BED-3	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	ENS	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.31	0.85	0.48	1.77	1.52	1.43	0.72	1.00	1.77	1.31	0.64	1.52	2.23	2.15	2.15	2.15	2.28	0.64	3.12	0.85	4.10	4.10	4.10	4.10
CFM PER RUN HEAT	32	21	12	43	37	35	18	24	43	32	16	37	54	53	53	53	56	16	76	21	100	100	100	100
RM GAIN MBH.	1.82	0.74	0.12	2.03	2.17	1.99	0.15	0.99	2.03	1.82	0.33	2.17	1.94	2.04	2.04	2.04	1.19	0.29	0.41	0.74	0.51	0.51	0.51	0.51
CFM PER RUN COOLING	71	29	5	79	84	77	6	39	79	71	13	84	76	79	79	79	46	11	16	29	20	20	20	20
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	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	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	39	49	56	59	64	34	47	55	60	47	33	58	21	35	26	37	31	36	41	25	30	31	24	45
EQUIVALENT LENGTH	140	200	210	160	200	180	190	140	150	160	190	200	160	160	150	150	170	180	120	160	100	100	120	130
TOTAL EFFECTIVE LENGTH	179	249	266	219	264	214	237	195	210	207	223	258	181	195	176	187	201	216	161	185	130	131	144	175
ADJUSTED PRESSURE	0.1	0.07	0.06	0.08	0.06	0.08	0.07	0.09	0.08	0.08	0.08	0.06	0.1	0.09	0.1	0.09	0.09	0.08	0.11	0.09	0.12	0.12	0.11	0.09
ROUND DUCT SIZE	5	4	4	6	6	6	4	4	6	5	4	6	6	5	5	5	5	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	235	241	138	219	189	178	207	275	219	235	184	189	275	389	389	389	411	184	558	241	510	510	510	510
COOLING VELOCITY (ft/min)	521	333	57	403	428	393	69	447	403	521	149	428	388	580	580	580	338	126	117	333	102	102	102	102
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	B	D	D	C	B	D	D	D	A	B	C	D	A	A	A	D	C	C	A				

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	ENS-3	BED-2	MBR	ENS-4	BED-3	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	ENS	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.31	0.85	0.48	1.77	1.52	1.43	0.72	1.00	1.77	1.31	0.64	1.52	2.23	2.15	2.15	2.15	2.28	0.64	3.12	0.85	4.10	4.10	4.10	4.10
CFM PER RUN HEAT	32	21	12	43	37	35	18	24	43	32	16	37	54	53	53	53	56	16	76	21	100	100	100	100
RM GAIN MBH.	1.82	0.74	0.12	2.03	2.17	1.99	0.15	0.99	2.03	1.82	0.33	2.17	1.94	2.04	2.04	2.04	1.19	0.29	0.41	0.74	0.51	0.51	0.51	0.51
CFM PER RUN COOLING	71	29	5	79	84	77	6	39	79	71	13	84	76	79	79	79	46	11	16	29	20	20	20	20
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	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	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	39	49	56	59	64	34	47	55	60	47	33	58	21	35	26	37	31	36	41	25	30	31	24	45
EQUIVALENT LENGTH	140	200	210	160	200	180	190	140	150	160	190	200	160	160	150	150	170	180	120	160	100	100	120	130
TOTAL EFFECTIVE LENGTH	179	249	266	219	264	214	237	195	210	207	223	258	181	195	176	187	201	216	161	185	130	131	144	175
ADJUSTED PRESSURE	0.1	0.07	0.06	0.08	0.06	0.08	0.07	0.09	0.08	0.08	0.08	0.06	0.1	0.09	0.1	0.09	0.09	0.08	0.11	0.09	0.12	0.12	0.11	0.09
ROUND DUCT SIZE	5	4	4	6	6	6	4	4	6	5	4	6	6	5	5	5	5	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	235	241	138	219	189	178	207	275	219	235	184	189	275	389	389	389	411	184	558	241	510	510	510	510
COOLING VELOCITY (ft/min)	521	333	57	403	428	393	69	447	403	521	149	428	388	580	580	580	338	126	117	333	102	102	102	102
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TRUNK	A	B	D	D	C	B	D	D	D	A	B	C	D	A	A	A	D	C	C	A				



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Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	244	0.08	8.3	12	366
TRUNK B	516	0.07	11.3	16	581
TRUNK C	266	0.06	9.2	10	479
TRUNK D	616	0.06	12.6	18	616
TRUNK E	1131	0.06	15.8	28	727
TRUNK F	0	0.00	0	0	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	0
TRUNK P	0	0.05	0	0	0
TRUNK Q	0	0.05	0	0	0
TRUNK R	0	0.05	0	0	0
TRUNK S	0	0.05	0	0	0
TRUNK T	0	0.05	0	0	0
TRUNK U	0	0.05	0	0	0
TRUNK V	0	0.05	0	0	0
TRUNK W	0	0.05	0	0	0
TRUNK X	1131	0.05	16.5	32	636
TRUNK Y	465	0.05	11.8	16	523
TRUNK Z	0	0.05	0	0	0
DROP	1131	0.05	16.5	24	679

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	200	75	85	75	200	305	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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.	38	54	50	81	21	41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	135	225	215	225	140	210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	173	279	265	306	161	251	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.09	0.05	0.06	0.05	0.09	0.06	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	14.80
ROUND DUCT SIZE	7.5	6	6	6	7.5	9.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0
	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	0

TYPE: BRENTWOOD 2
SITE NAME: TRINAR HALL HOMES

LO # 87604
LOT 019

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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	180.2 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	180.2	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	100.7	cfm


PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 65H	Location: BSMT
79.5 cfm	3.0 sones
<input checked="" type="checkbox"/>	HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	X 81 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3
BATH	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3
ENS-4	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3
PWD	FV-05-11VK1	50	<input checked="" type="checkbox"/>	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	<input checked="" type="checkbox"/>	HVI Approved
@ 32 deg F (0 deg C)		

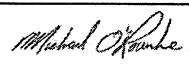
LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER:		 Town of East Gwillimbury Building Standards Branch BCIN #16487
Name:	GREENPARK HOMES	
Address:		
City:		
Telephone #:	Fax #:	

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INSTALLING CONTRACTOR		Discipline	Reviewer	BCIN	Date
Name:		Building Code	H. Authier	43236	2021-02-03
Address:		Sewage System			
		Zoning			

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:	September-20

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 87604	Model: BRENTWOOD 2	Builder: GREENPARK HOMES	Date: 17/09/2020																																																									
Volume Calculation			Air Change & Delta T Data																																																									
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>1251</td><td>9</td><td>11259</td></tr> <tr><td>First</td><td>1251</td><td>11</td><td>13761</td></tr> <tr><td>Second</td><td>1559</td><td>9</td><td>14031</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>39,051.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>1105.8 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1251	9	11259	First	1251	11	13761	Second	1559	9	14031	Third	0	9	0	Fourth	0	9	0	Total:			39,051.0 ft³	Total:			1105.8 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%;">0.254</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.071</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-23</td> <td>45</td> <td>81</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>30</td> <td>6</td> <td>11</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.254	SUMMER NATURAL AIR CHANGE RATE	0.071	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-23	45	81	Summer DTDc	24	30	6	11
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																									
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ <p>0.254 x 307.17 x 45 °C x 1.2 = 4236 W</p> <p>= 14453 Btu/h</p>			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p>= 0.071 x 307.17 x 6 °C x 1.2 = 159 W</p> <p>= 543 Btu/h</p>																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>80 CFM x 81 °F x 1.08 x 0.25 = 1747 Btu/h</p>			$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>80 CFM x 11 °F x 1.08 x 0.25 = 236 Btu/h</p>																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</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" style="text-align: center;">14,453</td><td>9,189</td><td>0.786</td></tr> <tr><td>2</td><td>0.3</td><td>10,394</td><td>0.417</td></tr> <tr><td>3</td><td>0.2</td><td>11,521</td><td>0.251</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> <p>*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0</p>					Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	14,453	9,189	0.786	2	0.3	10,394	0.417	3	0.2	11,521	0.251	4	0	0	0.000	5	0	0	0.000																														
Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																								
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Sewage System			
Zoning			

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL:	BRENTWOOD 2	LOT 019	BUILDER:	GREENPARK HOMES
SFQT:	2793	LO#	87604	SITE: TRINAR HALL HOMES

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-9	OUTDOOR DESIGN TEMP.	86
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:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	39051.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.35	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 54.0 ft	WIDTH: 30.0 ft	EXPOSED PERIMETER:	168.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component

Compliance Package ENERGYSTAR

Nominal Min. Eff.

Ceiling with Attic Space Minimum RSI (R)-Value	60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.70
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	R22+R5	21.10
Basement Walls Minimum RSI (R)-Value	20	21.12
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	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	ZONE 2	-
Skylights Maximum U-Value	ZONE 2	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.9	-



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Michael O'Rourke

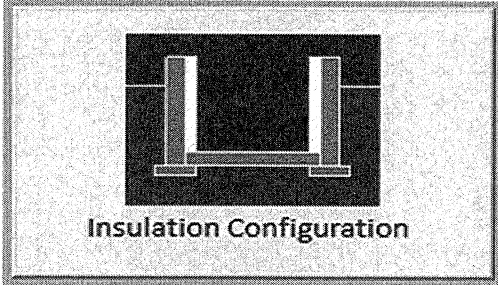

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Discipline	Reviewer	BCIN	Date
Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Bradford	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	16.5	 <p>Insulation Configuration</p>
Floor Width (m):	9.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.4	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	 <p>These plans have been reviewed for use with the corrections as noted. No other changes may be made without written approval of the Building Standards Branch. All work must comply with Zoning By-Law 2018-043, as amended, and the Ontario Building Code, as amended. These approved documents must be kept on site at all times. The building permit must be clearly posted on site at all times.</p>
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1746



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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

TYPE: BRENTWOOD 2
LO# 87604

LOT 019

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Bradford		
Weather Station Location:	Open flat terrain, grass		
Anemometer height (m):	10		
Local Shielding			
Building Site:	Suburban, forest		
Walls:	Heavy		
Flue:	Heavy		
Highest Ceiling Height (m):	7.92		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1105.8		
Air Leakage/Ventilation			
Air Tightness Type:	Energy Star Detached (2.5 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1032.3 cm ²	
	2.50	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	37.5	37.5	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.254		
Cooling Air Leakage Rate (ACH/H):	0.071		



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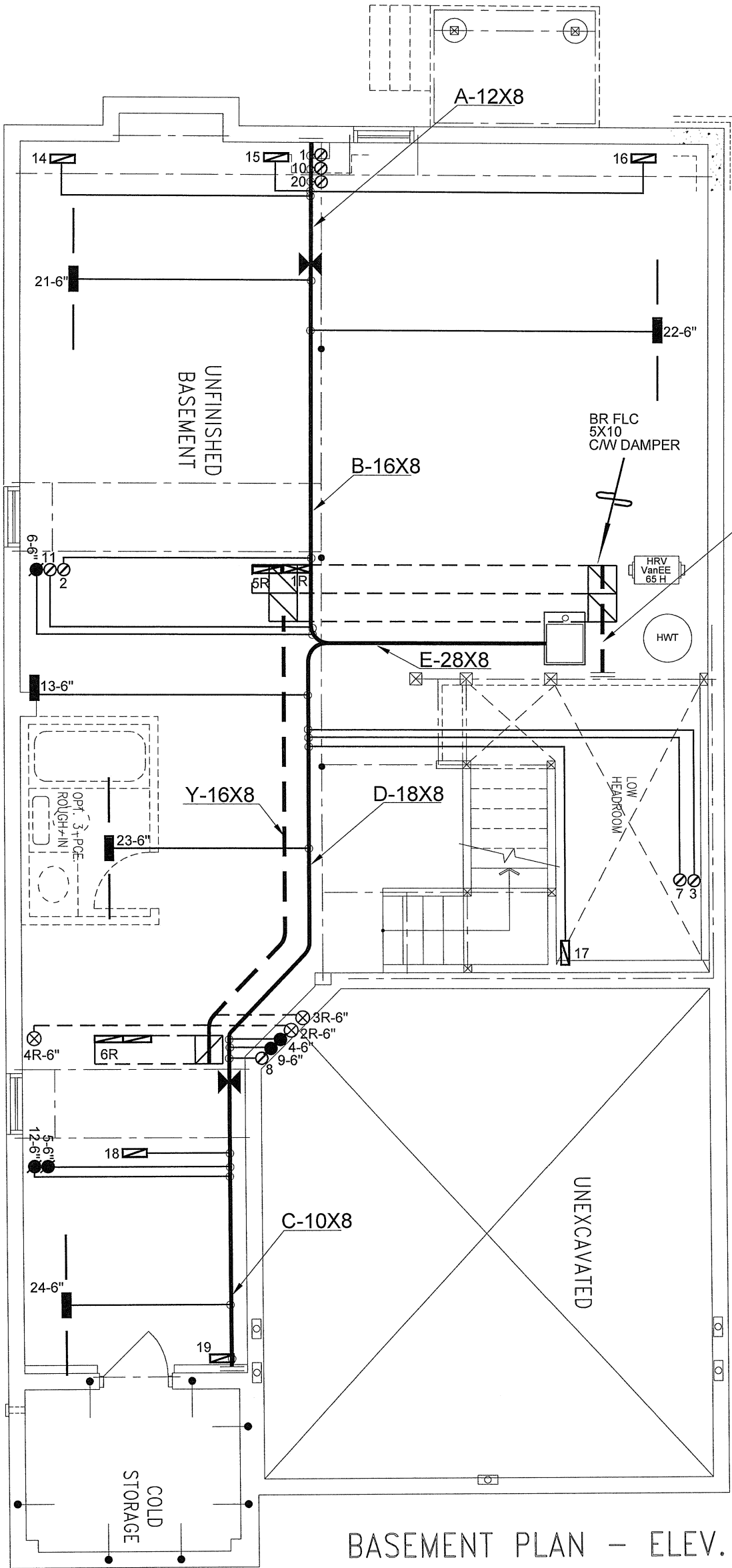
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Sewage System			
Zoning			

TYPE: BRENTWOOD 2
LO# 87604

LOT 019

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Zoning			



BASEMENT PLAN – ELEV. 2

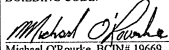
LOT 019

CSA-F280-12













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.

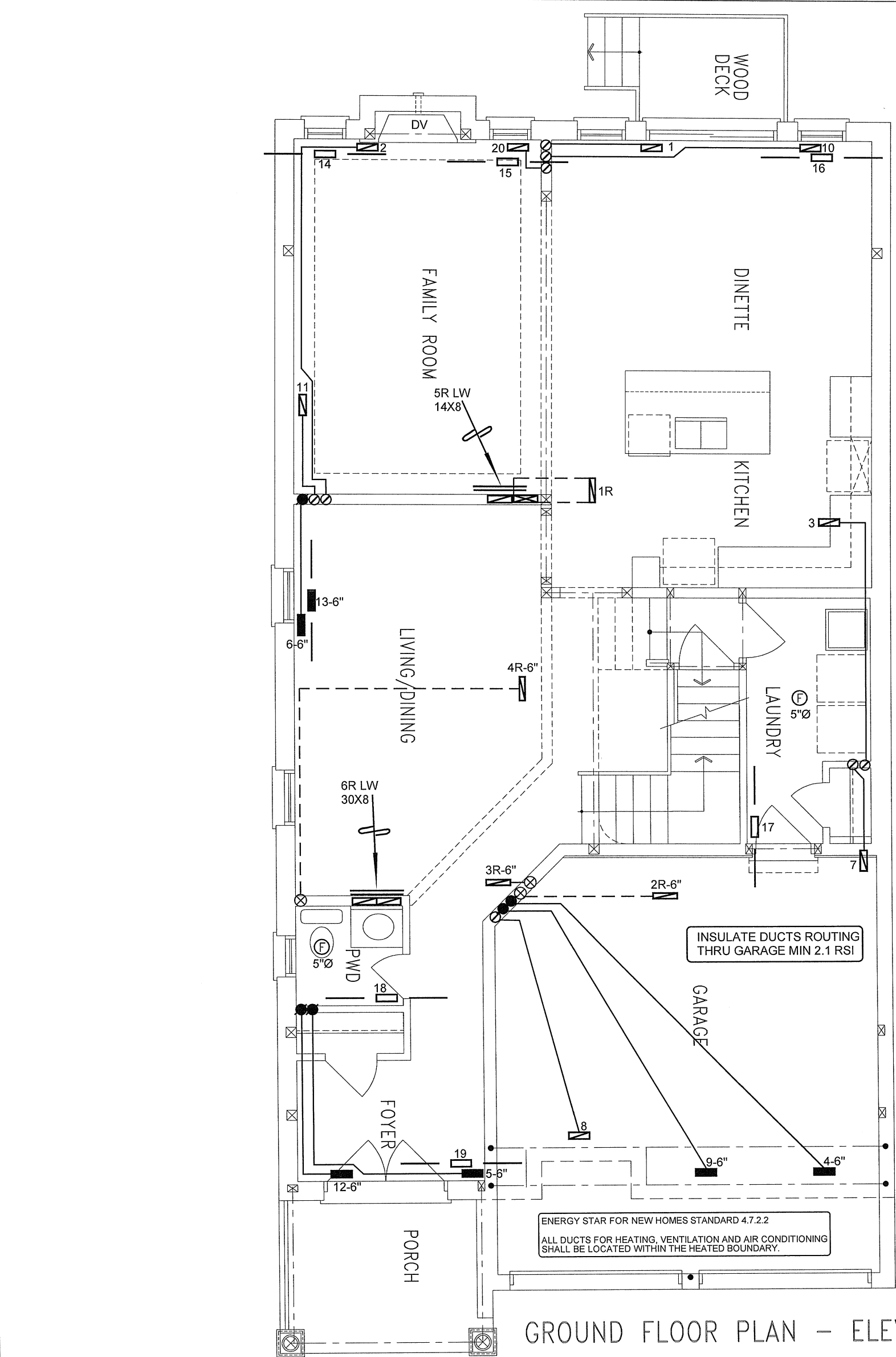


Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND						REVISIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Date
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	3.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	2.	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	1.	
					REDUCER	No.	Description

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Client GREENPARK HOMES	 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	HEAT LOSS 48060 BTU/H UNIT DATA MAKE GOODMAN MODEL GMEC960603BNA INPUT 60 MBTU/H OUTPUT 57.6 MBTU/H COOLING 2.5 TONS FAN SPEED 1131 cfm @ 0.6" w.g.	# OF RUNS S/A R/A FANS 3RD FLOOR 2ND FLOOR 13 4 4 1ST FLOOR 7 2 3 BASEMENT 4 1 0	Sheet Title BASEMENT HEATING LAYOUT	
				Date	SEPT/2020
Project Name TRINAR HALL HOMES EAST GWILLIMBURY, ONT.	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.		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	Scale	3/16" = 1'-0"
				BCIN#	19669
LOT 019 BRENTWOOD 2 2793 sqft				LO#	87604



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Building Code	H. Authier	43236	2021-02-03
Sewage System			
Zoning			

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

LOT 019

CSA-F280-12

ENERGY STAR

HVAC LEGEND						3.		
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REVISIONS								

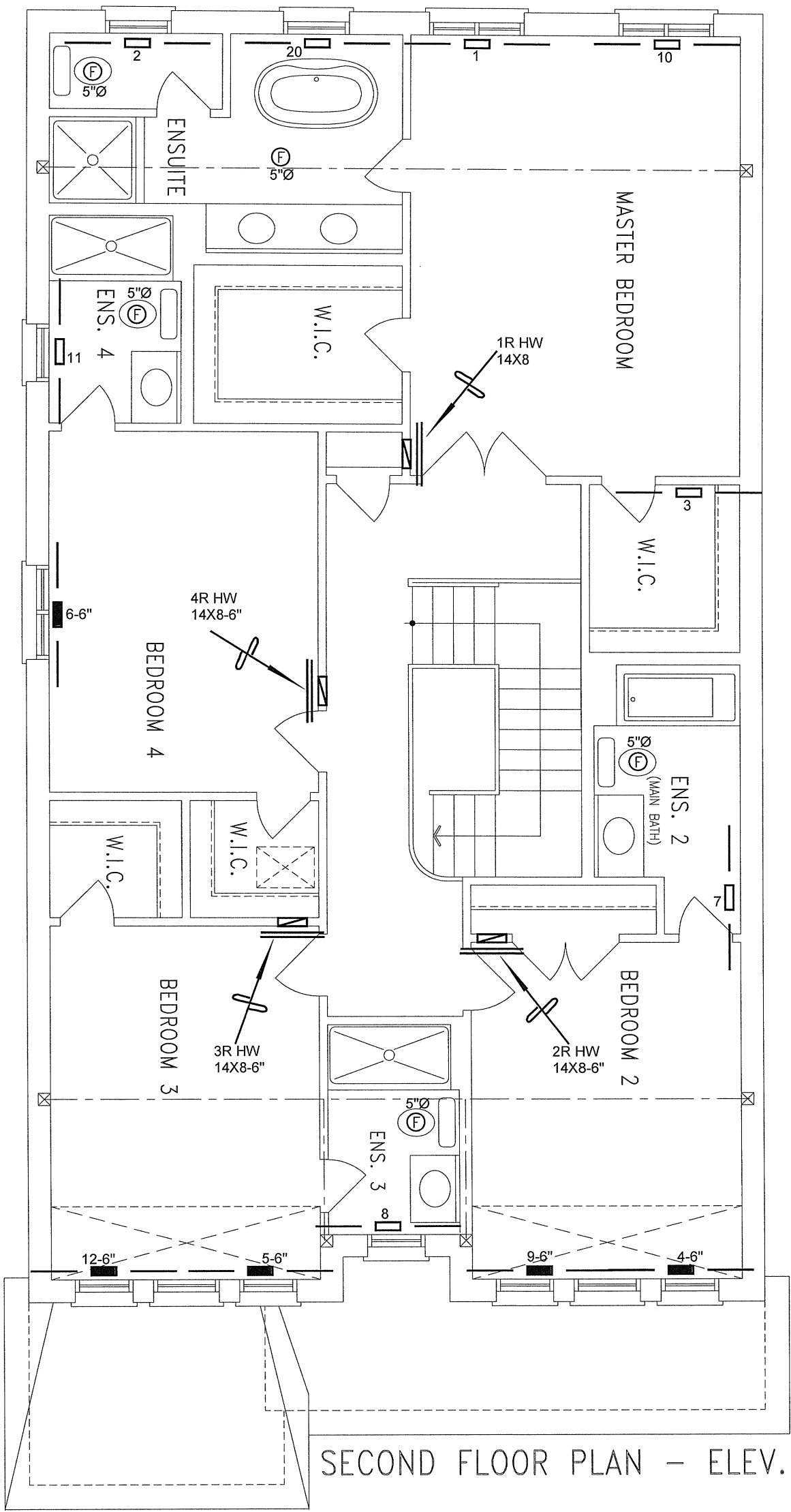
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Client		<div></div> <div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div> <div>Installation 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.</div>	Sheet Title	
GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name TRINAR HALL HOMES EAST GWILLIMBURY, ONT.			Date	SEPT/2020
			Scale	3/16" = 1'-0"
			BCIN# 19669	
LOT 019 BRENTWOOD 2 2793 sqft			LO#	87604



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Sewage System			
Zoning			



SECOND FLOOR PLAN – ELEV. 2

LOT 019

CSA-F280-12

ENERGY STAR

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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
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REVISIONS								Date

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GREENPARK HOMES				SECOND FLOOR HEATING LAYOUT
Project Name				Date
TRINAR HALL HOMES EAST GWILLIMBURY, ONT.				SEPT/2020
LOT 019 BRENTWOOD 2 2793 sqft				Scale
				3/16" = 1'-0"
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