

Energy Efficiency Design Summary: Prescriptive Method
(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

Application No:		For use by Principal Authority	
		Model/Certification Number	

A. Project Information

Building number, street name		Unit number	Lot/Con
489 Duvernay Drive			Part of Lot B
Municipality		Reg. Plan number / other description	
Orleans		K1E2H8 50M-22	

B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package: A1 Table: 3.1.1.2.A(IP)

C. Project Design Conditions

Climatic Zone (SB-1):		Heating Equipment Efficiency		Space Heating Fuel Source	
☒ Zone 1 (< 5000 degree days)		☒ ≥ 92% AFUE		☒ Gas ☐ Propane ☐ Solid Fuel	
☐ Zone 2 (≥ 5000 degree days)		☐ ≥ 84% < 92% AFUE		☐ Oil ☐ Electric ☐ Earth Energy	
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area					
Area of walls = _____ m ² or 3976 _____ ft ²		W, S & G % = 14.5		☐ Log/Post&Beam ☐ ICF Above Grade ☐ ICF Basement	
Area of W, S & G = _____ m ² or 577.9 _____ ft ²		Utilize window averaging: ☐ Yes ☒ No		☐ Slab-on-ground ☐ Walkout Basement	
Other Building Characteristics					
☐ Air Conditioning ☐ Combo Unit					
☐ Air Sourced Heat Pump (ASHP)					
☐ Ground Sourced Heat Pump (GSHP)					

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

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Energy Efficiency Substitutions

☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))

☐ Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))

☐ Airtightness substitution(s)

Airtightness test required (Refer to Design Guide Attached)

☐ Table 3.1.1.4.B Required: _____ Permitted Substitution: _____

☐ Table 3.1.1.4.C Required: _____ Permitted Substitution: _____

Required: _____ Permitted Substitution: _____

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Building Component	Minimum RSI / R values or Maximum U-Value ⁽¹⁾	Building Component	Efficiency Ratings
Thermal Insulation	Nominal Effective	Windows & Doors	Provide U-Value ⁽¹⁾ or ER rating
Ceiling with Attic Space	R60	Windows/Sliding Glass Doors	25
Ceiling without Attic Space	R31	Skylights/Glazed Roofs	0.49
Exposed Floor	R31	Mechanicals	
Walls Above Grade	R22	Heating Equip.(AFUE)	96%
Basement Walls		HRV Efficiency (SRE% at 0° C)	75%
Slab (all >600mm below grade)	--	DHW Heater (EF)	0.8
Slab (edge only ≤600mm below grade)	R10	DWHR (CSA B55.1 (min. 42% efficiency))	# Showers
Slab (all ≤600mm below grade, or heated)	R10	Combined Heating System	NO

(1) U value to be provided in either W/(m².K) or Btu/(h.ft².F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.	
Name	Signature
Catherine Buck	
BCIN	
46674	

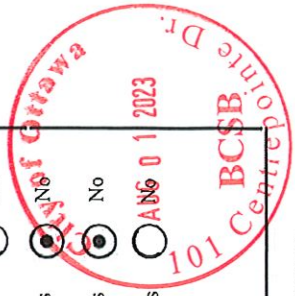


Mechanical Design Report Low rise residential

Address 495 DUVERNAY DR		House Builder PHOENIX
Application Number		House Model (if applicable) CUSTOM
Name		City of Ottawa Building Services Branch
Address		
City		061 0 4 2023
Telephone Number		Building Code Reviewed <i>[Signature]</i>

SYSTEM DESIGN PARAMETERS	
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 fireplace d) ☐ Solid Fuel (including fireplaces) e) ☐ No Combustion Appliances	Heating System ☒ Forced Air ☐ Non Forced Air ☐ Electric Space Heat ☐ Radiant Floor Heat (attach pipe details) ☐ Geothermal (attach loop, pipe & well details) ☐ High Velocity Residential (attach duct details) ☐ Other:
House Type 9.32.3.1.(2) ☒ I Type a) or b) appliances only, no solid fuel ☐ II Type I except with solid fuel (including fireplace) ☐ III Any Type c) appliance = Part 6 Design ☐ IV Electric space heat ☐ Other: No forced air = Option 4	System Design Option ☐ Exhaust Only/Forced Air System ☒ HRV with Exhaust Ducts/Forced Air System ☐ HRV Simplified Connection to Forced Air System ☐ HRV – Full Ducting/Not Coupled to Forced Air System ☐ 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	15 x 5 L/s = 75
95 T.V.C.	
Principal Ventilation Capacity 9.32.3.4.(1)	
Master Bedroom	1 x 15 L/s = 15 L/s
Other Bedrooms	4 x 7.5 L/s = 30
- 45 P.V.C.	
Required Supplemental Ventilation Capacity (T.V.C. less P.V.C.) = 50	
Furnace size: KJ or 80,000 BTU	
Air conditioner size: KJ or BTU or 3.5 TON Tonnes (If provided / applicable)	
Heating / Cooling Equipment sized according to heat loss/gain calculations of CAN/CSA F280-12: Yes ☒ No ☐	
Geothermal Equipment designed according to CAN/CSA-C448.2: Yes ☒ No ☐	
Hydronic Equipment designed according to CAN/CSA-B214: Yes ☒ No ☐	
Duct (and pipe) schematic attached including sizes, runs and material used: Yes ☒ No ☐	



VENTILATION EQUIPMENT

Heat Recovery Ventilator

Model: CLEAN COMFORT VH30100RNC HRV

95 L/s High47.5 L/s Low60 % Sensible Efficiency @ -25°C

Proposed 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	BATH 2	EC50	25	3.	SUPPLEMENTAL

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

Heating system: GOODMAN GM9C962804CNA

Cooling system (if applicable): GOODMAN GSXN4

Water heater:

HRV: % sensible efficiency at 0 degrees: 75

% sensible efficiency at -25 degrees: 60

DESIGNER CERTIFICATION

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

Name: LINDA MCPARLANCompany Name: HARDING MECHANICAL

Signature: Linda McParlanDate: JUNE 21/23BCIN 24379HRAI # 6080

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Date	Description
495 Duvernay Dr Custom 3-Story	Plenum 63" & CAE 10"x23 3/4" x5'
Furn GM9C0804CNA	

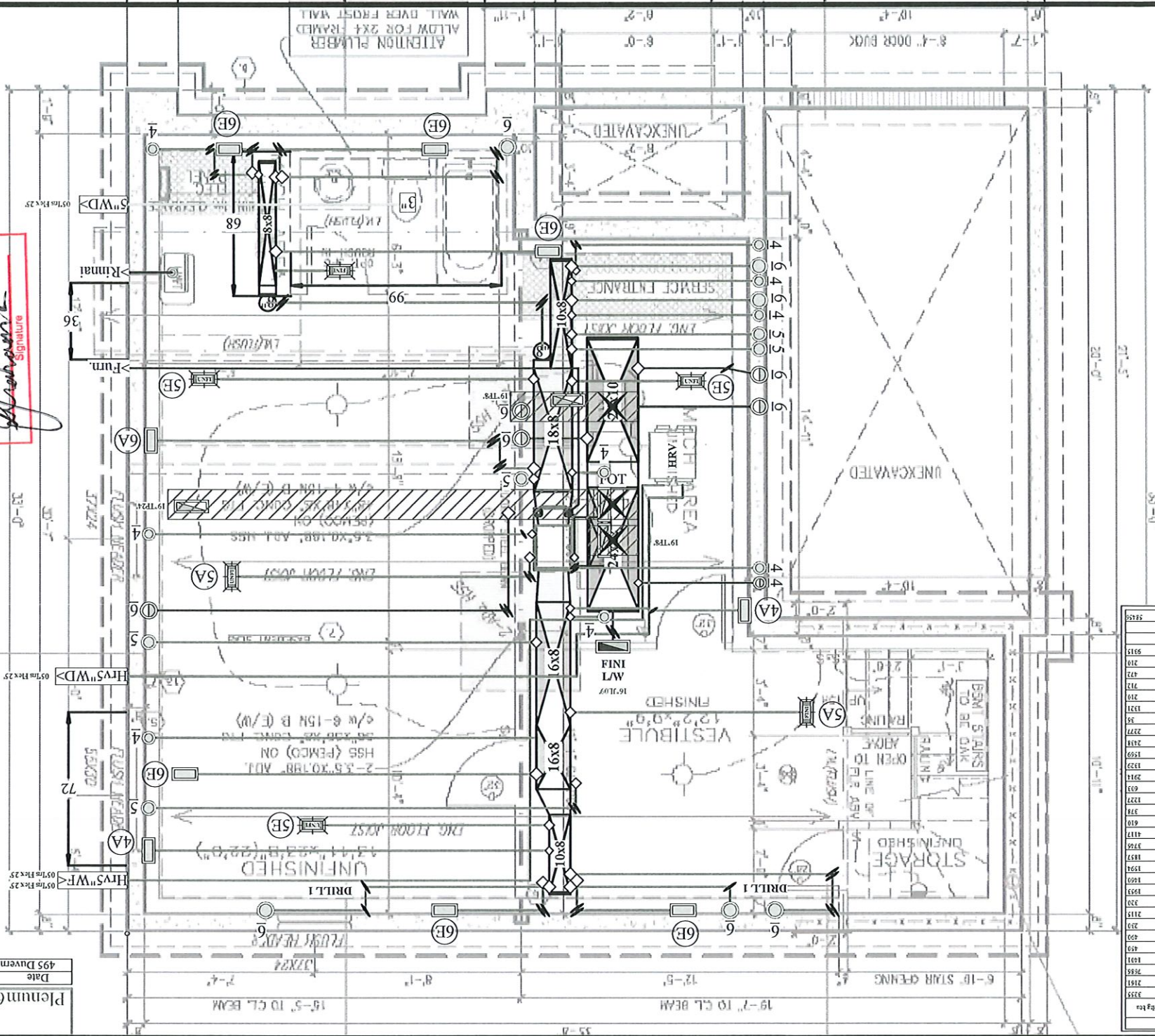
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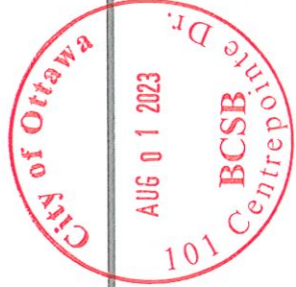
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Under Modification
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Quantity	Room Name	Htg dm	Cfg dm	Htg lbs
3355	FINISHING ROOM	78		3355
2181	OVER	22		2181
3665	GREENHOUSE	202		3665
1491	PAINTING	214		1491
493	PAINTING	3		493
493	PAINTING	2		493
2115	PAINTING	6		2115
2115	PAINTING	31		2115
320	PAINTING	2		320
1953	PAINTING	47		1953
1600	PAINTING	23		1600
1594	PAINTING	22		1594
1857	PAINTING	44		1857
3766	PAINTING	90		3766
4117	PAINTING	101		4117
610	PAINTING	3		610
378	PAINTING	2		378
1227	PAINTING	18		1227
603	PAINTING	10		603
2014	PAINTING	69		2014
1520	PAINTING	29		1520
1520	PAINTING	41		1520
2438	PAINTING	76		2438
2277	PAINTING	66		2277
35	PAINTING	1		35
1331	PAINTING	25		1331
210	PAINTING	2		210
712	PAINTING	4		712
472	PAINTING	3		472
210	PAINTING	2		210
224	PAINTING	5		224
9315	PAINTING	51		9315
58450	PAINTING	100		58450



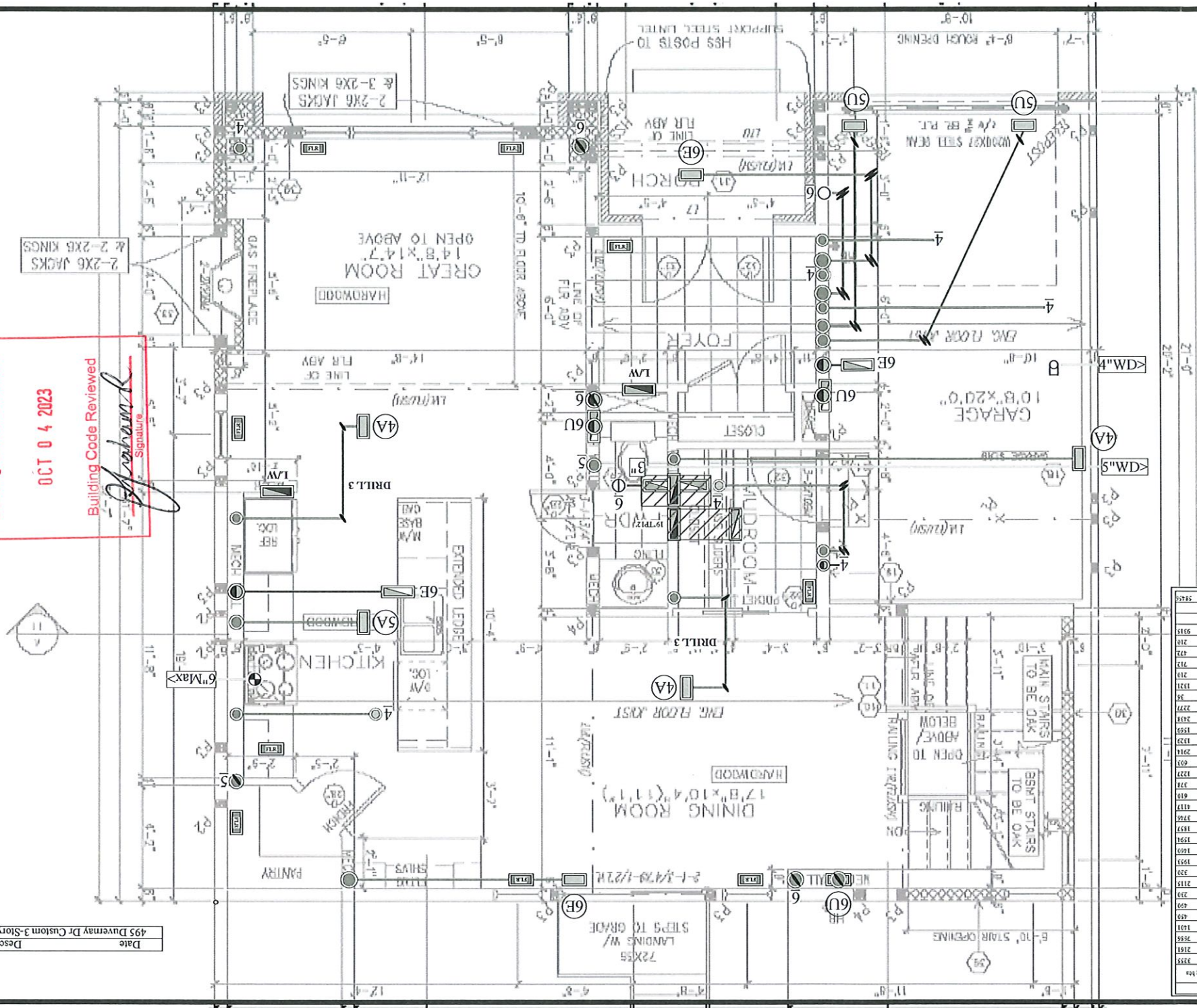
Date	Description
495 Duvernay Dr Custom 3-Story	

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Room Name	Area	Volume	Weight
Living Room	17'8" x 10'4"	185	29
Dining Room	11'1" x 11'1"	122	20
Kitchen	10'4" x 10'4"	110	18
Great Room	14'8" x 14'7"	165	27
Foyer	10'8" x 20'0"	110	18
Bedroom 1	11'1" x 11'1"	122	20
Bedroom 2	11'1" x 11'1"	122	20
Bedroom 3	11'1" x 11'1"	122	20
Bedroom 4	11'1" x 11'1"	122	20
Bedroom 5	11'1" x 11'1"	122	20
Bathroom	5'0" x 7'0"	55	9
Laundry Room	5'0" x 7'0"	55	9
Porch	10'0" x 10'0"	110	18
Garage	10'8" x 20'0"	110	18



Date	Description
495 Duvernay Dr Custom 3-Story	

Linda Mcpartlan
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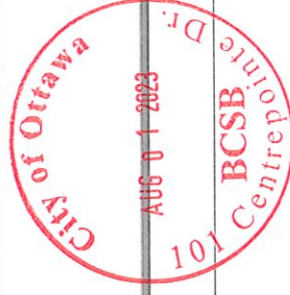
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Quality	Room Name	Hg cm	Cg cm	Hg kg
0-DRINKINGROOM	0-DRINKINGROOM	78	85	3355
0-FOYER	0-FOYER	52	70	2161
0-GESTATIONROOM	0-GESTATIONROOM	185	292	7686
0-JAFFEEN	0-JAFFEEN	34	214	1491
0-KITCHINROOM	0-KITCHINROOM	11	3	419
0-PANTRY	0-PANTRY	12	6	450
0-TOILET	0-TOILET	6	2	210
0-TOILET	0-TOILET	51	8	2115
0-W.C. 1	0-W.C. 1	8	2	330
0-RESTING	0-RESTING	47	23	1951
0-TOILET	0-TOILET	38	22	1941
0-TOILET	0-TOILET	45	44	1837
0-TOILET	0-TOILET	74	74	3945
0-TOILET	0-TOILET	99	99	3945
0-TOILET	0-TOILET	15	2	419
0-W.C.	0-W.C.	8	2	398
0-TOILET	0-TOILET	18	18	1227
0-TOILET	0-TOILET	14	10	69
0-TOILET	0-TOILET	79	69	2416
0-TOILET	0-TOILET	32	29	1353
0-TOILET	0-TOILET	38	41	1561
0-TOILET	0-TOILET	59	76	2438
0-TOILET	0-TOILET	55	66	2477
0-TOILET	0-TOILET	1	1	36
0-TOILET	0-TOILET	32	25	1931
0-W.C.	0-W.C.	5	2	210
0-W.C. 4	0-W.C. 4	11	3	493
0-W.C. 5	0-W.C. 5	3	2	210
0-TOILET	0-TOILET	224	51	9915



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Date	Description
	495 Duvernay Dr Custom 3-Story

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