

Mechanical Design Report

Low rise residential



Location of Installation	Address	House Builder
	40 SORWITH PRV.	PHOENIX
	Application Number	House Model (if applicable)
		43-10 MADISON 4BED
Installing Contractor	Name	City of Ottawa Building Services Branch
	HARDING MECHANICAL	
	Address	
	2210 CAVANMORE RD	
	City	Postal Code
	OTTAWA	KOA 1LO
	Telephone Number	Fax Number
	613-831-2257	613-831-9011

SYSTEM DESIGN PARAMETERS

Combustion Appliances 9.32.3.1.(1)	Heating System
a) ☒ Direct vent (sealed combustion) only	☒ Forced Air
b) ☐ Positive venting induced draft (except fireplaces)	☐ Non-Forced Air (Other -)
c) ☐ Natural draft, B-vent or induced draft fireplace	☐ Electric Space Heat
d) ☐ Solid Fuel (including fireplaces)	☐ Radiant Floor Heat (attach pipe details)
e) ☐ No Combustion Appliances	☐ Geothermal (attach loop, pipe & well details)
	☐ High Velocity Residential (attach duct details)
House Type 9.32.3.1.(2)	Ventilation System
☒ I Type a) or b) appliances only, no solid fuel	☐ CAN/CSA-F326
☐ II Type I except with solid fuel (including fireplace)	☐ HRV - Exhaust Ducts / Forced Air System
☐ III Any Type c) appliance = Part 6 Design	☒ HRV - Simplified Connection to Forced Air System
☐ IV Electric space heat	☐ HRV - Full Ducting / Not Coupled to Forced Air System
☐ Other: No forced air = Option 4	☐ Part 6 Design (Other -)

EQUIPMENT DESIGN REQUIREMENTS

Total Ventilation Capacity 9.32.3.3.(1)				TOTAL
Master Bedroom	1	x	10 L/s	= 10 L/s
Unfinished Basement	1	x	10 L/s	= 10
Other Habitable Rooms	12	x	5 L/s	= 60
Principal Ventilation Capacity 9.32.3.4.(1)				80 T.V.C.
Master Bedroom	1	x	15 L/s	= 15
Other Bedrooms	3	x	7.5 L/s	= 22.5
				- 37.5 P.V.C.
Required Supplemental Ventilation Capacity (T.V.C. less P.V.C.) =				42.5

Furnace size: GMEC960603BNA 60,000 BTU'S KJ

Air conditioner size: GSX16030 2.5 TON KJ (If provided / applicable)

Heating / Cooling Equipment sized according to heat loss/gain calculations of CAN/CSA F280: Yes

Geothermal Equipment designed according to CAN/CSA-C448.2: No

Hydronic Equipment designed according to CAN/CSA-B214: No

Duct (and pipe) schematic attached including sizes, runs and material used: Yes

VENTILATION EQUIPMENT

Heat Recovery Ventilator

Model: CLEAN COMFORT VH30100RNC HRV

80	L/s High	40	L/s Low
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Exhaust Fans

	Location	Model	L/s	Sones	Principal or Supplemental
1	PDRM	DX90	45	2.5	PRINCIPAL
2	ENSUITE	EC50	25/25	3.	SUPPLEMENTAL
3	BATH1	EC50	25/25/25	3.	SUPPLEMENTAL
4					

EQUIPMENT EFFICIENCIES (Please also refer to Energy Efficiency Design Summary)

Heating system:

Cooling system (if applicable):

Water heater:

HRV: 75 % sensible efficiency at 0 degrees:

% sensible efficiency at -25 degrees:



DESIGNER CERTIFICATION

I hereby certify that this ventilation system has been designed in accordance with the 2012 Ontario Building Code.

Name: LINDA MCPARLAN Company Name: HARDING MECHANICAL
Signature: *Linda McParlan* Date: NOV 5/ 2020 BCIN 24379 HRAI # 6080

PROVIDE MANUAL SWITCH CENTRALLY LOCATED IN DWELLING FOR
PRINCIPAL EXHAUST FAN AS PER OBC 9.32.3.4.(2)-(4).

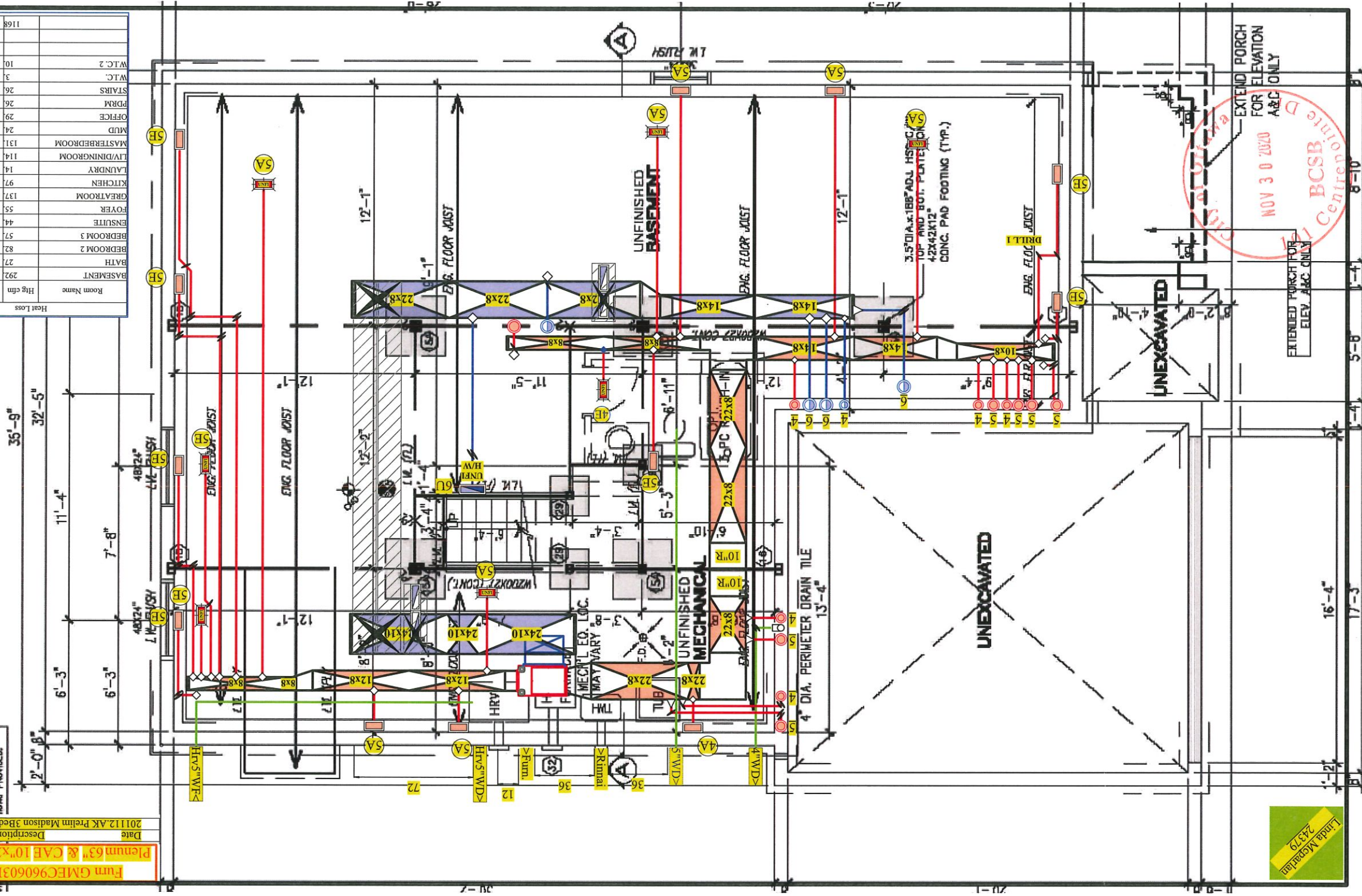


1/8" = 1' (Full Size)

1. INSTRUMENTS OF
SAY/PHOENIX WHICH
ON OF THE WORK.
INDICATION ONLY
UNITS PROVIDED.

Date	Description
201112.AK Prelim Madison 3Bed	
Penum 63" & CAB 10"x23"x5"	
Pum GMEC960603BNA	

Room Name	Htg cfm	Htg btu	Heat Loss
BASMENT	292	57	
BEDROOM 2	82	56	
BEDROOM 3	57	30	
SUITE	44	27	
FOYER	137	162	
GREATROOM	97	322	
KITCHEN	14	9	
LAUNDRY	114	104	
LIV/DININGROOM	131	100	
MASTERBEDROOM	24	6	
MUD	29	20	
OFFICE	26	19	
STAIRS	26	15	
W.C.	3	3	
W.C. 2	1168	1000	



Linda Maparian
24379

NOV 30 2020
BCSB
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EXTEND PORCH FOR ELEVATION A&C ONLY
EXTEND PORCH FOR ELEV A&C ONLY

1/26" = 1"

1" = 1' (Full Size)

1. DIMS/PHOSION BEFORE
2. ARE INSTRUMENTS OF
THE DESIGNER/PHOSION WHICH
3. LOCATION OF THE WORK,
4. CONSTRUCTION ONLY
5. REQUIRED.
6. DIMENSIONS PROVIDED.

Date 201112.AK Prelim Madison 3Bed
Description

Room Name	Htg chm	Htg chm	Htg chm
Basement	292	57	0
Bath	27	20	0
Bedroom 2	82	56	0
Bedroom 3	57	30	0
Ensuite	44	27	0
Foyer	47	0	0
Greatroom	137	162	0
Kitchen	97	322	0
Laundry	14	9	0
Living/Diningroom	114	104	0
Masterbedroom	131	100	0
Mud	24	6	0
Office	29	20	0
PDRM	26	19	0
Stairs	26	15	0
W.C. 2	10	3	0
W.C. 1	3	0	0
W.C. 3	3	0	0
W.C. 4	3	0	0
W.C. 5	3	0	0
W.C. 6	3	0	0
W.C. 7	3	0	0
W.C. 8	3	0	0
W.C. 9	3	0	0
W.C. 10	3	0	0
W.C. 11	3	0	0
W.C. 12	3	0	0
W.C. 13	3	0	0
W.C. 14	3	0	0
W.C. 15	3	0	0
W.C. 16	3	0	0
W.C. 17	3	0	0
W.C. 18	3	0	0
W.C. 19	3	0	0
W.C. 20	3	0	0
W.C. 21	3	0	0
W.C. 22	3	0	0
W.C. 23	3	0	0
W.C. 24	3	0	0
W.C. 25	3	0	0
W.C. 26	3	0	0
W.C. 27	3	0	0
W.C. 28	3	0	0
W.C. 29	3	0	0
W.C. 30	3	0	0
W.C. 31	3	0	0
W.C. 32	3	0	0
W.C. 33	3	0	0
W.C. 34	3	0	0
W.C. 35	3	0	0
W.C. 36	3	0	0
W.C. 37	3	0	0
W.C. 38	3	0	0
W.C. 39	3	0	0
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W.C. 88	3	0	0
W.C. 89	3	0	0
W.C. 90	3	0	0
W.C. 91	3	0	0
W.C. 92	3	0	0
W.C. 93	3	0	0
W.C. 94	3	0	0
W.C. 95	3	0	0
W.C. 96	3	0	0
W.C. 97	3	0	0
W.C. 98	3	0	0
W.C. 99	3	0	0
W.C. 100	3	0	0

Heat Loss
Htg chm
Ctg chm
Htg bnu

33'-9"

20'-3"

7'-8"

12'-7"

6'-3"

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