

SITE NAME: TIBURTINO BUILDER: GREENPARK HOMES TYPE: GEORGIAN 4 LOT 3										DATE FEB-19 LOW 81443										WINTER NATURAL AIR CHANGE RATE 0.347 SUMMER NATURAL AIR CHANGE RATE 0.100										HEAT LOSS AT °F 79 HEAT GAIN AT °F 11										CSA-F280-1 SB-12 PACKAGE A									
ROOM USE EXP. WALL CLG. HT.		MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		WIC-4		LAUN		ENS-2		BED-5		ENS-5																									
GRS.WALL AREA		396		243		135		270		216		297		0		99		360		18		174		60																									
GLAZING		0		0		0		0		0		10		0		0		10		0		16		0																									
NORTH		20.3 15.5		0 0		0 0		0 0		0 0		10 203		0 0		0 0		8 162		0 0		0 0		0 0																									
EAST		20.3 41.0		24 487		0 0		0 0		0 0		0 0		0 0		0 0		8 162		0 0		0 0		0 0																									
SOUTH		20.3 24.4		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0																									
WEST		20.3 41.0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0																									
SKYLT.		35.5 100.7		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 3.7		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		4.3 0.6		356 1513		219 931		141 135		674 87		230 978		149 176		748 114		247 1059		160 0		0 0		0 0																									
NET EXPOSED BSMT WALL ABOVE GR		3.4 0.5		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0																									
EXPOSED CLG		1.2 0.6		270 330		150 98		175 214		98 225		275 125		282 320		146 272		333 152		144 176		80 90		110 50		264 323																							
NO ATTIC EXPOSED CLG		2.6 1.2		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0																									
EXPOSED FLOOR		2.4 0.4		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		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		0 0		0 0		0 0																									
SUB TOTAL HT LOSS		2654		1833		788		2064		1879		2396		176		851		2142		282		1580		433																									
SUB TOTAL HT GAIN		2022		0		0		0		0		0		0		0		0		0		0		0																									
LEVEL FACTOR / MULTIPLIER		0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37		0.20 0.37		0.50 1.27		0.50 1.27																									
AIR CHANGE HEAT LOSS		970		597		288		754		587		878		64		311		783		103		2010		551																									
AIR CHANGE HEAT GAIN		114		69		10		108		107		118		5		52		48		13		16		1																									
DUCT LOSS		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0		0 0																									
DUCT GAIN		0 0		0 0		0 0		0 0		0 0		0 0		0 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		0																									
HEAT GAIN APPLIANCES/LIGHTS		480		0		0		0		0		0		0		0		0		0		0		0																									
TOTAL HT LOSS BTU/H		547		2230		1076		2818		2666		3272		240		1163		2594		385		547		984																									
TOTAL HT GAIN x 1.3 BTU/H		4111		1681		254		3653		3633		3916		110		1266		1879		325		1425		21																									
TOTAL HEAT GAIN BTU/H		4111		1681		254		3653		3633		3916		110		1266		1879		325		1425		21																									
TOTAL HEAT GAIN BTU/H		4111		1681		254		3653		3633		3916		110		1266		1879		325		1425		21																									

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.

19-0249
INDIVIDUAL BOX 1559

MICHAEL O'ROURKE

**SITE NAME: TIBURTINO
BUILDING: GREENPARK HOMES**

**LOT 3
TYPE: GEORGIAN 4**

DATE: Feb-19

GFA: 4198

LO# 81443

FURNACE 1

HEATING CFM 710 COOLING CFM 710
TOTAL HEAT LOSS 29,813
AIR FLOW RATE CFM 23,81

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 38,400

-GOODMAN
GMVC960403BNA 40
FAN SPEED 0
LOW 0
MEDIUM 710
HIGH 974

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	6	4
R/A	0	0	2	3	1

plenum pressure s/a 0.18
max s/a diff 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

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

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

All S/A units 5"Ø unless noted otherwise on layout.

ROOM NAME	5	6	7	8	9
BED-3	BED-4	BATH	WIC-4	LAUN	LIV
1.28	1.84	0.24	1.16	2.92	1.78
31	39	6	28	70	42
RM PER RUN HEAT	1.82	1.98	1.11	1.27	1.88
RM GAIN MBH	54	58	3	38	56
CFM PER RUN COOLING	0.17	0.17	0.17	0.17	0.17
ADJUSTED PRESSURE	33	54	27	39	55
ACTUAL DUCT LGH.	170	170	170	170	170
EQUIVALENT LENGTH	203	224	217	209	205
ADJUSTED PRESSURE	0.08	0.08	0.08	0.08	0.08
ROUND DUCT SIZE	5	5	5	5	5
HEATING VELOCITY (ft/min)	228	286	69	206	514
COOLING VELOCITY (ft/min)	396	426	34	279	411
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10
TRUNK	F	F	F	F	F

ROOM NAME	25	26	27	30	33	34	35	37
GYM	GYM	BAS	BATH	BED-3	BED-4	LIV	STUDY	STUDY
1.62	1.62	4.13	0.59	1.28	1.64	1.78	1.94	1.94
39	39	98	14	31	39	42	46	46
RM PER RUN HEAT	0.39	0.39	0.80	1.82	1.96	2.54	2.56	2.56
RM GAIN MBH	12	12	24	54	58	75	76	76
CFM PER RUN COOLING	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ADJUSTED PRESSURE	51	42	10	19	32	48	32	32
ACTUAL DUCT LGH.	130	140	120	150	150	150	150	150
EQUIVALENT LENGTH	181	182	130	249	208	169	182	182
ADJUSTED PRESSURE	0.1	0.09	0.12	0.07	0.08	0.1	0.09	0.1
ROUND DUCT SIZE	4	5	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	447	447	720	228	286	308	338	338
COOLING VELOCITY (ft/min)	138	138	176	396	426	551	558	558
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	G	G	I	F	F	F	G	G

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0	0.00	0	8	224	0.07	8.3	8	8
TRUNK B	0	0.00	0	8	711	0.07	12.8	20	8
TRUNK C	0	0.00	0	8	467	0.07	10.9	14	8
TRUNK D	0	0.00	0	8	0	0.00	0	0	8
TRUNK E	0	0.00	0	8	0	0.00	0	0	8
TRUNK F	457	0.07	10.8	588	0	0.00	0	0	8

RETURN AIR #	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
1	TRUNK A	0	0.00	0	8	224	0.07	8.3	8	8
2	TRUNK B	0	0.00	0	8	711	0.07	12.8	20	8
3	TRUNK C	0	0.00	0	8	467	0.07	10.9	14	8
4	TRUNK D	0	0.00	0	8	0	0.00	0	0	8
5	TRUNK E	0	0.00	0	8	0	0.00	0	0	8
6	TRUNK F	457	0.07	10.8	588	0	0.00	0	0	8

SITE NAME: TIBURTINO
BUILDER: GREENPARK HOMES

LOT 3
TYPE: GEORGIAN 4

FURNACE 2

HEATING CFM 1158
TOTAL HEAT LOSS 28,888
AIR FLOW RATE CFM 40.09

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

-GOODMAN
GMVC960603BNA
FAN SPEED LOW 0
MEDIUM 820
HIGH 1158

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600
DESIGN CFM = 1158
CFM @ 6" S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	7	6
R/A	0	0	3	2	2

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

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

ROOM #	1	2	3	4	5
ROOM NAME	MBR	WIC	BED-2	ENS-2	FAM
RM LOSS MBH	1.21	1.11	1.08	1.41	2.47
CFM PER RUN HEAT	34	31	30	40	77
RM GAIN MBH	1.37	0.84	0.25	1.83	2.46
CFM PER RUN COOLING	55	34	10	73	99
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16
ACTUAL DUCT LGH	59	77	48	60	46
EQUIVALENT LENGTH	240	210	215	170	225
TOTAL EFFECTIVE LENGTH	299	217	258	275	235
ADJUSTED PRESSURE	0.06	0.08	0.07	0.06	0.08
ROUND DUCT SIZE	5	4	4	6	6
HEATING VELOCITY (ft/min)	250	356	344	204	393
COOLING VELOCITY (ft/min)	404	390	115	372	495
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10
TRUNK	A	A	A	A	B

ROOM #	28	29	30	31	32
ROOM NAME	BED-5	ENS-5	BED-2	ENS	DIN
RM LOSS MBH	3.59	0.98	1.41	1.11	1.43
CFM PER RUN HEAT	101	28	40	31	40
RM GAIN MBH	1.42	0.02	1.83	0.84	1.96
CFM PER RUN COOLING	57	1	73	34	79
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	65	44	66	56	53
EQUIVALENT LENGTH	170	150	225	180	170
TOTAL EFFECTIVE LENGTH	235	194	291	236	303
ADJUSTED PRESSURE	0.07	0.09	0.06	0.07	0.08
ROUND DUCT SIZE	6	4	6	6	6
HEATING VELOCITY (ft/min)	515	321	204	250	204
COOLING VELOCITY (ft/min)	291	11	390	404	403
OUTLET GRILL SIZE	4X10	3X10	4X10	3X10	4X10
TRUNK	C	C	A	A	C

ROOM NAME	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	468	0.06	11.3	14	8	602	0.00	0	0	8
TRUNK B	306	0.07	9.3	10	8	551	0.00	0	0	8
TRUNK C	569	0.06	12.2	18	8	589	0.00	0	0	8
TRUNK D	875	0.06	14.3	24	8	656	0.00	0	0	8
TRUNK E	1160	0.06	15.9	30	8	696	0.00	0	0	8
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	8

ROOM NAME	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK H	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK I	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK J	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK K	0	0.00	0	0	8	0	0.00	0	0	8
TRUNK L	0	0.00	0	0	8	0	0.00	0	0	8

ROOM NAME	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK M	1158	0.05	16.7	32	8	1158	0.05	16.7	32	8
TRUNK N	828	0.05	14.7	26	8	828	0.05	14.7	26	8
TRUNK O	585	0.05	12.9	20	8	585	0.05	12.9	20	8
TRUNK P	1158	0.05	16.7	24	12	1158	0.05	16.7	24	12

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

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: GEORGIAN 4	LOT 3	BUILDER: GREENPARK HOMES
SFQT: 4198	LO# 81443	SITE: TIBURTINO

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	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:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	60362.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 52.0 ft	WIDTH: 55.0 ft	EXPOSED PERIMETER:	214.0 ft

2012 OBC - COMPLIANCE PACKAGE

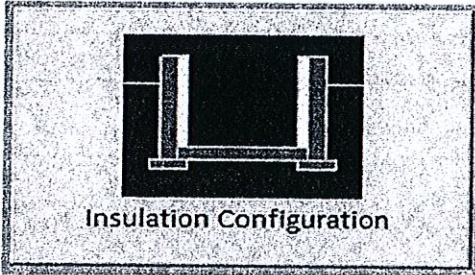
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	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	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Oakville	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	
Floor Width (m):	16.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	4.3	
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):	2070	

TYPE: GEORGIAN 4
LO# 81443

LOT 3

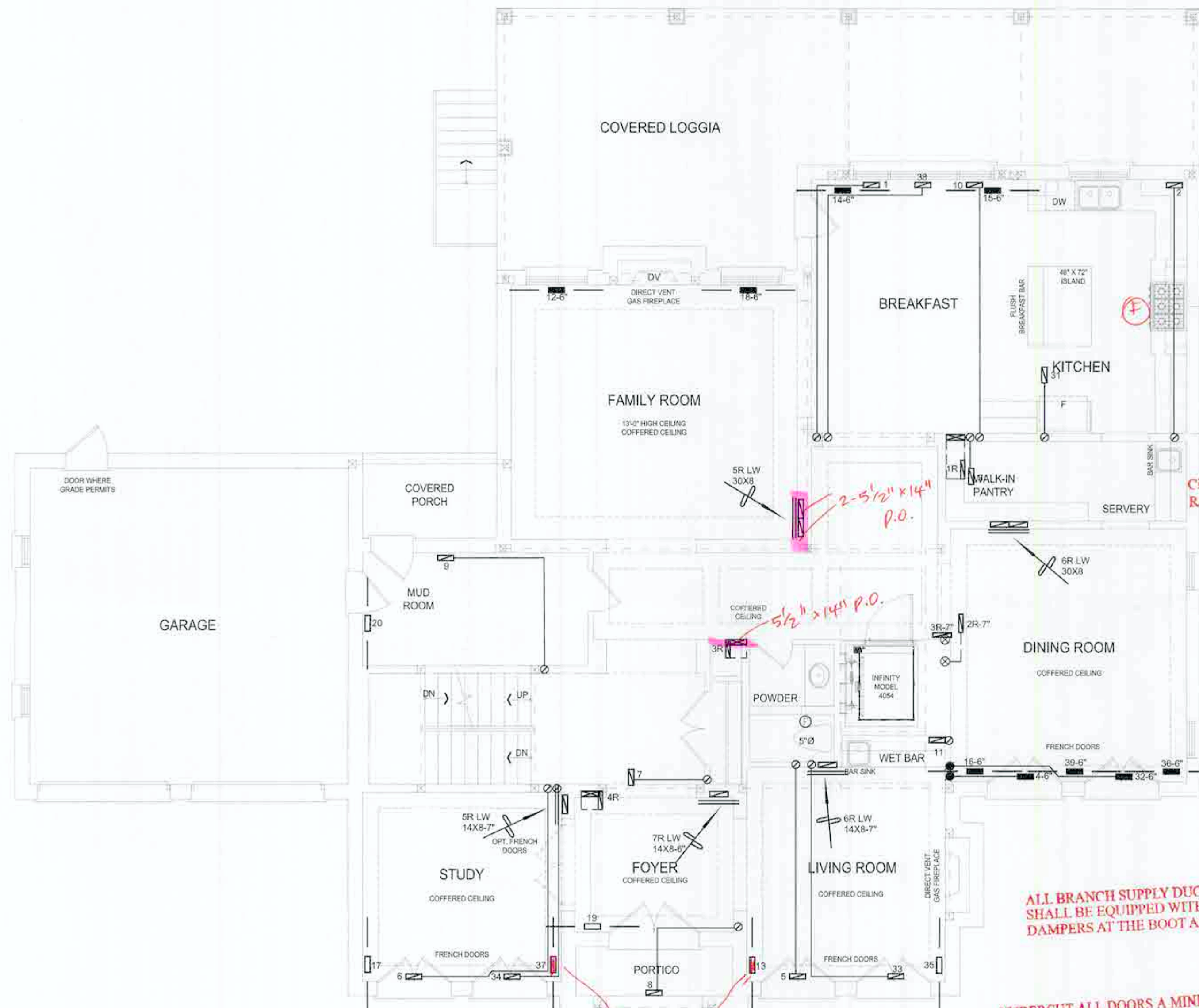
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Oakville			
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):	1709.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2278.5 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	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.347			
Cooling Air Leakage Rate (ACH/H):	0.100			

TYPE: GEORGIAN 4
LO# 81443

LOT 3



HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6\"/>
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

2	ISSUED FOR PERMIT	FEB/2019	RM
No.	Revision	Date	By

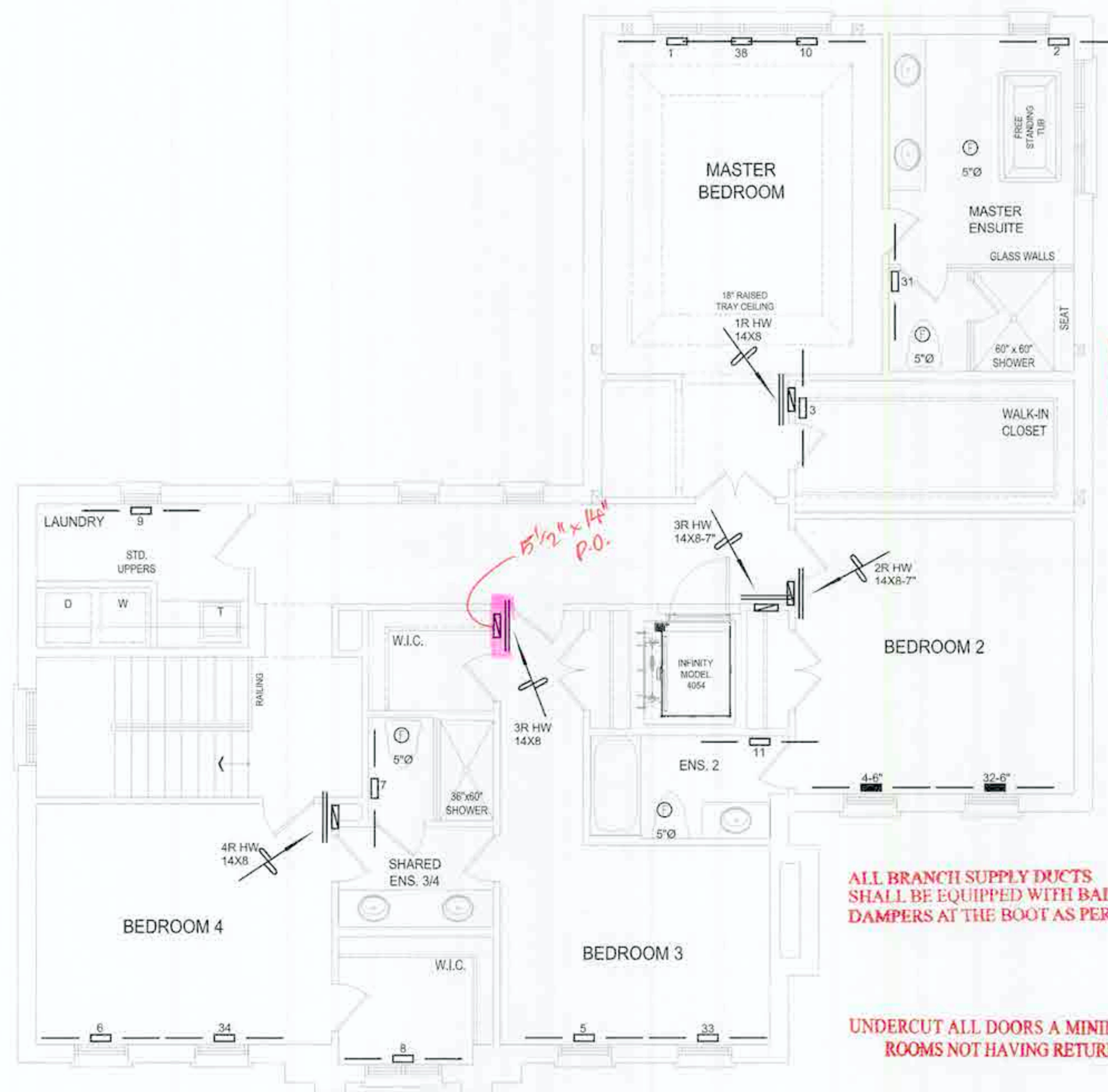
SB-12 PACKAGE **A1**

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 Specializing in Residential Mechanical Design Services

Client: GREENPARK HOMES
 Project Name: TIBURTINO BUILDING GROUP
 OAKVILLE, ONTARIO
 GEORGIAN 4 LOT 3

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 Sheet Title: FIRST FLOOR
 Drawn By: RM Checked By: AS
 Scale: 3/16\"/>

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HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6'0" BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
	LOW WALL
	HIGH WALL

2	ISSUED FOR PERMIT	FEB/2019	RM
No.	Revision	Date	By
SB-12 PACKAGE		A1	

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Specializing in Residential Mechanical Design Services

Client: GREENPARK HOMES

Project Name: TIBURTINO BUILDING GROUP
OAKVILLE, ONTARIO

GEORGIAN 4 LOT 3

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Sheet Title: SECOND FLOOR

Drawn By: RM Checked By: AS

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

Date: FEBRUARY 2019

LO #: 81443

1

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