

Mechanical Design Report

Low rise residential



Location of Installation		Address		House Builder PHOENIX	
		Application Number		House Model (if applicable) CHEASAPEAKE FIN BSMT	
Installing Contractor		Name HARDING MECHANICAL		SITE COPY City of Ottawa Building Services Branch AUG 19 2021 Building Code Reviewed Signature	
		Address 2210 CAVANMORE RD			
		City OTTAWA			
Telephone Number 613-831-2257		Postal Code KOA 1LO		Fax Number 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)					
Master Bedroom		1	x	10 L/s	= 10 L/s
Unfinished Basement		1	x	10 L/s	= 10
Other Habitable Rooms		18	x	5 L/s	= 90
Principal Ventilation Capacity 9.32.3.4.(1)					110 T.V.C.
Master Bedroom		1	x	15 L/s	= 15
Other Bedrooms		4	x	7.5 L/s	= 30
					- 45 P.V.C.
Required Supplemental Ventilation Capacity (T.V.C. less P.V.C.) = 65					
Furnace size:		GMEC961004CNA_100,000 BTU'S		KJ	
Air conditioner size:		GSX13048 4 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					
110		L/s High	55	L/s Low	



Exhaust Fans

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

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

Heating system:

> 92 % AFUE

Cooling system (if applicable):

Water heater:

0.8

HRV: 75 % sensible efficiency at 0 degrees:

60 % 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*

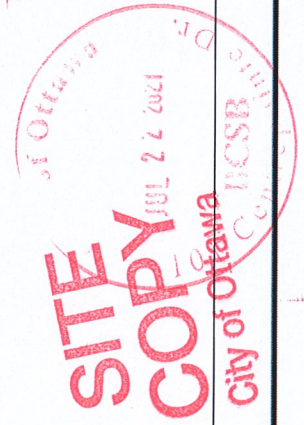
Date: JULY 12/21

BCIN 24379

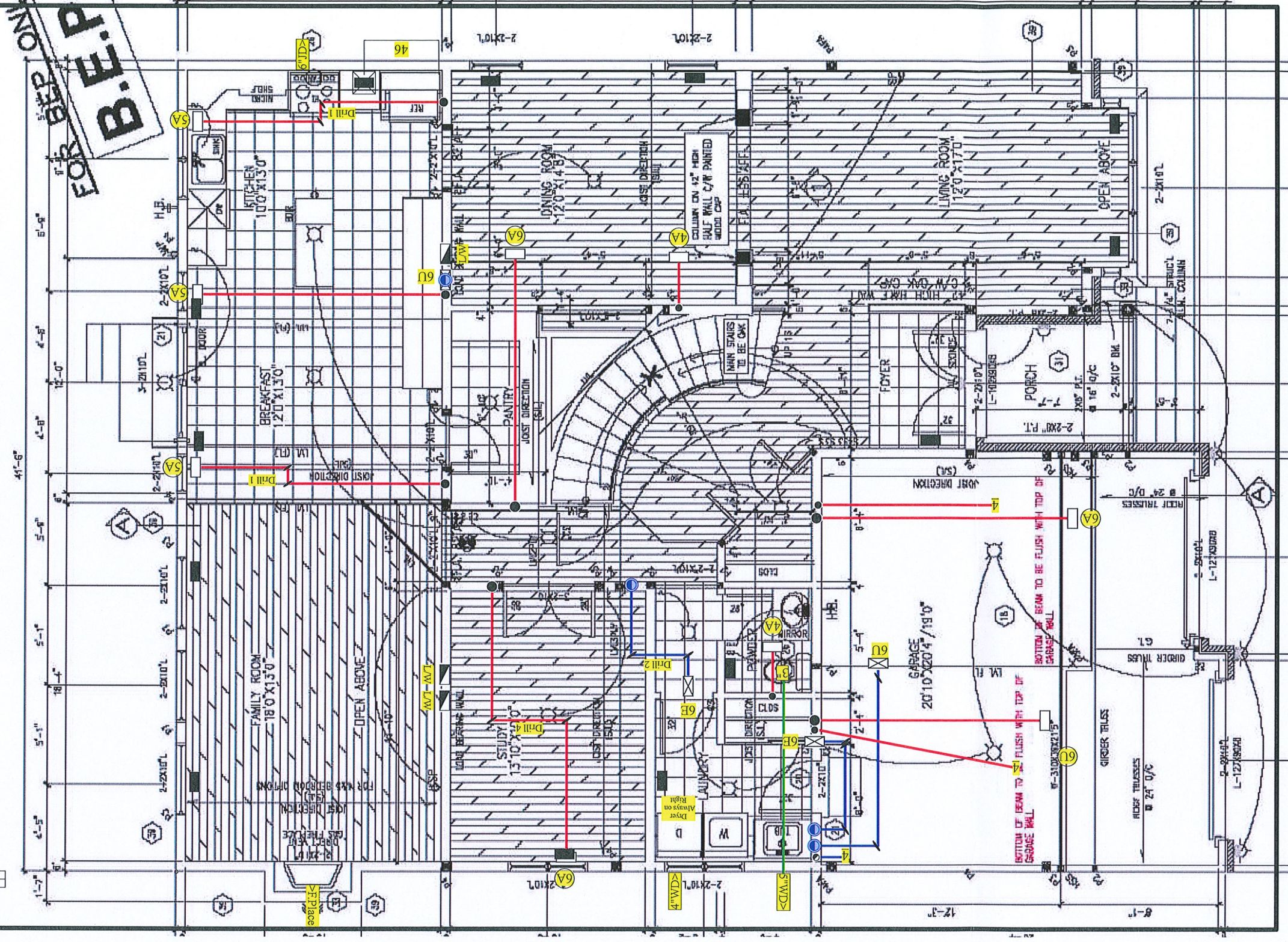
HRAI # 6080

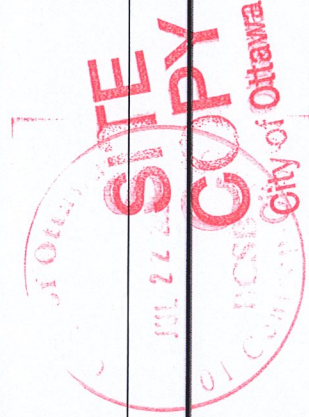


Date	Description
210707.1AK	Cheasapeake 508 Custom 4Bed+2 Open to Below



Room Name	Htg cfm	Htg btu	Heat Loss
BASMENT	319	43	0
BATH	27	20	0
BED 2	137	174	0
BED 4	98	142	0
BEDROOM 3	46	33	0
BREAKFAST	106	131	0
DINING	44	29	0
FAMILY	63	32	0
FOYER	174	144	0
HALL	13	5	0
KITCHEN	45	304	0
LAUNDRY	35	16	0
LIVING	267	192	0
M. BDRM	53	37	0
PANTRY	4	6	184
PWDR	11	7	0
SITTING	66	121	0
STUDY	32	17	0
W.C. 2	9	2	374
WIC	14	5	607
1653	1600	1165	





210707.1AK Cheasapeake 508 Custom 4Bed? Open to Below		Date	Description
1653	1600	1165	
WIC	14	5	607
W.C. 2	9	2	374
STUDY	32	17	0
SITTING	66	121	0
PWDR	11	7	0
PANTRY	4	6	184
M. BDRM	53	37	0
LIVING	267	192	0
LAUNDRY	35	16	0
KITCHEN	45	304	0
HALL	13	5	0
FOYER	174	144	0
FAMILY	83	133	0
ENSUITE	63	32	0
DINING	44	29	0
BREAKFAST	106	131	0
BEDROOM 3	46	33	0
BED 4	98	142	0
BED 2	137	174	0
BATH 2	7	7	0
BATH	27	20	0
BASEMENT	319	43	0
Room Name	Htg cfm	Cig btu	Htg
Heat Loss			

